

WebMaster IPT 42262

Parameter bank
Technical reference

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1 General

1.1 Input/output (I/O)

Physical or virtual input or output connections.

I/O-number is used when addressing *I/O-parameters* (which belongs to *module parameters*).

I/O name	I/O no. (#)	Description	Total
DI #	1-6	Digital inputs	6
AI #	1-2	Analog inputs (U/I)	2
T #	1-4	Temperature inputs	4
VT # (T ₀) ¹	1	Forecast, virtual temperature inputs	3
VT # (T _e)	2		
VT # (T _{eadj})	3		
DO #	1-2	Digital outputs	2
AO #	1-2	Analog outputs (U)	2

1.2 Channels

A certain type of value connected to an I/O.

Note that channels in different channeltypes can be connected to the same I/O.

Channel number is used when addressing *channel parameters*.

Channel name	Channel no. (#)	Description	Connected to I/O.
Temperature #	1-4	Temperature input channels	T 1-4
T ₀ ²	1	Forecast, virtual temperature input channel	VT 1 (T ₀)
T _e	2	Forecast, virtual equivalent temperature input channel	VT 2 (T _e)
T _{eadj}	3	Forecast, virtual adjusted equivalent temperature input channel	VT 3 (T _{eadj})
AI Status #	1-2	Analog input channels	AI 1-2
AI Sum #	1-2	Analog sum input channels	AI 1-2
DI Status #	1-6	Digital status input channels	DI 1-6
DI Pulse #	1-6	Digital pulse input channels	DI 1-6
DI Time #	1-6	Digital time input channels	DI 1-6
DI Frequency #	1-6	Digital frequency input channels	DI 1-6
DO Control #	1-2	Digital control output channels	DO 1-2
DO Time #	1-2	Digital time output channels	DO 1-2
AO Control #	1-2	Analog control output channels	AO 1-2

¹ Virtual inputs are used to make it possible to address virtual channels the same way as physical channels. (See HTML-page for reading databases for instance).

² A virtual channel has no dedicated physical input, but is updated from external (i.e. Ethernet/PPP) or internal sources. (Currently only used by *option* : *Forecast*).

1.3 Channeltypes

An enumeration for the different types of channels.

Channeltype number is used when addressing *channeltype parameters* and *channel parameters*.

Channeltype name	Channeltype no. (#)	Description
Temperature	1	Temperature input channeltype
AI Status	2	Analog input channeltype
AI Sum	3	Analog sum input channeltype
DI Status	4	Digital status input channeltype
DI Pulse	5	Digital pulse input channeltype
DI Time	6	Digital time input channeltype
DI Frequency	7	Digital frequency input channeltype
DO Control	9	Digital control output channeltype
DO Time	10	Digital time output channeltype
AO Control	11	Analog control output channeltype
Forecast temp ³	12	Forecast, virtual temperature input channeltype

³ Virtual channeltypes are used to make it possible to address virtual channels the same way as physical channels. (See HTML-page for reading databases for instance).

2 Parameters

2.1 Parameter numbers

Each parameter has an unique number. The numbers are divided according to *parameter type*. This ranges are currently used:

001 - 099 (070 - 099)	Module parameters I/O parameters (belongs to module parameters)	Part I
100 - 199	Channeltype parameters	
200 - 299	Channel parameters	
300 - 399	Module parameters	Part II
1000 - 1099	Module parameters (<i>option : Regulator</i>)	Part III
1100 - 1199	Module parameters (<i>option : Forecast</i>)	Part IV

2.2 Parameter locations

Parameters can be located in different kind of memories.

2.2.1 ROM (FLASH)

"Read only"-parameters, like constants, static text etc.

2.2.2 RAM

Data, databases etc.

Can keep their values for a few days without power supply, due to a backup capacitor.

2.2.3 EEPROM

Configuration parameters.

Non-volatile (keep their value indefinitely, or until overwritten or erased + default initialized).
Have attribute "E" set in parameter files (see "all.par" for instance).

The most important EEPROM parameters are erase-protected at level 1 or level 2.

Level 1:

Communication settings, passwords etc.

(Can be altered by the user).

Level 2:

Factory programmed hardware settings (calibration factors, Ethernet MAC address).

(Must never be altered by the user).

2.2.4 Virtual

Some parameters are virtual (constructed dynamically).

They are for instance derived from other parameters.

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2.3 Parameter types

The parameters are divided in the following categories.

2.3.1 Module parameters

0-2 dimensions.

Only available on "module level", i.e. it has no addressable channeltype/channel dimensions, although some module parameters use the channel dimension for alternate purpose, as an extra data index or function selector.

e.g. MODNAME (module name).

Some module parameters can also have an individual addressable data dimension.

e.g. DAYCHANGETAB (table for holidays).

Note that I/O-parameters are not available as an independent parameter type, but belongs to module parameters, using the data dimension number as I/O number.

e.g. DONAME (DO name).

2.3.2 Channeltype parameters

1-2 dimensions.

Available for individual channeltypes, but have not an addressable channel dimension.

e.g. TYPENAME (channeltype name).

Some channeltype parameters can also have an individual addressable data dimension, but currently no such parameters exists.

2.3.3 Channel parameters

2-3 dimensions.

Available for individual channels in one or several channeltypes.

e.g. CHNNAME (channel name).

Some channel parameters can also have an individual addressable data dimension.

e.g. ALARMACTIVE (alarm activation).

2.4 Arguments for SSI/CGI parameter functions

2.4.1 General arguments

To address a parameter via SSI/CGI functions, the following general arguments are used:

p*NNN* = Parameter number *NNN*.

t*NNN* = Channeltype number *NNN*.

c*NNN* = Channel number *NNN*.

d*NNN* = Data number *NNN*.

NNN = 0 is used either if the dimension is **missing** for the parameter, or to read/write **all** values in this dimension if it exists, separated by semicolon (or for some special parameters other characters).

To read/write **all** values in a certain dimension, all the "underlying" dimensions must also be read/written, i.e. 0 must be given in their address, according to the following general rules (this table is for a 2 dimensional parameter with c and d -dimensions, but the same principle also applies to 3-dimensional parameters):

c-dimension	d-dimension	Status
"one value" [c <i>NNN</i>]	"one value" [d <i>NNN</i>]	OK
"one value" [c <i>NNN</i>]	"all values" [d0]	OK (if total length < 512 bytes)
"all values" [c0]	"one value" [d <i>NNN</i>]	INVALID
"all values" [c0]	"all values" [d0]	OK (if total length < 512 bytes)

For some parameters this multi command is not available.

The total length of data must not exceed 512 bytes.

If a certain parameter is only available for some channeltypes, it does **not** contain "holes" when read with the multi command.

Example (channel parameters):

```
Read VALUE (measured value) for channeltype 1 (temperature), channel 1.
Parameter no. [p] = 204.
Channel type [t] = 1.
Channel no. [c] = 1.
Data no. [d] = 0 (missing).
getpar.ssi p204t1c1d0 → "22.3"
```

```
Read VALUE (measured value) for channeltype 4 (digital pulse), all
channels.
Parameter no. [p] = 204.
Channel type [t] = 4.
Channel no. [c] = 0 (all channels).
Data no. [d] = 0 (missing).
getpar.ssi p204t4c0d0 → "23.0;43.0;23.0;34.0;2.0;45.0"
```

Example (channeltype parameters):

Read TYPENAME (channeltype name) for channeltype 1 (temperature).

Parameter no. [p] = 101.

Channel type [t] = 1.

Channel no. [c] = 0 (missing).

Data no. [d] = 0 (missing).

`getpar.ssi p101t1c0d0` → "Temperature"

Read TYPENAME (channeltype name) for all channeltypes.

Parameter no. [p] = 101.

Channel type [t] = 0 (all channeltypes).

Channel no. [c] = 0 (missing).

Data no. [d] = 0 (missing).

`getpar.ssi p101t0c0d0` → "Temperature;AI Status;AI Sum"... etc.

Example (module parameters):

Read VERNR1 (version number for code) for the IPT-program.

Parameter no. [p] = 1.

Channel type [t] = 0 (missing).

Channel no. [c] = 0 (missing).

Data no. [d] = 2 (IPT-program).

`getpar.ssi p1t0c0d2` → "1.00"

Read VERNR1 (version number for code) for
HTML-pages, IPT-program, BOOT-loader, CUSTOM-pages.

Parameter no. [p] = 1.

Channel type [t] = 0 (missing).

Channel no. [c] = 0 (missing).

Data no. [d] = 0 (HTML-pages, IPT-program, BOOT-loader, CUSTOM-pages).

`getpar.ssi p1t0c0d0` → "1.00;1.00;1.00;1.00"

2.4.2 Special arguments

Some SSI functions have additional arguments.

See description for each function.

2.5 SSI parameter functions

2.5.1 getpar.ssi

Used parameter arguments: **p,t,c,d**.

Read a parameter embedded in HTML code, or from the browser command line.

The supplied argument is used to bring information about the read.

Example:

From command line:

```
getpar.ssi?pararg=p200t1c2d1
```

In file:

```
<!--#include file="getpar.ssi p200t1c2d1"-->
```

It is also possible to supply a basic part of the argument in the page link itself (hence called "page link argument") when the page is opened, which is then merged with the SSI part of the argument if it doesn't already exist there. In that case, it is overridden by the SSI part.

This way the same page can be used for different channels, when only the channel number is different (or channeltype number etc.).

Example:

Presume we open the file like this:

```
file.htm?pararg=c2
```

In "file.htm" we now don't have to supply "c2":

```
<!--#include file="getpar.ssi p200t1d1"-->
```

2.5.2 getpart.ssi

Identical to "getpar.ssi", except that an <eot> control character is appended to the data.

Used by the optional OPC server (DSI UOS - "Universal OPC Server") to detect end of string.

2.5.3 getparcb.ssi

Used parameter arguments: **p,t,c,d,v** (**v** = special argument).

Used by radio buttons or check boxes.

If numeric parameter value = argument **v** value: expands to "checked".

If numeric parameter value <> argument **v** value: expands to "".

If no read access: expands to "disabled".

Example:

In file:

```
<!--#include file="getparcb.ssi p200t1c1d1v2"-->
```

2.5.4 getpard.ssi

Used parameter arguments: **p,t,c,d,v,a** (**v,a** = special arguments).

v and **a** arguments can not be used simultaneous.

Used by radio buttons or check boxes.

If numeric parameter value = argument **v** value: expands to "disabled".

If numeric parameter value \diamond argument **v** value: expands to "".

If ascii parameter value = argument **a** string: expands to "disabled".

If ascii parameter value \diamond argument **a** string: expands to "".

If no read access: expands to "disabled".

Example:

In file:

```
<!--#include file="getpard.ssi p200t1c1d1aSTRVALUE"-->
```

2.5.5 getpardd.ssi

Used parameter arguments: **p,t,c,d,v,a** (**v,a** = special arguments).

v and **a** arguments can not be used simultaneous.

Used by drop down lists.

If numeric parameter value = argument **v** value: expands to "selected".

If numeric parameter value \diamond argument **v** value: expands to "".

If ascii parameter value = argument **a** string: expands to "selected".

If ascii parameter value \diamond argument **a** string: expands to "".

If no read access: expands to "disabled".

Example:

In file:

```
<!--#include file="getpardd.ssi p200t1c1d1v1"-->
```

2.5.6 paraccr.ssi

Used parameter arguments: **p,t,c,d,v** (**v** = optional special argument).

Check if a parameter is enabled and have read access with current access level.

Some parameters can be checked for enabled and read access on each individual element (e.g. ACCESSNAME). For others, "t0c0d0" can be used.

A few parameters can also be checked for enabled on each individual value, if numeric parameter value = argument **v** value

(e.g. REGMODE). For others, **v** is ignored if it is supplied.

Many parameters have no enable control at all, since they are always enabled.

If read access: expands to "".

If no read access: expands to "disabled" (can't be read, value is "(no access)").

If read access but not enabled: expands to "disabled" (can still be read).

Example:

In file:

```
<!--#include file="paraccr.ssi p200t0c0d0"-->
```

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2.5.7 paraccw.ssi

Used parameter arguments: **p,t,c,d,v** (v = optional special argument).

Check if a parameter is enabled and have write access with current access level.

Some parameters can be checked for enabled and write access on each individual element (e.g. PASSWORD). For others, "t0c0d0" can be used.

A few parameters can also be checked for enabled on each individual value, if numeric parameter value = argument v value

(e.g. REGMODE). For others, v is ignored if it is supplied.

Many parameters have no enable control at all, since they are always enabled.

If write access: expands to "".

If no write access: expands to "disabled" (can't be written).

If write access but not enabled: expands to "disabled" (can still be written).

2.5.8 paraccrw.ssi

Used parameter arguments: **p,t,c,d** (v = optional special argument).

Check if a parameter is enabled and have read and write access with current access level.

Some parameters can be checked for enabled and read and write access on each individual element (e.g. PASSWORD). For others, "t0c0d0" can be used.

A few parameters can also be checked for enabled on each individual value, if numeric parameter value = argument v value

(e.g. REGMODE). For others, v is ignored if it is supplied.

Many parameters have no enable control at all, since they are always enabled.

If read and write access: expands to "".

If not read or not write access: expands to "disabled" (can't be read and/or written).

If read and write access, but not enabled: expands to "disabled" (can still be read and written).

2.5.9 pararg.ssi

Used to save a page link argument for CGI-functions.

(See "putpar.cgi").

2.5.10 errorbox.ssi

Used to return error messages from CGI writes when the page is reloaded.

The returned number is the parameter number where the error was detected.

A Java script is required to handle this, as a pop-up message.

(See "putpar.cgi").

Example:

Presume we have written to parameter 8, logged in as "Operator".

In our file we have:

```
<!--#include file="errorbox.ssi"-->
```

The SSI macro "errorbox.ssi" expands to:

```
parent.setError('PUTPAR(8) : No access');
```

2.5.11 any.par

Used parameter arguments: **p,s,e** (**s,e** = optional special arguments).

Read a certain parameter, or all parameters.

- If argument **p** = 0: Read all parameters (same as "all.par" - **see note!**).
- If argument **p** > 0: Read one parameter.
- If argument **s** = 0 (and **p** = 0): Sort by parameter number [default].
- If argument **s** = 1 (and **p** = 0): Sort by parameter index (internal order).
- If argument **e** = 0: Compress c and d dimensions (if possible) [default].
- If argument **e** = 1: Expand all dimensions.

2.5.12 all.par

Used parameter arguments: **s,e** (**s,e** = optional special arguments).

Read all parameters.

Important notes:

- Only to be used for backup purpose (complete backup).
- It is **not allowed** to copy this file to another WebMaster, since it contain unique (non copyable) writeable information (e.g. ETHERNETIPADDRESS).
- Level 2 protected configuration parameters (e.g. AICALVALUE) are writeable, but have their "W" attribute in this file removed to avoid unintentional overwrites.
It can be manually reinserted, but do this **only if absolutely necessary**.
- It also contain CLOCK, so the time will be set to an old value if this file is written back.

- If argument **s** = 0: Sort by parameter number [default].
- If argument **s** = 1: Sort by parameter index (internal order).
- If argument **e** = 0: Compress c and d dimensions (if possible) [default].
- If argument **e** = 1: Expand all dimensions.

2.5.13 backup.par

Used parameter arguments: **s,e** (**s,e** = optional special arguments).

Read all parameters, except CLOCK.

This file is the most convenient to use for a backup.

Important notes:

- Only to be used for backup purpose (contains a subset from "all.par").
- It is **not allowed** to copy this file to another WebMaster, since it contain unique (non copyable) writeable information (e.g. ETHERNETIPADDRESS).
- Level 2 protected configuration parameters (e.g. AICALVALUE) are writeable, but have their "W" attribute in this file removed to avoid unintentional overwrites.
It can be manually reinserted, but do this **only if absolutely necessary**.

- If argument **s** = 0: Sort by parameter number [default].
- If argument **s** = 1: Sort by parameter index (internal order).
- If argument **e** = 0: Compress c and d dimensions (if possible) [default].
- If argument **e** = 1: Expand all dimensions.

2.5.14 config.par

Used parameter arguments: **s,e** (**s,e** = optional special arguments).

Read all configuration parameters.

A configuration parameter is a non volatile EEPROM parameter (have attribute "E" set).

Important note:

- Only to be used for backup purpose (contains a subset from "backup.par").
- It is **not allowed** to copy this file to another WebMaster, since it contain unique (non copyable) writeable information (e.g. ETHERNETIPADDRESS).
- Level 2 protected configuration parameters (e.g. AICALVALUE) are writeable, but have their 'W' attribute in this file removed to avoid unintentional overwrites. It can be manually reinserted, but do this **only if absolutely necessary**.

If argument **s** = 0: Sort by parameter number [default].

If argument **s** = 1: Sort by parameter index (internal order).

If argument **e** = 0: Compress c and d dimensions (if possible) [default].

If argument **e** = 1: Expand all dimensions.

2.5.15 copyable.par

Used parameter arguments: **s,e** (**s,e** = optional special arguments).

Read all copyable configuration parameters, except table for holidays, which can be read by "holiday.par". (Contains a subset from "backup.par").

A copyable configuration parameter is a parameter that is not explicitly specific for a certain WebMaster.

(e.g. SMTPRCPT is copyable, but ETHERNETIPADDRESS is not copyable).

If argument **s** = 0: Sort by parameter number [default].

If argument **s** = 1: Sort by parameter index (internal order).

If argument **e** = 0: Compress c and d dimensions (if possible) [default].

If argument **e** = 1: Expand all dimensions.

2.5.16 protect.par

Used parameter arguments: **s,e** (**s,e** = optional special arguments).

Read all protected configuration parameters.

Important note:

- Only to be used for backup purpose (contains a subset from "config.par").
- It is **not allowed** to copy this file to another WebMaster, since it contain unique (non copyable) writeable information (e.g. ETHERNETIPADDRESS).
- Level 2 protected configuration parameters (e.g. AICALVALUE) are writeable, but have their 'W' attribute in this file removed to avoid unintentional overwrites. It can be manually reinserted, but do this **only if absolutely necessary**.

If argument **s** = 0: Sort by parameter number [default].

If argument **s** = 1: Sort by parameter index (internal order).

If argument **e** = 0: Compress c and d dimensions (if possible) [default].

If argument **e** = 1: Expand all dimensions.

2.5.17 holiday.par

Used parameter arguments: (none).

Read table for holidays (DAYCHANGETAB).

Same as "any.par?pararg=p35t0c0d0".

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2.5.18 database.ssi

Used parameter arguments: **n,t,c,s** (**n,s** = special arguments, where **s** is optional).

Read database(s) to plot applet, according to the following enumeration:

- 1 = Short time log.
- 2 = Hour.
- 3 = Hour, min.
- 4 = Hour, max.
- 5 = Day.
- 6 = Month.
- 7 = Event log (not allowed).

n0 = All databases (1..6) except "Event log" (7).

nN,N... = A list of databases (1..6) except "Event log" (7).

nN = One database (1..6) except "Event log" (7).

sNN... = Start time:

> 100 → Read data collected after: seconds since 2000-01-01.

< 101 → Read percent of data in database [default = 100%].

Example:

In file:

```
<!--#include file="database.ssi n2,3,4t1c1"-->
```

2.5.19 database.dta

Used parameter arguments: **n,t,c,m,s** (**n,m,s** = special arguments, where **m,s** is optional)

Read database(s) to file, according to the following enumeration:

- 1 = Short time log.
- 2 = Hour.
- 3 = Hour, min.
- 4 = Hour, max.
- 5 = Day.
- 6 = Month.
- 7 = Event log (only allowed in single read).

n0 = All databases (1..6) except "Event log" (7).

nN,N... = A list of databases (1..6) except "Event log" (7).

nN = One database (1..7).

mNN = Mode:

N1 → line separator = ";", line terminator = <cr><lf>

N2 → line separator = ",", line terminator = ",".

N3 → line separator = <ht>, line terminator = <cr><lf>. [default].

0N → all listed (with **n**) databases [default].

1N → only listed (with **n**) databases that is also activated.

sNN... = Start time:

> 100 → Read data collected after: seconds since 2000-01-01.

< 101 → Read percent of data in database [default = 100%].

Example:

In file:

```
<!--#include file="database.dta n1t1c0s50m3"-->
```


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2.6 CGI parameter functions

2.6.1 putpar.cgi

Write a parameter embedded in HTML code, from the browser command line, or from the optional OPC server (DSI UOS - "Universal OPC Server").

The supplied argument is used to bring information about the write.

In order for putpar to know which page it should return to, a hidden field (name = filename) should be supplied with the current filename (applies only to embedded HTML writes).

If an embedded HTML write fails, a pop-up error message can be obtained via "errorbox.ssi". (See "errorbox.ssi").

If written from the command line, an information text (error or OK) is returned directly. Command line writes does not affect "errorbox.ssi".

If written from the OPC server, the written string is always terminated by an <eot> control character, which means that no information string should be returned. OPC server writes does not affect "errorbox.ssi".

Example:

From command line:

```
putpar.cgi?p200t1c2d1=1
```

In "test.htm":

```
<form name="form" method="post" action="putpar.cgi">
<input type="hidden" name="filename" value="test.htm">
<input type="text" name="p200t1c2d1" value="100">
<input type="text" name="p200t1c2d0" value="0">
</form>
```

It is also possible to supply a basic part of the argument in the page link itself (hence called "page link argument") when the page is opened, which is then merged with the CGI part of the argument if it doesn't already exist there. In that case, it is overridden by the CGI part. This way the same page can be used for different channels, when only the channel number is different (or channeltype number etc.).

To use the page link argument for CGI functions, a field has to be supplied to save the page link argument. This is implemented as the SSI macro "pararg.ssi".

Example:

Presume we open the file like this:

```
test.htm?pararg=c2
```

In "test.htm":

```
<form name="form" method="post" action="putpar.cgi">
<!--#include file="pararg.ssi"-->
<input type="hidden" name="filename" value="test.htm">
<input type="text" name="p200t1d1" value="100">
<input type="text" name="p200t1d0" value="0">
</form>
```

The SSI macro "pararg.ssi" expands to:

```
<input type="hidden" name="pararg" value="c2">
```


3 Parameter bank (sorted by number)

Parameter name :VERNR1
Parameter type :Module parameter
Parameter no. [p] :1
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Floating point with 2 decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Version number for code in FLASH.

[d]: 0 = All, 1 = Webpages (system), 2 = Firmware, 3 = Bootloader, 4 = Webpages (custom).

Parameter name :VERNR2
Parameter type :Module parameter
Parameter no. [p] :2
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :EEPROM
Format :Floating point with 2 decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Version number for data in EEPROM.

Parameter name :VERNR3
Parameter type :Module parameter
Parameter no. [p] :3
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Floating point with 2 decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Version number for data in RAM.

Parameter name :MODEVENT
Parameter type :Module parameter
Parameter no. [p] :4
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..23
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Module event status (as numeric).

[d]: 0 = All.
1..4 = (Only for internal use), Reset , RAM error, RAM init.
5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
9..11 = Clock error, File upload error, New program.
12..13 = Forecast deviation, No forecast.
14..17 = PP#1..PP#4 com error.
18..21 = PP#1..PP#4 manual out.trd.
22..23 = Email error, Email test.

Data: "0" = Not active.
"1".."x" = Active (x > 1 --> additional event dependent information).

Event dependent information for "RAM error":

Data: "1" = Active at startup.
"2" = Active during operation.

Event dependent information for "Program error", "Watchdog reset":

Data: "{x}" = Task number.

Event dependent information for "Clock error":

Data: "1" = Sync error.
"2" = Hardware error.

Event dependent information for "File upload error":

Data: "1" = Checksum error.
"2" = Program too big to fit in flash memory.
"3" = Invalid file type.
"4" = File is empty.
"5" = File is too big for memory buffer.
"6" = Address error.

Event dependent information for "New program":

Data "1" = Webpages (system).
"2" = Firmware.
"3" = Bootloader.
"4" = Webpages (custom).

Event dependent information for "Email error":

Data: "1" = Still waiting for reply.
"2" = Still waiting for non-blocking connection".
"3" = Socket error.
"4" = Bad SMTP code.
"5" = Bad parameter or logic.
"6" = SMTP function disabled.
"7" = Recipients missing.
"8" = Out of memory.
"9" = Unknown error.

```
Parameter name      :MODNR
Parameter type      :Module parameter
Parameter no. [p]   :5
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified
```

Module number.

```
Parameter name      :MODNAME
Parameter type      :Module parameter
Parameter no. [p]   :6
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)
```

Module name.

```
Parameter name      :MODADDRESS
Parameter type      :Module parameter
Parameter no. [p]   :7
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :9
Maxlength (as ascii) :Not specified
```

Module technical address.

Data: "{mmmm}0000". mmmm = Module number.

```
Parameter name      :PASSWORD
Parameter type      :Module parameter
Parameter no. [p]   :8
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..7
Readable, Read access :Yes, Config
Writeable, Write access:Yes, Config
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par, config.par, protect.par
Location            :EEPROM (protected at level 1)
Format              :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)
```

HTML/SSI/CGI password.

A password is always read in encrypted format (a hexadecimal string with prefix \$), but can be written in either encrypted or unencrypted format. If it is written in unencrypted format (without prefix), it must be written as 2 identical comma-separated strings (for input validation). If a password should be defined it must contain at least 4 characters.

[d]: 0 = Not allowed.
1..4 = Access level LOGIN, VIEW, OPERATE, CONFIG.
5..7 = Reserved.

Data: "\${xxxx...}" = Encrypted format (read/write).
"{xxxx...},{xxxx...}" = Unencrypted format (write only).

```
Parameter name      :LOGIN
Parameter type      :Module parameter
Parameter no. [p]   :9
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :No , -
Writeable, Write access:Yes, Login
Can be disabled     :No
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified
```

Login.

Data: "{access level name},{password}".

```
Parameter name      :ACCESSNAME
Parameter type      :Module parameter
Parameter no. [p]   :10
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..7
Readable, Read access :Yes, Login
Writeable, Write access:No , -
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :FLASH
Format              :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)
```

Access level name (username).

[d]: 0 = All up to current access level.
1..4 = Access level LOGIN, VIEW, OPERATE, CONFIG.
5..7 = Reserved.

```
Parameter name      :CURRENTACCESSNAME
Parameter type      :Module parameter
Parameter no. [p]   :11
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, Login
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified
```

Name of current access level (username).

```
Parameter name      :COMMAND
Parameter type     :Module parameter
Parameter no. [p]  :12
Channeltype no. [t] :-
Channel no. [c]   :-
Data no. [d]      :1..114
Readable, Read access :No , -
Writeable, Write access:Yes, Config
Can be disabled    :No
Member of file     :all.par
Location          :Virtual (constructed dynamically)
Format            :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified
```

Execute command.

Data: "INIT":

```
[d]: 001 = Default init values, databases (Backup-RAM).
      002 = Default init non-protected config (EEPROM : L0).
      003 = Default init level 1 protected config (EEPROM : L0+L1).
      004 = Default init level 2 protected config (EEPROM : L0+L1+L2).
      012 = Same as 001 + 002.
      013 = Same as 001 + 003.
      014 = Same as 001 + 004.
      1xx = Same as 0xx + reset.
```

Data: "CLEARDBS":

```
[d]: 000 = Clear all databases (except Event).
      001 = Clear database Short time.
      002 = Clear database Hour + Hour min + Hour max.
      005 = Clear database Day.
      006 = Clear database Month.
      007 = Clear database Event.
      10x = Same as 00x + reset.
```

Data: "RESET":

```
[d]: 001 = Reset.
```

Data: "TEST_ASSERT":

```
[d]: 001 = Generate program error (assert).
```

Data: "TEST_PANIC":

```
[d]: 001 = Generate program error (panic).
```

Data: "TEST_VOV":

```
[d]: 001 = Generate watchdog reset.
```

Data: "TEST_RAMFAIL":

```
[d]: 001 = Generate memory corruption.
```

Data: "TEST_EMAIL":

```
[d]: 001 = Generate module event "Email test", and then
      set it immediately to "Normal" again.
```

```
Parameter name      :CLOCK
Parameter type     :Module parameter
Parameter no. [p]  :13
Channeltype no. [t] :-
Channel no. [c]   :-
Data no. [d]      :1..2
Readable, Read access :Yes, Login
Writeable, Write access:Yes, Operate
Can be disabled    :No
Member of file     :all.par
Location          :Virtual (constructed dynamically)
Format            :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified
```

Clock.

```
[d]: 0 = Data: "{yyyy-mm-dd} {hh:mm:ss}".
      1 = Data: "{yyyy-mm-dd}".
      2 = Data: "{hh:mm:ss}".
```

```
Parameter name      :ETHERNETMACADDRESS
Parameter type     :Module parameter
Parameter no. [p]  :14
```

```

Channeltype no. [t]  :-
Channel no.      [c]  :-
Data no.        [d]  :1..6
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config (attribute 'W' removed in *.par files)
Can be disabled   :No
Member of file    :all.par, config.par, protect.par
Location         :EEPROM (protected at level 2)
Format           :Positive hexadecimal integer with 2 digits (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

```

[d]: 0 = All bytes in address (separated with '-').
     1..6 = Individual byte in address.

```

```

Parameter name      :ETHERNETIPADDRESS
Parameter type      :Module parameter
Parameter no.      [p] :15
Channeltype no.    [t]  :-
Channel no.        [c]  :-
Data no.          [d]  :1..4
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config
Can be disabled    :No
Member of file     :all.par, config.par, protect.par
Location          :EEPROM (protected at level 1)
Format            :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Ethernet IP-address.

```

[d]: 0 = All bytes in address (separated with '.').
     1..4 = Individual byte in address.

```

```

Parameter name      :DBSNAME
Parameter type      :Module parameter
Parameter no.      [p] :16
Channeltype no.    [t]  :-
Channel no.        [c]  :-
Data no.          [d]  :1..7
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled    :No
Member of file     :all.par
Location          :FLASH
Format            :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

Database name.

```

Parameter name      :DBSLOGGTIME
Parameter type      :Module parameter
Parameter no.      [p] :17
Channeltype no.    [t]  :-
Channel no.        [c]  :-
Data no.          [d]  :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled    :No
Member of file     :all.par, config.par, copyable.par
Location          :EEPROM
Format            :Positive integer (unsigned long)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Database Short time logging interval.

```

Parameter name      :DBSHOURTIME
Parameter type      :Module parameter
Parameter no.      [p] :18
Channeltype no.    [t]  :-
Channel no.        [c]  :-
Data no.          [d]  :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled    :No
Member of file     :all.par, config.par, copyable.par
Location          :EEPROM
Format            :Positive integer (unsigned long)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Database Hour logging interval.

```

Parameter name      :ETHERNETSUBNETMASK
Parameter type      :Module parameter
Parameter no.      [p] :19

```

Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..4
 Readable, Read access :Yes, Operate
 Writeable, Write access:Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par, protect.par
 Location :EEPROM (protected at level 1)
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Ethernet subnet mask.

[d]: 0 = All bytes in address (separated with '.').
 1..4 = Individual byte in address.

Parameter name :ETHERNETGATEWAY
 Parameter type :Module parameter
 Parameter no. [p] :20
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..4
 Readable, Read access :Yes, Operate
 Writeable, Write access:Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par, protect.par
 Location :EEPROM (protected at level 1)
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Ethernet gateway.

[d]: 0 = All bytes in address (separated with '.').
 1..4 = Individual byte in address.

Parameter name :COMPILE_TIME
 Parameter type :Module parameter
 Parameter no. [p] :21
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :FLASH
 Format :String (unsigned char[32])
 Maxlength (as binary) :32
 Maxlength (as ascii) :32 (including 0-terminator)

Date and time when firmware was compiled.

Parameter name :CHECKSUM
 Parameter type :Module parameter
 Parameter no. [p] :22
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :FLASH
 Format :Positive hexadecimal integer with 8 digits (unsigned long)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Firmware checksum.

Parameter name :ASSERTFILE
 Parameter type :Module parameter
 Parameter no. [p] :23
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :FLASH
 Format :String reference (unsigned char*)
 Maxlength (as binary) :Not specified
 Maxlength (as ascii) :Not specified

Program file where an error was discovered or TCP/IP-stack error message ('panic').

Parameter name :ASSERTLINE
Parameter type :Module parameter
Parameter no. [p] :24
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Program line where error was discovered.

Parameter name :SMTPSERVER
Parameter type :Module parameter
Parameter no. [p] :25
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, Operate
Writeable, Write access :Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

SMTP server IP-address.

[d]: 0 = All bytes in address (separated with '.').
1..4 = Individual byte in address.

Parameter name :SMTPPORT
Parameter type :Module parameter
Parameter no. [p] :26
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, Operate
Writeable, Write access :Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

SMTP server port number.

Parameter name :MODEVENTNAME
Parameter type :Module parameter
Parameter no. [p] :27
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..23
Readable, Read access :Yes, View
Writeable, Write access :No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :FLASH
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

Module event name.

[d]: 0 = All.
1..4 = (Only for internal use), Reset , RAM error, RAM init.
5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
9..11 = Clock error, File upload error, New program.
12..13 = Forecast deviation, No forecast.
14..17 = PP#1..PP#4 com error.
18..21 = PP#1..PP#4 manual out.trd.
22..23 = Email error, Email test.

Parameter name :EVENTACTIONTAB
Parameter type :Module parameter
Parameter no. [p] :28
Channeltype no. [t] :-
Channel no. [c] :1..2 (used for alternate purpose)
Data no. [d] :1..50
Readable, Read access :Yes, View
Writeable, Write access :Yes, Operate
Can be disabled :No

```
Member of file      :all.par, config.par
Location           :EEPROM
Format             :Structure (struct)
Maxlength (as binary) :54
Maxlength (as ascii) :Not specified
```

Event action table.

An event action is used to manipulate an action parameter value when a trig parameter value changes.
Lines are optionally sorted by chronology.

```
[c]: 0      = Access unsorted lines:
```

```
[d]: 0      = Read/write all lines.
     1..n   = Read/write line.
```

```
[c]: 1      = Access sorted lines:
```

```
[d]: 0      = Read all lines / Append line.
     1..n   = Read/write line.
```

```
[c]: 2      = Read info / Delete sorted lines:
```

```
[d]: 1      = Read maximum number of lines.
     0      = Delete all lines (no data).
     1..n   = Delete line (no data).
```

```
Data: "{order},
       {trig p},{trig t},{trig c},{trig d},{trig value},
       {action p},{action t},{action c},{action d},{action value},{action string}".
```

```
Parameter name      :TIMEACTIONTAB
Parameter type      :Module parameter
Parameter no. [p]   :29
Channeltype no. [t] :-
Channel no. [c]     :1..2 (used for alternate purpose)
Data no. [d]        :1..50
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Structure (struct)
Maxlength (as binary) :50
Maxlength (as ascii) :Not specified
```

Time action table.

A time action is used to manipulate an action parameter value at a certain trig time.
Lines are optionally sorted by chronology.

```
[c]: 0      = Access unsorted lines:
```

```
[d]: 0      = Read/write all lines.
     1..n   = Read/write line.
```

```
[c]: 1      = Access sorted lines:
```

```
[d]: 0      = Read all lines / Append line.
     1..n   = Read/write line.
```

```
[c]: 2      = Read info / Delete sorted lines:
```

```
[d]: 1      = Read maximum number of lines.
     0      = Delete all lines (no data).
     1..n   = Delete line (no data).
```

```
Data: "{order},
       {trig hh:mm:ss},{trig daymask},
       {action p},{action t},{action c},{action d},{action value},{action string}".
```

```
Parameter name      :SMTPRCPT
Parameter type      :Module parameter
Parameter no. [p]   :30
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :String (unsigned char[48])
Maxlength (as binary) :48
Maxlength (as ascii) :48 (including 0-terminator)
```

SMTP email list.

```
Parameter name      :MODTEXT
```

```
Parameter type      :Module parameter
Parameter no. [p]   :31
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled      :No
Member of file       :all.par, config.par, copyable.par
Location             :EEPROM
Format               :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)
```

Module street address.

```
Parameter name      :MODEVENTMODE
Parameter type      :Module parameter
Parameter no. [p]   :32
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..23
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled      :Yes, individual elements (all values)
Member of file       :all.par, config.par, copyable.par
Location             :EEPROM
Format               :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Module event mode (bitmask).
Note that the value is listed in decimal format though.

```
[d]: 0      = All.
     1..4    = (Only for internal use), Reset , RAM error, RAM init.
     5..8    = EEPROM error, EEPROM init, Program error, Watchdog reset.
     9..11   = Clock error, File upload error, New program.
    12..13   = Forecast deviation, No forecast.
    14..17   = PP#1..PP#4 com error.
    18..21   = PP#1..PP#4 manual out.trd.
    22..23   = Email error, Email test.
```

```
Data: "{00000000b}" = Default.
      "{xxxxxxx1b}" = Event is repeatable (not active --> not active).
      "{xxxxxx1xb}" = Event is repeatable (active --> active).
      "{xxxxx1xxb}" = Event is treated as ERROR.
      "{xxxx1xxxb}" = Event should be emailed.
```

```
Parameter name      :SETEVENT
Parameter type      :Module parameter
Parameter no. [p]   :33
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :No , -
Writeable, Write access:Yes, Operate
Can be disabled      :No
Member of file       :all.par
Location             :Virtual (constructed dynamically)
Format               :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified
```

Module event acknowledge or reset.

```
Data: "ACK" = Acknowledge all events.
      "RESET" = Reset all events.
```

```
Parameter name      :EEMODE
Parameter type      :Module parameter
Parameter no. [p]   :34
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :No , -
Writeable, Write access:Yes, Config
Can be disabled      :No
Member of file       :all.par
Location             :Virtual (constructed dynamically)
Format               :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

Enable or disable EEPROM update.
Used when dumping parameters.

```
Data: "DISABLE" = Disable EEPROM write.
      "ENABLE" = Enable EEPROM write.
```

Write all EEPROM parameters from RAM to EEPROM.

```

Parameter name      :DAYCHANGETAB
Parameter type      :Module parameter
Parameter no. [p]   :35
Channeltype no. [t] :-
Channel no. [c]    :1..2 (used for alternate purpose)
Data no. [d]      :1..200
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled     :No
Member of file      :all.par, config.par, holiday.par
Location            :EEPROM
Format              :Structure (struct)
Maxlength (as binary) :5
Maxlength (as ascii) :Not specified

```

Day change table (extra holidays).
Lines are optionally sorted by date.

[c]: 0 = Access unsorted lines:

[d]: 0 = Read/write all lines.
1..n = Read/write line.

[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines / Append line.
1..n = Read/write line.

[c]: 2 = Read info / Delete sorted lines:

[d]: 1 = Read maximum number of lines.
0 = Delete all lines (no data).
1..n = Delete line (no data).

Data: "{yyyy-mm-dd},{weekday no}".

```

Parameter name      :ACTIVEALARMTAB
Parameter type      :Module parameter
Parameter no. [p]   :36
Channeltype no. [t] :-
Channel no. [c]    :1..1 (used for alternate purpose)
Data no. [d]      :1..66
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par
Location            :RAM
Format              :Structure (struct)
Maxlength (as binary) :14
Maxlength (as ascii) :Not specified

```

Active alarm table.
Only events treated as errors are included in this table.
Lines are optionally sorted by yy:mm:dd hh:mm:ss.

[c]: 0 = Access unsorted lines:

[d]: 0 = Read/write all lines.
1..n = Read line.

[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines.
1..n = Read line.

[c]: 2 = Read info:

[d]: 1 = Read maximum number of lines.

Data: "{yy-mm-dd},{hh:mm:ss},{alarm name},{chn name},{alarm value},{unit text},{t},{c},{io name}" .
Some fields are blanked for module events.

```

Parameter name      :ACTIVEALARMCNT
Parameter type      :Module parameter
Parameter no. [p]   :37
Channeltype no. [t] :-
Channel no. [c]    :-
Data no. [d]      :-
Readable, Read access :Yes, Login
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

```

Number of active alarms in ACTIVEALARMTAB.

Parameter name :MODEVENTIME
Parameter type :Module parameter
Parameter no. [p] :38
Channeltype no. [t] :-
Channel no. [c] :1..2 (used for alternate purpose)
Data no. [d] :1..23
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Module event time.

[c]: 0 = Data: "{yyyy-mm-dd} {hh:mm:ss}".
1 = Data: "{yyyy-mm-dd}".
2 = Data: "{hh:mm:ss}".

[d]: 0 = All.
1..4 = (Only for internal use), Reset , RAM error, RAM init.
5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
9..11 = Clock error, File upload error, New program.
12..13 = Forecast deviation, No forecast.
14..17 = PP#1..PP#4 com error.
18..21 = PP#1..PP#4 manual out.trd.
22..23 = Email error, Email test.

Parameter name :SMTPRETURNADDRESS
Parameter type :Module parameter
Parameter no. [p] :39
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[48])
Maxlength (as binary) :48
Maxlength (as ascii) :48 (including 0-terminator)

SMTP return address.

Parameter name :ACTIVEALARMINTERVAL
Parameter type :Module parameter
Parameter no. [p] :40
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, Login
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Update interval for ACTIVEALARMTAB.

Data: "0" = Never.
"5".."600" = Interval in seconds.

Parameter name :DEMOMODE
Parameter type :Module parameter
Parameter no. [p] :41
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Put IPT in demo mode.

Data: "DEMO" = Enter demo mode (all login's are treated as a VIEW-login).
"NORMAL" = Exit demo mode (NOTE: Can only be done from serial terminal).

Parameter name :PPPIADDRESS
Parameter type :Module parameter
Parameter no. [p] :42
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 1)
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

PPP IP-address.

[d]: 0 = All bytes in address (separated with '.').
1..4 = Individual byte in address.

Parameter name :PPPSUBNETMASK
Parameter type :Module parameter
Parameter no. [p] :43
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 1)
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

PPP subnet mask.

[d]: 0 = All bytes in address (separated with '.').
1..4 = Individual byte in address.

Parameter name :PPPGATEWAY
Parameter type :Module parameter
Parameter no. [p] :44
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 1)
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

PPP gateway.

[d]: 0 = All bytes in address (separated with '.').
1..4 = Individual byte in address.

Parameter name :PPPMODEMINIT
Parameter type :Module parameter
Parameter no. [p] :45
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 1)
Format :String (unsigned char[31])
Maxlength (as binary) :31
Maxlength (as ascii) :31 (including 0-terminator)

PPP modem initialization string.

Data: "AT{xxxx...}". xxxx = Hayes commands.

Parameter name :PPPPHONENR
Parameter type :Module parameter
Parameter no. [p] :46
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par

Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

PPP telephone number.

Parameter name :PPPBAUDRATE
Parameter type :Module parameter
Parameter no. [p] :47
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 1)
Format :Positive integer (unsigned long)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

PPP com-port baudrate.

Data: "9600", "19200", 38400".

Parameter name :PPPTIMEOUT
Parameter type :Module parameter
Parameter no. [p] :48
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

PPP timeout in seconds until a silent connection is dropped.

Parameter name :PPPLOGGINGACTIVE
Parameter type :Module parameter
Parameter no. [p] :49
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

PPP logging activation.

Data: "0" = Do not log.
"1" = Log PPP connection information on terminal screen.

Parameter name :PPPREMOTEACCESSNAME
Parameter type :Module parameter
Parameter no. [p] :50
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

PPP remote username (currently used only for sending email via PPP).

Parameter name :PPPREMOTEPASSWORD
Parameter type :Module parameter
Parameter no. [p] :51
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, Config
Writeable, Write access:Yes, Config
Can be disabled :No

```
Member of file      :all.par, config.par
Location           :EEPROM
Format             :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)
```

PPP remote password (currently used only for sending email via PPP).

A password is always read in encrypted format (a hexadecimal string with prefix \$), but can be written in either encrypted or unencrypted format. If it is written in unencrypted format (without prefix), it must be written as 2 identical comma-separated strings (for input validation). If a password should be defined it must contain at least 4 characters.

```
Data: "${xxxx...}" = Encrypted format (read/write).
      "{xxxx...},{xxxx...}" = Unencrypted format (write only).
```

```
Parameter name      :PPPMODE
Parameter type      :Module parameter
Parameter no. [p]   :52
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par
Location           :EEPROM
Format             :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

PPP Connection mode.

```
Data: "0" = None required, "1" = PAP required, "2" = CHAP required.
```

```
Parameter name      :PPPCCHAPPASSWORD
Parameter type      :Module parameter
Parameter no. [p]   :53
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, Config
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par
Location           :EEPROM
Format             :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)
```

CHAP password (also known as 'CHAP secret').

Note: Currently not used.
The CHAP password is for now the same as PPPREMOTEPASSWORD.

A password is always read in encrypted format (a hexadecimal string with prefix \$), but can be written in either encrypted or unencrypted format. If it is written in unencrypted format (without prefix), it must be written as 2 identical comma-separated strings (for input validation). If a password should be defined it must contain at least 4 characters.

```
Data: "${xxxx...}" = Encrypted format (read/write).
      "{xxxx...},{xxxx...}" = Unencrypted format (write only).
```

```
Parameter name      :QUICKVIEWTAB
Parameter type      :Module parameter
Parameter no. [p]   :54
Channeltype no. [t] :-
Channel no. [c]     :1..2 (used for alternate purpose)
Data no. [d]        :1..20
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location           :EEPROM
Format             :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

Quick view table.
Lines are optionally sorted by channeltype number (t), channel number (c), parameter number (p).

```
[c]: 0 = Access unsorted lines:
```

```
[d]: 0 = Read/write all lines.
     1..n = Read/write line.
```


[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines / Append line.
1..n = Read/write line.

[c]: 2 = Read info / Delete sorted lines:

[d]: 1 = Read maximum number of lines.
0 = Delete all lines (no data).
1..n = Delete line (no data).

Read data: "{t},{c},{p},{io name},{chn name},{text},{value},
{dynamic unit},{yyyy-mm-dd},{hh:mm:ss}"
Some fields are empty for some parameters.

Write data: "{t},{c},{p}"

Parameter name :AUTOTRANSFERTAB
Parameter type :Module parameter
Parameter no. [p] :55
Channeltype no. [t] :-
Channel no. [c] :1..2 (used for alternate purpose)
Data no. [d] :1..16
Readable, Read access :Yes, View
Writable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Auto transfer table.
Lines are optionally sorted by
database number (dbs), channeltype number (t), channel number (c).

[c]: 0 = Access unsorted lines:

[d]: 0 = Read/write all lines.
1..n = Read/write line.

[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines / Append line.
1..n = Read/write line.

[c]: 2 = Read info / Delete sorted lines:

[d]: 1 = Read maximum number of lines.
0 = Delete all lines (no data).
1..n = Delete line (no data).

Read data: "{dbs},{c},{p},{dbsname},{ioname},{chnname}"

Write data: "{dbs},{c},{p}"

Parameter name :OVERVIEWINTERVAL
Parameter type :Module parameter
Parameter no. [p] :56
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Update interval for custom page overview.

Data: "0" = Never.
"30".."600" = Interval in seconds.

Parameter name :QUICKVIEWINTERVAL
Parameter type :Module parameter
Parameter no. [p] :57
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2

Maxlength (as ascii) :Not specified

Update interval for quick view.

Data: "0" = Never.
"30".."600" = Interval in seconds.

Parameter name :STARTPAGE
Parameter type :Module parameter
Parameter no. [p] :58
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access :Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Use as start page.

Note: This is a "radio button" parameter, i.e. when "1" is written to a field, all other fields are set to "0".

[d]: 0 = All.
1 = Enable Overview. Data: "0" = None, "1" = Overview.
2 = Enable Quickview. Data: "0" = None, "1" = Quick view.

Parameter name :EEFIRSTERROR
Parameter type :Module parameter
Parameter no. [p] :59
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Parameter number where first EEPROM error was detected after startup.

Parameter name :QUICKVIEWDBSSELECTION
Parameter type :Module parameter
Parameter no. [p] :60
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access :Yes, View
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

Selected databases in graphical quickview-menu.

[d]: 0 = All.
1..4 = Curve 1..4 info.

Parameter name :SYNCCLOCK
Parameter type :Module parameter
Parameter no. [p] :61
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :No , -
Writeable, Write access :Yes, Config
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

Clock synchronization.

If +/- difference = 00..14s --> Do nothing.
If +/- difference = 15..29s --> Set clock
If +/- difference >= 30s --> Set event Clock error (1).

[d]: 0 = Data: "{yyyy-mm-dd} {hh:mm:ss}".
1 = Data: "{yyyy-mm-dd}".

2 = Data: "{hh:mm:ss}".

Parameter name :MODEVENTTEXT
Parameter type :Module parameter
Parameter no. [p] :62
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..23
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Module event status (as text).

[d]: 0 = All.
1..4 = (Only for internal use), Reset , RAM error, RAM init.
5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
9..11 = Clock error, File upload error, New program.
12..13 = Forecast deviation, No forecast.
14..17 = PP#1..PP#4 com error.
18..21 = PP#1..PP#4 manual out.trd.
22..23 = Email error, Email test.

Parameter name :MODEVENTMODEISERROR
Parameter type :Module parameter
Parameter no. [p] :63
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..23
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Module event mode (bit 2 from MODEVENTMODE bitmask).
Event is treated as ERROR.

[d]: 0 = All.
1..4 = (Only for internal use), Reset , RAM error, RAM init.
5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
9..11 = Clock error, File upload error, New program.
12..13 = Forecast deviation, No forecast.
14..17 = PP#1..PP#4 com error.
18..21 = PP#1..PP#4 manual out.trd.
22..23 = Email error, Email test.

Data: "0" = No, "1" = Yes.

Parameter name :MODEVENTMODEMAIL
Parameter type :Module parameter
Parameter no. [p] :64
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..23
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Module event mode (bit 3 from MODEVENTMODE bitmask).
Event should be emailed.

[d]: 0 = All.
1..4 = (Only for internal use), Reset , RAM error, RAM init.
5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
9..11 = Clock error, File upload error, New program.
12..13 = Forecast deviation, No forecast.
14..17 = PP#1..PP#4 com error.
18..21 = PP#1..PP#4 manual out.trd.
22..23 = Email error, Email test.

Data: "0" = No, "1" = Yes.

Parameter name :NIGHT
Parameter type :Module parameter
Parameter no. [p] :65

```

Channeltype no. [t]    :-
Channel no.      [c]    :-
Data no.         [d]    :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled   :No
Member of file    :all.par
Location          :RAM
Format            :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Night (as numeric).
Set from time control.

Data: "0" = Day, "1" = Night.

```

Parameter name      :NIGHTTEXT
Parameter type      :Module parameter
Parameter no.       [p] :66
Channeltype no.    [t] :-
Channel no.         [c] :-
Data no.            [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

```

Night (as text).
Set from time control.

```

Parameter name      :PUMPCYCLE
Parameter type      :Module parameter
Parameter no.       [p] :67
Channeltype no.    [t] :-
Channel no.         [c] :-
Data no.            [d] :-
Readable, Read access :No , -
Writeable, Write access:Yes, Operate
Can be disabled     :No
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Pump cycling, start.
Set from time control.
Affect REGPUMPCYCLE and SMHIPUMPCYCLE when written.

Data: "1" = Yes.

```

Parameter name      :AITRESISTANCEACTIVE
Parameter type      :Module parameter
Parameter no.       [p] :70
Channeltype no.    [t] :-
Channel no.         [c] :-
Data no.            [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

I/O T External parallel resistance active.

[d]: T I/O number.

Data: "0" = No, "1" = Yes.

```

Parameter name      :AIUIPROBETEXT
Parameter type      :Module parameter
Parameter no.       [p] :71
Channeltype no.    [t] :-
Channel no.         [c] :-
Data no.            [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)

```

Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

I/O AI probe type (as text).

Parameter name :AITPROBETEXT
Parameter type :Module parameter
Parameter no. [p] :72
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

I/O T probe text (as text).

Parameter name :VAITNAME
Parameter type :Module parameter
Parameter no. [p] :73
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..3
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

I/O VT name.

[d]: VT I/O number.

Parameter name :DIFILTERTIME
Parameter type :Module parameter
Parameter no. [p] :80
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..6
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

I/O DI filter time (ms).

[d]: DI I/O number.

Parameter name :AIUIDEADVALUE
Parameter type :Module parameter
Parameter no. [p] :81
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

I/O AI deadband.

[d]: AI I/O number.

Parameter name :AIUIPROBE
Parameter type :Module parameter
Parameter no. [p] :82
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par

Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

I/O AI probe type (as numeric).

[d]: AI I/O number.

Data: "0" = 0..10VDC, "1" = 0..20mA, "2" = 4..20mA.

Parameter name :AITPROBE
Parameter type :Module parameter
Parameter no. [p] :83
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

I/O T probe type (as numeric).

[d]: T I/O number.

Data: "0" = Linear, "1" = PT1000, "2" = NI1000, "3" = NI1000LG.

Parameter name :AICALVALUE
Parameter type :Module parameter
Parameter no. [p] :84
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..32
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config (attribute 'W' removed in *.par files)
Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 2)
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

I/O Input calibration values (only for internal use).

Parameter name :AOCALVALUE
Parameter type :Module parameter
Parameter no. [p] :85
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config (attribute 'W' removed in *.par files)
Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 2)
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

I/O Output calibration values (only for internal use).

Parameter name :DOEVENTRELAY
Parameter type :Module parameter
Parameter no. [p] :86
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

I/O DO event relay control (only for internal use).

[d]: DO Event I/O number.

Parameter name :DOEVENTLED
Parameter type :Module parameter
Parameter no. [p] :87
Channeltype no. [t] :-

Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, Login
Writable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

I/O DO event LED control (only for internal use).

[d]: DO Event I/O number.

Parameter name :DINAME
Parameter type :Module parameter
Parameter no. [p] :88
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..6
Readable, Read access :Yes, View
Writable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

I/O DI name.

[d]: DI I/O number.

Parameter name :AIUINAME
Parameter type :Module parameter
Parameter no. [p] :89
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

I/O AI name.

[d]: AI I/O number.

Parameter name :AITNAME
Parameter type :Module parameter
Parameter no. [p] :90
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

I/O T name.

[d]: T I/O number.

Parameter name :DONAME
Parameter type :Module parameter
Parameter no. [p] :91
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

I/O DO name.

[d]: DO I/O number.

```

Parameter name      :DOEVENTNAME
Parameter type      :Module parameter
Parameter no. [p]   :92
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par
Location            :EEPROM
Format               :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

I/O DO event name (only for internal use).

[d]: DO Event I/O number.

```

Parameter name      :AONAME
Parameter type      :Module parameter
Parameter no. [p]   :93
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format               :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

I/O AO name.

[d]: AO I/O number.

```

Parameter name      :DIDBSSELECTION
Parameter type      :Module parameter
Parameter no. [p]   :94
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..6
Readable, Read access :Yes, View
Writeable, Write access:Yes, View
Can be disabled     :No
Member of file      :all.par
Location            :RAM
Format               :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

```

I/O DI selected database in view-page.

```

Parameter name      :AIUIDBSSELECTION
Parameter type      :Module parameter
Parameter no. [p]   :95
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, View
Can be disabled     :No
Member of file      :all.par
Location            :RAM
Format               :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

```

I/O AI selected database in view-page.

[d]: AI I/O number.

```

Parameter name      :AITDBSSELECTION
Parameter type      :Module parameter
Parameter no. [p]   :96
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, View
Can be disabled     :No
Member of file      :all.par
Location            :RAM
Format               :Structure (struct)
Maxlength (as binary) :8

```


Maxlength (as ascii) :Not specified

I/O T selected database in view-page.

[d]: T I/O number.

Parameter name :DODBSSELECTION
Parameter type :Module parameter
Parameter no. [p] :97
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access :Yes, View
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

I/O DO selected database in view-page.

[d]: DO I/O number.

Parameter name :AODBSSELECTION
Parameter type :Module parameter
Parameter no. [p] :98
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access :Yes, View
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

I/O AO selected database in view-page.

[d]: AO I/O number.

Parameter name :AITRESISTANCE
Parameter type :Module parameter
Parameter no. [p] :99
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access :Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

I/O T External parallel resistance.

[d]: T I/O number.

Data: "1800".."{x}" ohm.

Parameter name :TYPENR
Parameter type :Channeltype parameter
Parameter no. [p] :100
Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no. [c] :-
Data no. [d] :-
Channeltype no. [t] :9, 10, 11, 12
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :No, -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Channeltype number.

Parameter name :TYPENAME
Parameter type :Channeltype parameter
Parameter no. [p] :101
Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8

```

Channel no.    [c]    :-
Data no.      [d]    :-
Channeltype no. [t]    :9, 10, 11, 12
Channel no.    [c]    :-
Data no.      [d]    :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

Channeltype name.

```

Parameter name      :TYPEADDRESS
Parameter type      :Channeltype parameter
Parameter no.      [p] :102
Channeltype no.    [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no.        [c] :-
Data no.          [d] :-
Channeltype no.    [t] :9, 10, 11, 12
Channel no.        [c] :-
Data no.          [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :Virtual (constructed dynamically)
Format               :Structure (struct)
Maxlength (as binary) :9
Maxlength (as ascii) :Not specified

```

Channeltype technical address.

Data: "{mmmmtt}00". mmmm = Module number, tt = Channeltype number.

```

Parameter name      :MAXCHNIDX
Parameter type      :Channeltype parameter
Parameter no.      [p] :103
Channeltype no.    [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no.        [c] :-
Data no.          [d] :-
Channeltype no.    [t] :9, 10, 11, 12
Channel no.        [c] :-
Data no.          [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Max channel number for a channel type.

```

Parameter name      :MINBITVALUE
Parameter type      :Channeltype parameter
Parameter no.      [p] :104
Channeltype no.    [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no.        [c] :-
Data no.          [d] :-
Channeltype no.    [t] :9, 10, 11
Channel no.        [c] :-
Data no.          [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :Integer (signed int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

```

Min bit value.

If not applicable, then MINBITVALUE = 0 and MAXBITVALUE = 0.

Data: "{x}" = Min physical or normalized bit value.

```

Parameter name      :MAXBITVALUE
Parameter type      :Channeltype parameter
Parameter no.      [p] :105
Channeltype no.    [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no.        [c] :-
Data no.          [d] :-
Channeltype no.    [t] :9, 10, 11
Channel no.        [c] :-

```

Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :RAM
 Format :Integer (signed int)
 Maxlength (as binary) :2
 Maxlength (as ascii) :Not specified

Max bit value.
 If not applicable, then MINBITVALUE = 0 and MAXBITVALUE = 0.

Data: "{x}" = Max physical or normalized bit value.

Parameter name :ALARMTYPE
 Parameter type :Channeltype parameter
 Parameter no. [p] :106
 Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8
 Channel no. [c] :-
 Data no. [d] :-
 Channeltype no. [t] :9, 10, 11, 12
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :RAM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Alarm, type of alarm.

Data: "0" = None.
 "1" = DI/AI/AO (mean value).
 "2" = DI Status.
 "3" = DI/DO Time.
 "4" = AI/DI (sum value).
 "5" = DO Control.

Parameter name :MAXALARMIDX
 Parameter type :Channeltype parameter
 Parameter no. [p] :107
 Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8
 Channel no. [c] :-
 Data no. [d] :-
 Channeltype no. [t] :9, 10, 11, 12
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :RAM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Alarm, max alarm index for type of alarm.

Data: "{x}" = Max alarm index, dependent on ALARMTYPE.

Parameter name :ALARMLIMIT
 Parameter type :Channel parameter
 Parameter no. [p] :200
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4
 Channeltype no. [t] :9 , 10 , 11
 Channel no. [c] :1..2, 1..2, 1..2
 Data no. [d] :1..4, 1..4, 1..4
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Floating point with adjustable decimals (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Alarm, limit or feedback channel number.

[d]: 1..x = Alarm index, dependent on ALARMTYPE.

Data: "{x}" = Alarm limit or feedback channel number, dependent on ALARMTYPE.

Parameter name :ALARMDELAY

```

Parameter type      :Channel parameter
Parameter no. [p]   :201
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c]    :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d]       :-
Channeltype no. [t] :9 , 10 , 11
Channel no. [c]    :1..2, 1..2, 1..2
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled      :No
Member of file       :all.par, config.par, copyable.par
Location             :EEPROM
Format               :Positive integer (unsigned long)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Alarm, delay.

[d]: 1..x = Alarm index, dependent on ALARMTYPE.

Data: "{hh:mm:ss}" = Delay between changes of alarm values.
 "{mm:ss}"
 "{s..}"

```

Parameter name      :ALARMDEADBAND
Parameter type      :Channel parameter
Parameter no. [p]   :202
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c]    :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d]       :-
Channeltype no. [t] :9 , 10 , 11
Channel no. [c]    :1..2, 1..2, 1..2
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled      :No
Member of file       :all.par, config.par, copyable.par
Location             :EEPROM
Format               :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Alarm, deadband.

[d]: 1..x = Alarm index, dependent on ALARMTYPE.

Data: "{x}" = Deadband, in %.

```

Parameter name      :CHNNAME
Parameter type      :Channel parameter
Parameter no. [p]   :203
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c]    :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d]       :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c]    :1..2, 1..2, 1..2, 1..3
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled      :No
Member of file       :all.par, config.par, copyable.par
Location             :EEPROM
Format               :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

Channel name.

```

Parameter name      :VALUE
Parameter type      :Channel parameter
Parameter no. [p]   :204
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c]    :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d]       :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c]    :1..2, 1..2, 1..2, 1..3
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :Floating point with adjustable decimals (double)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

```

Value (all).

Use VALUE_W to write to writeable channeltypes.

```
Parameter name      :VALUE_W
Parameter type      :Channel parameter
Parameter no.      [p] :205
Channeltype no.    [t] :3 , 5 , 6 , 9 , 10 , 11
Channel no.        [c] :1..2, 1..6, 1..6, 1..2, 1..2, 1..2
Data no.           [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location           :RAM
Format             :Floating point with adjustable decimals (double)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified
```

Value (only writeable).

This parameter is identical with VALUE, except that it only contains the writeable channeltypes, and allows write to them.

```
Parameter name      :HOURVALUE
Parameter type      :Channel parameter
Parameter no.      [p] :206
Channeltype no.    [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no.        [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no.           [d] :-
Channeltype no.    [t] :9 , 10 , 11
Channel no.        [c] :1..2, 1..2, 1..2
Data no.           [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par
Location           :RAM
Format             :Floating point with adjustable decimals (double)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified
```

Current hour value.

```
Parameter name      :QUANTITY
Parameter type      :Channel parameter
Parameter no.      [p] :207
Channeltype no.    [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no.        [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no.           [d] :-
Channeltype no.    [t] :9 , 10 , 11 , 12
Channel no.        [c] :1..2, 1..2, 1..2, 1..3
Data no.           [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location           :EEPROM
Format             :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)
```

Quantity for VALUE.

```
Parameter name      :UNIT
Parameter type      :Channel parameter
Parameter no.      [p] :208
Channeltype no.    [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no.        [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no.           [d] :-
Channeltype no.    [t] :9 , 10 , 11 , 12
Channel no.        [c] :1..2, 1..2, 1..2, 1..3
Data no.           [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location           :EEPROM
Format             :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)
```

Unit for VALUE (as text).
Ignore any comma separations.
(See also DYNAMICUNIT and TEMPUNIT).

```
Parameter name      :CHNEVENT
Parameter type      :Channel parameter
Parameter no.      [p] :209
Channeltype no.    [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no.        [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
```

Data no. [d] :1..1, 1..1, 1..1, 1..1, 1..1, 1..1, 1..1, 1..1
Channeltype no. [t] :9 , 10 , 11
Channel no. [c] :1..2, 1..2, 1..2
Data no. [d] :1..1, 1..1, 1..1
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Channel event status (as numeric).

[d]: 0 = All.
1 = Alarm.

Data: "0" = Not active.
"1".."{x}" = Active (x --> alarm number).

Parameter name :DBSACTIVE
Parameter type :Channel parameter
Parameter no. [p] :210
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :1..7, 1..7, 1..7, 1..7, 1..7, 1..7, 1..7, 1..7
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c] :1..2, 1..2, 1..2, 1..3
Data no. [d] :1..7, 1..7, 1..7, 1..7
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Database activation.

Only used as an option for file downloads (download only active databases).

Data: "0" = Not active.
"1" = Active.

Parameter name :MINVALUE
Parameter type :Channel parameter
Parameter no. [p] :211
Channeltype no. [t] :1 , 2 , 4 , 7 , 8 , 9 , 11
Channel no. [c] :1..4, 1..2, 1..6, 1..6, 1..6, 1..6, 1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Floating point with adjustable decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Min value.

Read data: "{x}" :Minimum VALUE.

Write data: "{x}" :Ignored, value is set to current VALUE instead.

Parameter name :MAXVALUE
Parameter type :Channel parameter
Parameter no. [p] :212
Channeltype no. [t] :1 , 2 , 4 , 7 , 8 , 9 , 11
Channel no. [c] :1..4, 1..2, 1..6, 1..6, 1..6, 1..6, 1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Floating point with adjustable decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Max value.

Read value: "{x}" :Maximum VALUE.

Write data: "{x}" :Ignored, value is set to current VALUE instead.

Parameter name :SOURCE
Parameter type :Channel parameter

Parameter no. [p] :213
Channeltype no. [t] :9 , 11
Channel no. [c] :1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Source of value for output channels (as numeric).

Data: "0" = None (after first startup).
"1" = Start controlled (see STARTMODE).
"2" = Menu controlled.
"3" = Time controlled.
"4" = Event controlled (currently not used).
"5" = Regulator controlled.
"6" = Forecast controlled.

Parameter name :ALARMNAME
Parameter type :Channel parameter
Parameter no. [p] :214
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4
Channeltype no. [t] :9 , 10 , 11
Channel no. [c] :1..2, 1..2, 1..2
Data no. [d] :1..4, 1..4, 1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

Alarm, name.

[d]: 1..x = Alarm index, dependent on ALARMTYPE.

Parameter name :ALARMACTIVE
Parameter type :Channel parameter
Parameter no. [p] :215
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4
Channeltype no. [t] :9 , 10 , 11
Channel no. [c] :1..2, 1..2, 1..2
Data no. [d] :1..4, 1..4, 1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Alarm, activation.

[d]: 1..x = Alarm index, dependent on ALARMTYPE.

Data: "0" = Off, "1" = On.

Parameter name :CURRENTALARMNAME
Parameter type :Channel parameter
Parameter no. [p] :216
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11
Channel no. [c] :1..2, 1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Alarm, Current active.

Data: "Normal" = No active alarm.
 "{xxx..}" = Name of active alarm.

```

Parameter name      :MINSETVALUE
Parameter type      :Channel parameter
Parameter no. [p]   :217
Channeltype no. [t] :2 , 3 , 11
Channel no. [c]    :1..2, 1..2, 1..2
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
  
```

Min value limit (only writeable).

Read data: "{x}" = Current minimum VALUE limit,
 according to MINBITVALUE, FACTOR, OFFSET.

Write data: "{x}" = Define minimum VALUE limit,
 update FACTOR, OFFSET, MINRANGEVALUE, MAXRANGEVALUE.

```

Parameter name      :MAXSETVALUE
Parameter type      :Channel parameter
Parameter no. [p]   :218
Channeltype no. [t] :2 , 3 , 11
Channel no. [c]    :1..2, 1..2, 1..2
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
  
```

Max value limit (only writeable).

Read data: "{x}" = Current maximum VALUE limit,
 according to MAXBITVALUE, FACTOR, OFFSET.

Write data: "{x}" = Define maximum VALUE limit,
 update FACTOR, OFFSET, MINRANGEVALUE, MAXRANGEVALUE.

```

Parameter name      :FACTOR
Parameter type      :Channel parameter
Parameter no. [p]   :219
Channeltype no. [t] :2 , 3 , 5 , 6 , 7 , 8 , 9 , 10
Channel no. [c]    :1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..2, 1..2
Data no. [d]       :-
Channeltype no. [t] :11
Channel no. [c]    :1..2
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
  
```

Conversion factor.

Read data: "{x}" = Current factor to convert between RAWVALUE and VALUE.

Write data: "{x}" = Define factor to convert between RAWVALUE and VALUE,
 update MINSETVALUE, MAXSETVALUE,
 MINRANGEVALUE, MAXRANGEVALUE.

```

Parameter name      :OFFSET
Parameter type      :Channel parameter
Parameter no. [p]   :220
Channeltype no. [t] :1 , 2 , 3 , 5 , 6 , 7 , 8 , 9
Channel no. [c]    :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..2
Data no. [d]       :-
Channeltype no. [t] :10 , 11
Channel no. [c]    :1..2, 1..2
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
  
```


Format :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Conversion offset.

Read data: "{x}" = Current offset to convert between RAWVALUE and VALUE.

Write data: "{x}" = Define offset to convert between RAWVALUE and VALUE,
update MINSETVALUE, MAXSETVALUE,
MINRANGEVALUE, MAXRANGEVALUE.

Parameter name :DUTYCYCLE
Parameter type :Channel parameter
Parameter no. [p] :221
Channeltype no. [t] :9
Channel no. [c] :1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Duty cycle for digital output channels.
(Active when VALUE = 2).

Parameter name :FREQVALUE
Parameter type :Channel parameter
Parameter no. [p] :222
Channeltype no. [t] :9
Channel no. [c] :1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 2 decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Frequency value for digital output channels.
(Active when VALUE = 2).

Parameter name :CHNADDRESS
Parameter type :Channel parameter
Parameter no. [p] :223
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c] :1..2, 1..2, 1..2, 1..3
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :9
Maxlength (as ascii) :Not specified

Channel technical address.

Data: "{mmmmttcc}".
mmmm = Module number, tt = Channeltype number, cc = Channel number.

Parameter name :CHNNR
Parameter type :Channel parameter
Parameter no. [p] :224
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c] :1..2, 1..2, 1..2, 1..3
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Channel number (same as [c]).

```

Parameter name      :RAWVALUE
Parameter type     :Channel parameter
Parameter no. [p]  :225
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c]   :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d]     :-
Channeltype no. [t] :9 , 10 , 11
Channel no. [c]   :1..2, 1..2, 1..2
Data no. [d]     :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :Floating point (double)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

```

Bit value or normalized value (0..100%).
(Only for internal use).

```

Parameter name      :DECIMALS
Parameter type     :Channel parameter
Parameter no. [p]  :226
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c]   :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d]     :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c]   :1..2, 1..2, 1..2, 1..3
Data no. [d]     :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled      :No
Member of file       :all.par, config.par, copyable.par
Location             :EEPROM
Format               :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Number of decimals for certain parameters, like VALUE.

```

Parameter name      :TEMPUNIT
Parameter type     :Channel parameter
Parameter no. [p]  :227
Channeltype no. [t] :1 , 12
Channel no. [c]   :1..4, 1..3
Data no. [d]     :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled      :No
Member of file       :all.par, config.par, copyable.par
Location             :EEPROM
Format               :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Unit for temperatures (as numeric).
Update UNIT (as text) for temperatures as well.

Data: "0" = °C.
"1" = °F.

```

Parameter name      :ALARMVALUE
Parameter type     :Channel parameter
Parameter no. [p]  :228
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c]   :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d]     :-
Channeltype no. [t] :9 , 10 , 11
Channel no. [c]   :1..2, 1..2, 1..2
Data no. [d]     :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :Floating point with adjustable decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Alarm, value.

[d]: 1..x = Alarm value, dependent on ALARMTYPE.

Data: "0" = Not active.
"1".."x" = Active (x --> alarm number).

Parameter name :ALARMTIME
 Parameter type :Channel parameter
 Parameter no. [p] :229
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :1..2, 1..2, 1..2, 1..2, 1..2, 1..2, 1..2, 1..2
 Channeltype no. [t] :9 , 10 , 11
 Channel no. [c] :1..2, 1..2, 1..2
 Data no. [d] :1..2, 1..2, 1..2
 Readable, Read access :Yes, View
 Writeable, Write access :No , -
 Can be disabled :No
 Member of file :all.par
 Location :RAM
 Format :Structure (struct)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Alarm, time.

[d]: 0 = Data: "{yyyy-mm-dd} {hh:mm:ss}".
 1 = Data: "{yyyy-mm-dd}".
 2 = Data: "{hh:mm:ss}".

Parameter name :MINTIME
 Parameter type :Channel parameter
 Parameter no. [p] :230
 Channeltype no. [t] :1 , 2 , 4 , 7 , 8 , 9 , 11
 Channel no. [c] :1..4, 1..2, 1..6, 1..6, 1..6, 1..2, 1..2
 Data no. [d] :1..2, 1..2, 1..2, 1..2, 1..2, 1..2, 1..2
 Readable, Read access :Yes, View
 Writeable, Write access :No , -
 Can be disabled :No
 Member of file :all.par
 Location :RAM
 Format :Structure (struct)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Time when min value occurred.

[d]: 0 = Data: "{yyyy-mm-dd hh:mm:ss}".
 1 = Data: "{yyyy-mm-dd}".
 2 = Data: "{hh:mm:ss}".

Parameter name :MAXTIME
 Parameter type :Channel parameter
 Parameter no. [p] :231
 Channeltype no. [t] :1 , 2 , 4 , 7 , 8 , 9 , 11
 Channel no. [c] :1..4, 1..2, 1..6, 1..6, 1..6, 1..2, 1..2
 Data no. [d] :1..2, 1..2, 1..2, 1..2, 1..2, 1..2, 1..2
 Readable, Read access :Yes, View
 Writeable, Write access :No , -
 Can be disabled :No
 Member of file :all.par
 Location :RAM
 Format :Structure (struct)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Time when max value occurred.

[d]: 0 = Data: "{yyyy-mm-dd hh:mm:ss}".
 1 = Data: "{yyyy-mm-dd}".
 2 = Data: "{hh:mm:ss}".

Parameter name :SOURCENAME
 Parameter type :Channel parameter
 Parameter no. [p] :232
 Channeltype no. [t] :9 , 11
 Channel no. [c] :1..2, 1..2
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access :No , -
 Can be disabled :No
 Member of file :all.par
 Location :Virtual (constructed dynamically)
 Format :Structure (struct)
 Maxlength (as binary) :21
 Maxlength (as ascii) :Not specified

Source of value for output channels (as text).

Parameter name :TIMEACTIONACTIVE
 Parameter type :Channel parameter
 Parameter no. [p] :233
 Channeltype no. [t] :9 , 11
 Channel no. [c] :1..2, 1..2
 Data no. [d] :-

Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Time control activation.

Data: "0" = Not active.
"1" = Active.

Parameter name :EVENTACTIONACTIVE
 Parameter type :Channel parameter
 Parameter no. [p] :234
 Channeltype no. [t] :9 , 11
 Channel no. [c] :1..2, 1..2
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par
 Location :EEPROM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Event control activation.

Data: "0" = Not active.
"1" = Active.

Parameter name :IONAME
 Parameter type :Channel parameter
 Parameter no. [p] :235
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :-
 Channeltype no. [t] :9 , 10 , 11 , 12
 Channel no. [c] :1..2, 1..2, 1..2, 1..3
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :Virtual (constructed dynamically)
 Format :Structure (struct)
 Maxlength (as binary) :21
 Maxlength (as ascii) :Not specified

Which I/O this channel is based upon.

Parameter name :STARTVALUE
 Parameter type :Channel parameter
 Parameter no. [p] :236
 Channeltype no. [t] :9 , 11
 Channel no. [c] :1..2, 1..2
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :No
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Floating point with adjustable decimals (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Start value for output channels.
(See STARTMODE).

Parameter name :STARTMODE
 Parameter type :Channel parameter
 Parameter no. [p] :237
 Channeltype no. [t] :9 , 11
 Channel no. [c] :1..2, 1..2
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :No
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Start mode for output channels.

Data: "0" = Same as last value.
"1" = According to STARTVALUE.

```
Parameter name      :INVERT
Parameter type      :Channel parameter
Parameter no. [p]   :238
Channeltype no. [t] :9 , 11
Channel no. [c]    :1..2, 1..2
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled      :Yes, individual elements (all values)
Member of file       :all.par, config.par, copyable.par
Location             :EEPROM
Format               :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Inverted output.
Currently only used by regulator function.

```
Parameter name      :DYNAMICUNIT
Parameter type      :Channel parameter
Parameter no. [p]   :239
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c]    :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d]       :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c]    :1..2, 1..2, 1..2, 1..3
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :Virtual (constructed dynamically)
Format               :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified
```

If UNIT is comma separated, a "subunit" is returned for each value, starting at VALUE = "0".
If not, it works the same as UNIT.

Example:
If UNIT = "Off,On" and VALUE = "0": Data = "Off".
If UNIT = "Off,On" and VALUE = "1": Data = "On".
If UNIT = "Off,On" and VALUE > "1": Data = "" (mismatch).

```
Parameter name      :MINRANGEVALUE
Parameter type      :Channel parameter
Parameter no. [p]   :240
Channeltype no. [t] :1 , 2 , 3 , 4 , 11
Channel no. [c]    :1..4, 1..2, 1..2, 1..6, 1..2
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

Min value limit (all applicable).

Read data: "{x}" = Current minimum VALUE limit,
according to MINBITVALUE, FACTOR, OFFSET or
selected temperature probe (for temperatures).

```
Parameter name      :MAXRANGEVALUE
Parameter type      :Channel parameter
Parameter no. [p]   :241
Channeltype no. [t] :1 , 2 , 3 , 4 , 11
Channel no. [c]    :1..4, 1..2, 1..2, 1..6, 1..2
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

Max value limit (all applicable).

Read data: "{x}" = Current maximum VALUE limit,
according to MAXBITVALUE, FACTOR, OFFSET or
selected temperature probe (for temperatures).

```

Parameter name      :INTEGERDIGITS
Parameter type      :Channel parameter
Parameter no. [p]   :242
Channeltype no. [t] :3 , 5 , 6 , 10
Channel no. [c]    :1..2, 1..6, 1..6, 1..2
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Number of integer digits for VALUE (only sum values).

```

Parameter name      :REGKEY
Parameter type      :Module parameter
Parameter no. [p]   :1000
Channeltype no. [t] :-
Channel no. [c]    :-
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes
Member of file      :all.par
Location            :RAM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Regulator, function unlocked (as numeric).

Data: "0" = No, "1" = Yes.

```

Parameter name      :REGKEYPASSWORD
Parameter type      :Module parameter
Parameter no. [p]   :1001
Channeltype no. [t] :-
Channel no. [c]    :-
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :Yes
Member of file      :all.par, config.par, protect.par
Location            :EEPROM (protected at level 1)
Format              :String (unsigned char[22])
Maxlength (as binary) :22
Maxlength (as ascii) :22 (including 0-terminator)

```

Regulator function unlock password.

A function unlock password is always read or written in encrypted format (a hexadecimal string with prefix \$).

Data: "\${xxxx...}" = Encrypted format (read/write).

```

Parameter name      :REGMODE
Parameter type      :Module parameter
Parameter no. [p]   :1002
Channeltype no. [t] :-
Channel no. [c]    :-
Data no. [d]       :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :Yes, individual values
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Regulator, mode.

Data: "0" = No regulator function.
"1" = Regulator 1 normal (AO1).
"2" = Regulator 1 normal (AO1) with single pump (DO1).
"3" = Regulator 1 normal (AO1) with twin pump (DO1-2).
"4" = Regulator 1 sequence (AO1-2).
"5" = Regulator 1 sequence (AO1-2) with single pump (DO1).
"6" = Regulator 1 sequence (AO1-2) with twin pump (DO1-2).
"7" = Regulator 1 normal (AO1),
Regulator 2 normal (AO2).
"8" = Regulator 1 normal (AO1) with single pump (DO1),
Regulator 2 normal (AO2).
"9" = Regulator 1 normal (AO1) with single pump (DO1),
= Regulator 2 normal (AO2) with single pump (DO2).

"10" = Regulator 1 normal (AO1) with twin pump (DO1-2),
Regulator 2 normal (AO2).

Parameter name :REGDEADBANDSTART
Parameter type :Module parameter
Parameter no. [p] :1003
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :Yes, Config
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Sequence regulator, deadband start.

[d]: 1..2 = Regulator number.

Data: "0".."100" = Deadband start, in %.

Parameter name :REGDEADBANDSTOP
Parameter type :Module parameter
Parameter no. [p] :1004
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :Yes, Config
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Sequence regulator, deadband stop.

[d]: 1..2 = Regulator number.

Data: "0".."100" = Deadband stop, in %.

Parameter name :REGNAME
Parameter type :Module parameter
Parameter no. [p] :1005
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access :Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

Regulator, name.

[d]: 1..2 = Regulator number.

Parameter name :REGACTIVE
Parameter type :Module parameter
Parameter no. [p] :1006
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access :Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Regulator, activation (as numeric).

[d]: 1..2 = Regulator number.

Data: "0" = Not active, "1" = Active.

Parameter name :REGOFFTEMPNIGHT
Parameter type :Module parameter
Parameter no. [p] :1007
Channeltype no. [t] :-

Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Floating point with 1 decimal (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Regulator, off-temperature during night (preset).

[d]: 1..2 = Regulator number.

Parameter name :REGOFFTEMPDAY
 Parameter type :Module parameter
 Parameter no. [p] :1008
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Floating point with 1 decimal (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Regulator, off-temperature during day (preset).

[d]: 1..2 = Regulator number.

Parameter name :REGOFFTEMP
 Parameter type :Module parameter
 Parameter no. [p] :1009
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :RAM
 Format :Floating point with 1 decimal (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Regulator, off-temperature (current).

[d]: 1..2 = Regulator number.

Parameter name :REGNIGHT
 Parameter type :Module parameter
 Parameter no. [p] :1010
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :RAM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

(Obsolete parameter).

Parameter name :REGOUTDOORPROBE
 Parameter type :Module parameter
 Parameter no. [p] :1011
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Positive integer (unsigned int)
 Maxlength (as binary) :2
 Maxlength (as ascii) :Not specified

Regulator, outdoor temperature probe (channeltype number, channel number).

[d]: 1..2 = Regulator number.

Data: "0" = None.
 "{c}" = Channeltype number, Channel number.
 "{c:hb}" = Channeltype number (Temperature, AI Status, Forecast temp).
 "{c:lb}" = Channel number (Forecast temp: only #3).

Parameter name :REGTEMPPROBE
 Parameter type :Module parameter
 Parameter no. [p] :1012
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Regulator, actual temperature probe (channel number).

[d]: 1..2 = Regulator number.

Data: "{c}" = Temperature channel number.

Parameter name :REGPUMPCYCLINGACTIVE
 Parameter type :Module parameter
 Parameter no. [p] :1013
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Regulator, pump cycling, activation.

[d]: 1..2 = Regulator number.

Data: "0" = No, "1" = Yes.

Parameter name :REGPUMPSTATUS
 Parameter type :Module parameter
 Parameter no. [p] :1014
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :RAM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Regulator, pump status (as numeric).

[d]: 1..2 = Regulator number.

Data: "0" = Off.
 "1" = Pump 1 on.
 "2" = Pump 1 cycling.
 "3" = Pump 2 on.
 "4" = pump 2 cycling.

Parameter name :REGPAREASTART
 Parameter type :Module parameter
 Parameter no. [p] :1015
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :RAM
 Format :Floating point with no decimals (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Regulator, P-area start.

[d]: 1..2 = Regulator number.

Data: "{x}" = P-area start, in °C or °F.

```

Parameter name      :REGPAREASTOP
Parameter type      :Module parameter
Parameter no. [p]   :1016
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :RAM
Format              :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Regulator, P-area stop.

[d]: 1..2 = Regulator number.

Data: "{x}" = P-area stop, in °C or °F.

```

Parameter name      :REGPAREA
Parameter type      :Module parameter
Parameter no. [p]   :1017
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Regulator, P-area.

[d]: 1..2 = Regulator number.

Data: "1.." "{x}" = P-area span, in °C or °F.

```

Parameter name      :REGITIME
Parameter type      :Module parameter
Parameter no. [p]   :1018
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Regulator, I-time.

[d]: 1..2 = Regulator number.

Data: "0" = No I-time.
 "{x}" = I-time, in seconds.

```

Parameter name      :REGPVALUE
Parameter type      :Module parameter
Parameter no. [p]   :1019
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :RAM
Format              :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Regulator, P-factor.
 50% when set value = actual value.

[d]: 1..2 = Regulator number.

Data: "0".."100" = P-factor, in %.

Parameter name :REGIVALUE
Parameter type :Module parameter
Parameter no. [p] :1020
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, I-factor.

[d]: 1..2 = Regulator number.

Data: "-100".."100" = I-factor, in %.

Parameter name :REGIVALUE
Parameter type :Module parameter
Parameter no. [p] :1021
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, value (current).

[d]: 1..2 = Regulator number.

Data: "0".."100" = Current regulator value, in %.

Parameter name :REGSETCURVEVALUEY
Parameter type :Module parameter
Parameter no. [p] :1022
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Structure (struct)
Maxlength (as binary) :16
Maxlength (as ascii) :Not specified

Regulator, curve set values, Y-coordinates (actual temperature values).
Manual set value is used if no outdoor probe is chosen.

[d]: 1..2 = Regulator number.

Data: "{y1},{y2},{y3},{y3}" = Y-coordinate data for curve set values, in °C or °F.
"{y3}" = Y-coordinate data for manual set value, in °C or °F.

Parameter name :REGCURVEVALUE
Parameter type :Module parameter
Parameter no. [p] :1023
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, curve set value (current).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGSETAIADJUSTCHN
Parameter type :Module parameter

Parameter no. [p] :1024
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Regulator, AI status set value displacement (channel number).

[d]: 1..2 = Regulator number.

Data: "0" = None, "{c}" = AI Status channel number.

Parameter name :REGAIADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1025
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No, -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, AI status set value displacement (current value).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGSETDIADJUSTCHN
Parameter type :Module parameter
Parameter no. [p] :1026
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Regulator, DI status set value displacement (channel number).

[d]: 1..2 = Regulator number.

Data: "0" = None, "{c}" = DI Status channel number.

Parameter name :REGSETDIADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1027
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, DI status set value displacement (preset).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGDIADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1028
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View

Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, DI status set value displacement (current).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGSETNIGHTADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1029
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Night set value displacement (preset).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGNIGHTADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1030
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Night set value displacement (current).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGSETMANUALADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1031
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Manual set value displacement (preset).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGMANUALADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1032
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)

Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Manual set value displacement (current).
This value is a mirror of REGSETMANUALADJUSTVALUE.

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGSETVALUE
Parameter type :Module parameter
Parameter no. [p] :1033
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Set value (current).
Set value after displacements and limitations.

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGMINSETVALUE
Parameter type :Module parameter
Parameter no. [p] :1034
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Min set value.

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGMAXSETVALUE
Parameter type :Module parameter
Parameter no. [p] :1035
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Max set value.

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGSTOPVALUE
Parameter type :Module parameter
Parameter no. [p] :1036
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, stop value.

[d]: 1..2 = Regulator number.

Data: "0".."100" = Regulator value when stopped, in %.

Parameter name :REGOUTDOORVALUE
Parameter type :Module parameter
Parameter no. [p] :1037
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access :No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, outdoor temperature (current).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGTEMPVALUE
Parameter type :Module parameter
Parameter no. [p] :1038
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access :No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, actual temperature (current).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGON
Parameter type :Module parameter
Parameter no. [p] :1039
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access :No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Regulator, on (as numeric).

[d]: 1..2 = Regulator number.

Data: "0" = Off, "1" = On.

Parameter name :REGONTEXT
Parameter type :Module parameter
Parameter no. [p] :1040
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access :No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Regulator, on (as text).

[d]: 1..2 = Regulator number.

Parameter name :REGACTIVETEXT

Parameter type :Module parameter
Parameter no. [p] :1041
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Regulator, activation (as text).

[d]: 1..2 = Regulator number.

Parameter name :REGNIGHTTEXT
Parameter type :Module parameter
Parameter no. [p] :1042
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

(Obsolete parameter).

Parameter name :REGPUMPSTATUSTEXT
Parameter type :Module parameter
Parameter no. [p] :1043
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Regulator, pump status (as text).

[d]: 1..2 = Regulator number.

Parameter name :REGTEMPUNIT
Parameter type :Module parameter
Parameter no. [p] :1044
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Regulator, temperature unit.
Based on unit for actual temperature probe.

[d]: 1..2 = Regulator number.

Parameter name :REGSETCURVEVALUEX
Parameter type :Module parameter
Parameter no. [p] :1045
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :16
Maxlength (as ascii) :Not specified

Regulator, curve set values, X-coordinates (outdoor temperature values).
Manual set value is used if no outdoor probe is chosen.

[d]: 1..2 = Regulator number.

Data: "{x1},{x2},{x3},{x3}" = X-coordinate data for curve set values, in °C or °F.
" {x3}" = X-coordinate data for manual set value, in °C or °F.

Parameter name :REGSETCURVEVALUEPLOT
Parameter type :Module parameter
Parameter no. [p] :1046
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :255
Maxlength (as ascii) :Not specified

Regulator, curve set values, for plot.

[d]: 1..2 = Regulator number.

Data: Plot data.

Parameter name :REGINTERVAL
Parameter type :Module parameter
Parameter no. [p] :1047
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, Login
Writeable, Write access:Yes, Operate
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Regulator, update interval for view-page.

Data: "0" = Never.
"30".."600" = Interval in seconds.

Parameter name :REGKEYTEXT
Parameter type :Module parameter
Parameter no. [p] :1048
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Regulator, function unlocked (as text).

Parameter name :REGPUMPCYCLE
Parameter type :Module parameter
Parameter no. [p] :1049
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :No , -
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Regulator, pump cycling, start.
Set from time control, via the global pump cycling
activation parameter PUMPCYCLE.

[d]: 1..2 = Regulator number.

Data: "1" = Yes.

```

Parameter name      :SMHIKEY
Parameter type      :Module parameter
Parameter no. [p]   :1100
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :Yes
Member of file       :all.par
Location             :RAM
Format               :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Forecast, function unlocked (as numeric).

Data: "0" = No, "1" = Yes.

```

Parameter name      :SMHIKEYTEXT
Parameter type      :Module parameter
Parameter no. [p]   :1101
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :Yes
Member of file       :all.par
Location             :Virtual (constructed dynamically)
Format               :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

```

Forecast, function unlocked (as text).

```

Parameter name      :SMHIKEYPASSWORD
Parameter type      :Module parameter
Parameter no. [p]   :1102
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled      :Yes
Member of file       :all.par, config.par, protect.par
Location             :EEPROM (protected at level 1)
Format               :String (unsigned char[22])
Maxlength (as binary) :22
Maxlength (as ascii) :22 (including 0-terminator)

```

Forecast function unlock password.

A function unlock password is always read or written in encrypted format (a hexadecimal string with prefix \$).

Data: "{\$xxxx...}" = Encrypted format (read/write).

```

Parameter name      :SMHIMODE
Parameter type      :Module parameter
Parameter no. [p]   :1103
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled      :Yes, individual values
Member of file       :all.par, config.par, copyable.par
Location             :EEPROM
Format               :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Forecast, mode.

Data: "0" = No forecast control.
"1" = Forecast control.
"2" = Forecast control (AO2).
"3" = Forecast control temp diff (AO2).
"4" = Forecast control with pump (DO2).
"5" = Forecast control (AO2) with pump (DO2).
"6" = Forecast control temp diff (AO2) with pump (DO2).

```

Parameter name      :SMHIACTIVE
Parameter type      :Module parameter
Parameter no. [p]   :1104
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-

```

Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, activation (as numeric).

Data: "0" = Not active, "1" = Active.

Parameter name :SMHIACTIVETEXT
Parameter type :Module parameter
Parameter no. [p] :1105
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Forecast, activation (as text).

Parameter name :SMHIPUMPOFFTEMPNIGHT
Parameter type :Module parameter
Parameter no. [p] :1106
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Forecast, pump off-temperature during night (preset).

Parameter name :SMHIPUMPOFFTEMPDAY
Parameter type :Module parameter
Parameter no. [p] :1107
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Forecast, pump off-temperature during day (preset).

Parameter name :SMHIPUMPOFFTEMP
Parameter type :Module parameter
Parameter no. [p] :1108
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Forecast, pump off-temperature (current).

Parameter name :SMHIPUMPSTATUS
Parameter type :Module parameter
Parameter no. [p] :1109
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -

Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, pump status (as numeric).

Data: "0" = Off.
"1" = Pump on.
"2" = Pump cycling.

Parameter name :SMHIPUMPSTATUSTEXT
Parameter type :Module parameter
Parameter no. [p] :1110
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Forecast, pump status (as text).

Parameter name :SMHIOUTDOORPROBE
Parameter type :Module parameter
Parameter no. [p] :1113
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Forecast, outdoor temperature probe (channeltype number, channel number).

Data: "0" = None.
"{c}" = Channeltype number, Channel number.
"{c:hb}" = Channeltype number (Temperature, AI Status).
"{c:lb}" = Channel number.

Parameter name :SMHIOUTDOORVALUE
Parameter type :Module parameter
Parameter no. [p] :1114
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Forecast, outdoor temperature (current).

Data: "{x}" = Temperature, in °C or °F.

Parameter name :SMHIFORECASTTAB
Parameter type :Module parameter
Parameter no. [p] :1115
Channeltype no. [t] :-
Channel no. [c] :1..2 (used for alternate purpose)
Data no. [d] :1..121
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :12
Maxlength (as ascii) :Not specified

Forecast, table.

A forecast is an outdoor temperature prediction from SMHI weather service in Sweden.

Lines are optionally sorted by chronology.

[c]: 0 = Access unsorted lines:

[d]: 0 = Read/write all lines.
1..n = Read/write line.

[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines / Append line.
1..n = Read/write line.

[c]: 2 = Read info / Delete sorted lines:

[d]: 1 = Read maximum number of lines.
0 = Delete all lines (no data).
1..n = Delete line (no data).

Data: "{yy-mm-dd},{hh:mm:ss},{To},{Te}".

Parameter name :SMHIMAXFORECASTDEVIATION
Parameter type :Module parameter
Parameter no. [p] :1116
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Forecast, max allowed deviation.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :SMHIPACTIVE
Parameter type :Module parameter
Parameter no. [p] :1117
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, PP-unit, activation (as numeric).

Data: "0" = Not active, "1" = Active.

Parameter name :SMHIPACTIVETEXT
Parameter type :Module parameter
Parameter no. [p] :1118
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:No, -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Forecast, PP-unit, activation (as text).

Parameter name :SMHIPPROBE
Parameter type :Module parameter
Parameter no. [p] :1119
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, PP-unit, emulated outdoor temperature probe (as numeric).

Data: "0" = Linear (reserved).
 "1" = Pt1000.
 "2" = Ni1000-DIN.
 "3" = Ni1000, LG.
 "4" = TAC-EGU, EGUU.
 "5" = QAC31, 32, Siemens.
 "6" = FW-T1G, Siemens.
 "7" = FO-T35, Staefa.

```
Parameter name      :SMHIPPPOBETEXT
Parameter type      :Module parameter
Parameter no. [p]   :1120
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :Yes
Member of file       :all.par
Location             :Virtual (constructed dynamically)
Format               :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified
```

Forecast, PP-unit, emulated outdoor temperature probe (as text).

```
Parameter name      :SMHIPPSETPROBESWITCH
Parameter type      :Module parameter
Parameter no. [p]   :1121
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled      :Yes, individual elements (all values)
Member of file       :all.par, config.par, copyable.par
Location             :EEPROM
Format               :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Forecast, PP-unit, probe switch (preset).

Data: "0" = Forecast (emulated outdoor probe).
 "1" = Remote controlled (local outdoor probe).

```
Parameter name      :SMHIPPPOBESWITCH
Parameter type      :Module parameter
Parameter no. [p]   :1122
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :Yes, individual elements (all values)
Member of file       :all.par
Location             :RAM
Format               :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Forecast, PP-unit, probe switch (current, as numeric).

Data: "0" = Forecast (emulated outdoor probe).
 "1" = Remote controlled (local outdoor probe).
 "2" = Manual controlled (local outdoor probe).

```
Parameter name      :SMHIPPPOBESWITCHTEXT
Parameter type      :Module parameter
Parameter no. [p]   :1123
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :Yes, individual elements (all values)
Member of file       :all.par
Location             :Virtual (constructed dynamically)
Format               :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified
```

Forecast, PP-unit, probe switch (current, as text).

```
Parameter name      :SMHIPPTTESTACTIVE
Parameter type      :Module parameter
```

Parameter no. [p] :1124
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, PP-unit, test program active (only for factory test).

Parameter name :SMHIPTESTBITVALUE
Parameter type :Module parameter
Parameter no. [p] :1125
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Forecast, PP-unit, test program bit value (only for factory test).

Parameter name :SMHIINTERVAL
Parameter type :Module parameter
Parameter no. [p] :1126
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, Login
Writeable, Write access:Yes, Operate
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Forecast, update interval for view-page.

Data: "0" = Never.
"30".."600" = Interval in seconds.

Parameter name :SMHIPUMPCYCLE
Parameter type :Module parameter
Parameter no. [p] :1127
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :No , -
Writeable, Write access:Yes, Operate
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, pump cycling, start.
Set from time control, via the global pump cycling
activation parameter PUMPCYCLE.

Data: "1" = Yes.

4 Parameter bank (sorted by index)

```
Parameter name      :VERNR1
Parameter type     :Module parameter
Parameter no. [p]  :1
Channeltype no. [t]:-
Channel no. [c]   :-
Data no. [d]      :1..4
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled    :No
Member of file     :all.par
Location          :RAM
Format            :Floating point with 2 decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

Version number for code in FLASH.

[d]: 0 = All, 1 = Webpages (system), 2 = Firmware, 3 = Bootloader, 4 = Webpages (custom).

```
Parameter name      :VERNR2
Parameter type     :Module parameter
Parameter no. [p]  :2
Channeltype no. [t]:-
Channel no. [c]   :-
Data no. [d]      :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled    :No
Member of file     :all.par
Location          :EEPROM
Format            :Floating point with 2 decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

Version number for data in EEPROM.

```
Parameter name      :VERNR3
Parameter type     :Module parameter
Parameter no. [p]  :3
Channeltype no. [t]:-
Channel no. [c]   :-
Data no. [d]      :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled    :No
Member of file     :all.par
Location          :RAM
Format            :Floating point with 2 decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

Version number for data in RAM.

```
Parameter name      :ETHERNETMACADDRESS
Parameter type     :Module parameter
Parameter no. [p]  :14
Channeltype no. [t]:-
Channel no. [c]   :-
Data no. [d]      :1..6
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config (attribute 'W' removed in *.par files)
Can be disabled    :No
Member of file     :all.par, config.par, protect.par
Location          :EEPROM (protected at level 2)
Format            :Positive hexadecimal integer with 2 digits (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

[d]: 0 = All bytes in address (separated with '-').
1..6 = Individual byte in address.

```
Parameter name      :AICALVALUE
Parameter type     :Module parameter
Parameter no. [p]  :84
Channeltype no. [t]:-
Channel no. [c]   :-
Data no. [d]      :1..32
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config (attribute 'W' removed in *.par files)
Can be disabled    :No
Member of file     :all.par, config.par, protect.par
Location          :EEPROM (protected at level 2)
Format            :Floating point with no decimals (float)
Maxlength (as binary) :4
```

Maxlength (as ascii) :Not specified

I/O Input calibration values (only for internal use).

```
Parameter name      :AOCALVALUE
Parameter type      :Module parameter
Parameter no. [p]   :85
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config (attribute 'W' removed in *.par files)
Can be disabled     :No
Member of file      :all.par, config.par, protect.par
Location            :EEPROM (protected at level 2)
Format              :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

I/O Output calibration values (only for internal use).

```
Parameter name      :ETHERNETIPADDRESS
Parameter type      :Module parameter
Parameter no. [p]   :15
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, protect.par
Location            :EEPROM (protected at level 1)
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Ethernet IP-address.

[d]: 0 = All bytes in address (separated with '.').
1..4 = Individual byte in address.

```
Parameter name      :ETHERNETSUBNETMASK
Parameter type      :Module parameter
Parameter no. [p]   :19
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, protect.par
Location            :EEPROM (protected at level 1)
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Ethernet subnet mask.

[d]: 0 = All bytes in address (separated with '.').
1..4 = Individual byte in address.

```
Parameter name      :ETHERNETGATEWAY
Parameter type      :Module parameter
Parameter no. [p]   :20
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, protect.par
Location            :EEPROM (protected at level 1)
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Ethernet gateway.

[d]: 0 = All bytes in address (separated with '.').
1..4 = Individual byte in address.

```
Parameter name      :PPPIPADDRESS
Parameter type      :Module parameter
Parameter no. [p]   :42
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config
```

Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 1)
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

PPP IP-address.

[d]: 0 = All bytes in address (separated with '.').
1..4 = Individual byte in address.

Parameter name :PPPSUBNETMASK
Parameter type :Module parameter
Parameter no. [p] :43
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, Operate
Writeable, Write access :Yes, Config
Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 1)
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

PPP subnet mask.

[d]: 0 = All bytes in address (separated with '.').
1..4 = Individual byte in address.

Parameter name :PPPGATEWAY
Parameter type :Module parameter
Parameter no. [p] :44
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, Operate
Writeable, Write access :Yes, Config
Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 1)
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

PPP gateway.

[d]: 0 = All bytes in address (separated with '.').
1..4 = Individual byte in address.

Parameter name :PPPMODEMINIT
Parameter type :Module parameter
Parameter no. [p] :45
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :Yes, Config
Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 1)
Format :String (unsigned char[31])
Maxlength (as binary) :31
Maxlength (as ascii) :31 (including 0-terminator)

PPP modem initialization string.

Data: "AT{xxxx...}". xxxx = Hayes commands.

Parameter name :PPPBAUDRATE
Parameter type :Module parameter
Parameter no. [p] :47
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :Yes, Config
Can be disabled :No
Member of file :all.par, config.par, protect.par
Location :EEPROM (protected at level 1)
Format :Positive integer (unsigned long)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

PPP com-port baudrate.

Data: "9600", "19200", "38400".

```

Parameter name      :PASSWORD
Parameter type      :Module parameter
Parameter no. [p]   :8
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..7
Readable, Read access :Yes, Config
Writeable, Write access:Yes, Config
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par, config.par, protect.par
Location            :EEPROM (protected at level 1)
Format              :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

HTML/SSI/CGI password.

A password is always read in encrypted format (a hexadecimal string with prefix \$), but can be written in either encrypted or unencrypted format. If it is written in unencrypted format (without prefix), it must be written as 2 identical comma-separated strings (for input validation). If a password should be defined it must contain at least 4 characters.

```

[d]: 0 = Not allowed.
     1..4 = Access level LOGIN, VIEW, OPERATE, CONFIG.
     5..7 = Reserved.

```

```

Data: "${xxxx...}" = Encrypted format (read/write).
      "{xxxx...},{xxxx...}" = Unencrypted format (write only).

```

```

Parameter name      :REGKEYPASSWORD
Parameter type      :Module parameter
Parameter no. [p]   :1001
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :Yes
Member of file      :all.par, config.par, protect.par
Location            :EEPROM (protected at level 1)
Format              :String (unsigned char[22])
Maxlength (as binary) :22
Maxlength (as ascii) :22 (including 0-terminator)

```

Regulator function unlock password.

A function unlock password is always read or written in encrypted format (a hexadecimal string with prefix \$).

```

Data: "${xxxx...}" = Encrypted format (read/write).

```

```

Parameter name      :SMHIKEYPASSWORD
Parameter type      :Module parameter
Parameter no. [p]   :1102
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :Yes
Member of file      :all.par, config.par, protect.par
Location            :EEPROM (protected at level 1)
Format              :String (unsigned char[22])
Maxlength (as binary) :22
Maxlength (as ascii) :22 (including 0-terminator)

```

Forecast function unlock password.

A function unlock password is always read or written in encrypted format (a hexadecimal string with prefix \$).

```

Data: "${xxxx...}" = Encrypted format (read/write).

```

```

Parameter name      :PPPPHONENR
Parameter type      :Module parameter
Parameter no. [p]   :46
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par
Location            :EEPROM
Format              :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

PPP telephone number.

Parameter name :PPPTIMEOUT
Parameter type :Module parameter
Parameter no. [p] :48
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

PPP timeout in seconds until a silent connection is dropped.

Parameter name :PPPLOGGINGACTIVE
Parameter type :Module parameter
Parameter no. [p] :49
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

PPP logging activation.

Data: "0" = Do not log.
"1" = Log PPP connection information on terminal screen.

Parameter name :PPPREMOTEACCESSNAME
Parameter type :Module parameter
Parameter no. [p] :50
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

PPP remote username (currently used only for sending email via PPP).

Parameter name :PPPREMOTEPASSWORD
Parameter type :Module parameter
Parameter no. [p] :51
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, Config
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

PPP remote password (currently used only for sending email via PPP).

A password is always read in encrypted format (a hexadecimal string with prefix \$), but can be written in either encrypted or unencrypted format. If it is written in unencrypted format (without prefix), it must be written as 2 identical comma-separated strings (for input validation). If a password should be defined it must contain at least 4 characters.

Data: "\${xxxx...}" = Encrypted format (read/write).
"{xxxx...},{xxxx...}" = Unencrypted format (write only).

Parameter name :PPPMODE
Parameter type :Module parameter
Parameter no. [p] :52
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-

Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par
 Location :EEPROM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

PPP Connection mode.

Data: "0" = None required, "1" = PAP required, "2" = CHAP required.

Parameter name :PPPCHAPPASSWORD
 Parameter type :Module parameter
 Parameter no. [p] :53
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, Config
 Writeable, Write access:Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par
 Location :EEPROM
 Format :String (unsigned char[21])
 Maxlength (as binary) :21
 Maxlength (as ascii) :21 (including 0-terminator)

CHAP password (also known as 'CHAP secret').

Note: Currently not used.

The CHAP password is for now the same as PPPREMOTEPASSWORD.

A password is always read in encrypted format (a hexadecimal string with prefix \$), but can be written in either encrypted or unencrypted format.
 If it is written in unencrypted format (without prefix), it must be written as 2 identical comma-separated strings (for input validation).
 If a password should be defined it must contain at least 4 characters.

Data: "\${xxxx...}" = Encrypted format (read/write).
 "{xxxx...},{xxxx...}" = Unencrypted format (write only).

Parameter name :LOGIN
 Parameter type :Module parameter
 Parameter no. [p] :9
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :No , -
 Writeable, Write access:Yes, Login
 Can be disabled :No
 Member of file :all.par
 Location :Virtual (constructed dynamically)
 Format :Structure (struct)
 Maxlength (as binary) :21
 Maxlength (as ascii) :Not specified

Login.

Data: "{access level name},{password}".

Parameter name :ACCESSNAME
 Parameter type :Module parameter
 Parameter no. [p] :10
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..7
 Readable, Read access :Yes, Login
 Writeable, Write access:No , -
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :FLASH
 Format :String (unsigned char[21])
 Maxlength (as binary) :21
 Maxlength (as ascii) :21 (including 0-terminator)

Access level name (username).

[d]: 0 = All up to current access level.
 1..4 = Access level LOGIN, VIEW, OPERATE, CONFIG.
 5..7 = Reserved.

Parameter name :CURRENTACCESSNAME
 Parameter type :Module parameter
 Parameter no. [p] :11
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, Login

Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Name of current access level (username).

Parameter name :COMPILE_TIME
Parameter type :Module parameter
Parameter no. [p] :21
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :FLASH
Format :String (unsigned char[32])
Maxlength (as binary) :32
Maxlength (as ascii) :32 (including 0-terminator)

Date and time when firmware was compiled.

Parameter name :CHECKSUM
Parameter type :Module parameter
Parameter no. [p] :22
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :FLASH
Format :Positive hexadecimal integer with 8 digits (unsigned long)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Firmware checksum.

Parameter name :ASSERTFILE
Parameter type :Module parameter
Parameter no. [p] :23
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :FLASH
Format :String reference (unsigned char*)
Maxlength (as binary) :Not specified
Maxlength (as ascii) :Not specified

Program file where an error was discovered or TCPIP-stack error message ('panic').

Parameter name :ASSERTLINE
Parameter type :Module parameter
Parameter no. [p] :24
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Program line where error was discovered.

Parameter name :EEFIRSTERROR
Parameter type :Module parameter
Parameter no. [p] :59
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par

```

Location          :RAM
Format           :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

```

Parameter number where first EEPROM error was detected after startup.

```

Parameter name    :EEMODE
Parameter type    :Module parameter
Parameter no. [p] :34
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :No , -
Writeable, Write access:Yes, Config
Can be disabled    :No
Member of file     :all.par
Location          :Virtual (constructed dynamically)
Format           :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Enable or disable EEPROM update.
Used when dumping parameters.

Data: "DISABLE" = Disable EEPROM write.
"ENABLE" = Enable EEPROM write.
Write all EEPROM parameters from RAM to EEPROM.

```

Parameter name    :DEMOMODE
Parameter type    :Module parameter
Parameter no. [p] :41
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled    :No
Member of file     :all.par, config.par
Location          :EEPROM
Format           :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Put IPT in demo mode.

Data: "DEMO" = Enter demo mode (all login's are treated as a VIEW-login).
"NORMAL" = Exit demo mode (NOTE: Can only be done from serial terminal).

```

Parameter name    :SMTPSERVER
Parameter type    :Module parameter
Parameter no. [p] :25
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config
Can be disabled    :No
Member of file     :all.par, config.par
Location          :EEPROM
Format           :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

SMTP server IP-address.

[d]: 0 = All bytes in address (separated with '.').
1..4 = Individual byte in address.

```

Parameter name    :SMTPPORT
Parameter type    :Module parameter
Parameter no. [p] :26
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, Operate
Writeable, Write access:Yes, Config
Can be disabled    :No
Member of file     :all.par, config.par
Location          :EEPROM
Format           :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

```

SMTP server port number.

```

Parameter name    :SMTPRETURNADDRESS
Parameter type    :Module parameter
Parameter no. [p] :39

```


Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, Operate
 Writeable, Write access:Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :String (unsigned char[48])
 Maxlength (as binary) :48
 Maxlength (as ascii) :48 (including 0-terminator)

SMTP return address.

Parameter name :SMTPRCPT
 Parameter type :Module parameter
 Parameter no. [p] :30
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..4
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :String (unsigned char[48])
 Maxlength (as binary) :48
 Maxlength (as ascii) :48 (including 0-terminator)

SMTP email list.

Parameter name :SETEVENT
 Parameter type :Module parameter
 Parameter no. [p] :33
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :No , -
 Writeable, Write access:Yes, Operate
 Can be disabled :No
 Member of file :all.par
 Location :Virtual (constructed dynamically)
 Format :Structure (struct)
 Maxlength (as binary) :21
 Maxlength (as ascii) :Not specified

Module event acknowledge or reset.

Data: "ACK" = Acknowledge all events.
 "RESET" = Reset all events.

Parameter name :MODEVENTMODE
 Parameter type :Module parameter
 Parameter no. [p] :32
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..23
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Module event mode (bitmask).

Note that the value is listed in decimal format though.

[d]: 0 = All.
 1..4 = (Only for internal use), Reset , RAM error, RAM init.
 5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
 9..11 = Clock error, File upload error, New program.
 12..13 = Forecast deviation, No forecast.
 14..17 = PP#1..PP#4 com error.
 18..21 = PP#1..PP#4 manual out.trd.
 22..23 = Email error, Email test.

Data: "{00000000b}" = Default.
 "{xxxxxx1b}" = Event is repeatable (not active --> not active).
 "{xxxxxx1xb}" = Event is repeatable (active --> active).
 "{xxxxx1xxb}" = Event is treated as ERROR.
 "{xxxx1xxxb}" = Event should be emailed.

Parameter name :MODEVENTMODEISERROR
 Parameter type :Module parameter
 Parameter no. [p] :63
 Channeltype no. [t] :-
 Channel no. [c] :-

Data no. [d] :1..23
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :Virtual (constructed dynamically)
 Format :Structure (struct)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Module event mode (bit 2 from MODEVENTMODE bitmask).
 Event is treated as ERROR.

[d]: 0 = All.
 1..4 = (Only for internal use), Reset , RAM error, RAM init.
 5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
 9..11 = Clock error, File upload error, New program.
 12..13 = Forecast deviation, No forecast.
 14..17 = PP#1..PP#4 com error.
 18..21 = PP#1..PP#4 manual out.trd.
 22..23 = Email error, Email test.

Data: "0" = No, "1" = Yes.

Parameter name :MODEVENTMODEMAIL
 Parameter type :Module parameter
 Parameter no. [p] :64
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..23
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :Virtual (constructed dynamically)
 Format :Structure (struct)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Module event mode (bit 3 from MODEVENTMODE bitmask).
 Event should be emailed.

[d]: 0 = All.
 1..4 = (Only for internal use), Reset , RAM error, RAM init.
 5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
 9..11 = Clock error, File upload error, New program.
 12..13 = Forecast deviation, No forecast.
 14..17 = PP#1..PP#4 com error.
 18..21 = PP#1..PP#4 manual out.trd.
 22..23 = Email error, Email test.

Data: "0" = No, "1" = Yes.

Parameter name :MODEVENT
 Parameter type :Module parameter
 Parameter no. [p] :4
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..23
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :RAM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Module event status (as numeric).

[d]: 0 = All.
 1..4 = (Only for internal use), Reset , RAM error, RAM init.
 5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
 9..11 = Clock error, File upload error, New program.
 12..13 = Forecast deviation, No forecast.
 14..17 = PP#1..PP#4 com error.
 18..21 = PP#1..PP#4 manual out.trd.
 22..23 = Email error, Email test.

Data: "0" = Not active.
 "1".."x" = Active (x > 1 --> additional event dependent information).

Event dependent information for "RAM error":

Data: "1" = Active at startup.
 "2" = Active during operation.

Event dependent information for "Program error", "Watchdog reset":

Data: "{x}" = Task number.

Event dependent information for "Clock error":

Data: "1" = Sync error.
"2" = Hardware error.

Event dependent information for "File upload error":

Data: "1" = Checksum error.
"2" = Program too big to fit in flash memory.
"3" = Invalid file type.
"4" = File is empty.
"5" = File is too big for memory buffer.
"6" = Address error.

Event dependent information for "New program":

Data "1" = Webpages (system).
"2" = Firmware.
"3" = Bootloader.
"4" = Webpages (custom).

Event dependent information for "Email error":

Data: "1" = Still waiting for reply.
"2" = Still waiting for non-blocking connection".
"3" = Socket error.
"4" = Bad SMTP code.
"5" = Bad parameter or logic.
"6" = SMTP function disabled.
"7" = Recipients missing.
"8" = Out of memory.
"9" = Unknown error.

```
Parameter name      :MODEVENTTIME
Parameter type      :Module parameter
Parameter no. [p]   :38
Channeltype no. [t] :-
Channel no. [c]     :1..2 (used for alternate purpose)
Data no. [d]        :1..23
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :RAM
Format              :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

Module event time.

[c]: 0 = Data: "{yyyy-mm-dd} {hh:mm:ss}".
1 = Data: "{yyyy-mm-dd}".
2 = Data: "{hh:mm:ss}".

[d]: 0 = All.
1..4 = (Only for internal use), Reset , RAM error, RAM init.
5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
9..11 = Clock error, File upload error, New program.
12..13 = Forecast deviation, No forecast.
14..17 = PP#1..PP#4 com error.
18..21 = PP#1..PP#4 manual out.trd.
22..23 = Email error, Email test.

```
Parameter name      :MODEVENTNAME
Parameter type      :Module parameter
Parameter no. [p]   :27
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..23
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :FLASH
Format              :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)
```

Module event name.

[d]: 0 = All.
1..4 = (Only for internal use), Reset , RAM error, RAM init.
5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
9..11 = Clock error, File upload error, New program.
12..13 = Forecast deviation, No forecast.
14..17 = PP#1..PP#4 com error.
18..21 = PP#1..PP#4 manual out.trd.

22..23 = Email error, Email test.

```

Parameter name      :MODEVENTTEXT
Parameter type      :Module parameter
Parameter no. [p]   :62
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..23
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

```

Module event status (as text).

```

[d]: 0 = All.
1..4 = (Only for internal use), Reset , RAM error, RAM init.
5..8 = EEPROM error, EEPROM init, Program error, Watchdog reset.
9..11 = Clock error, File upload error, New program.
12..13 = Forecast deviation, No forecast.
14..17 = PP#1..PP#4 com error.
18..21 = PP#1..PP#4 manual out.trd.
22..23 = Email error, Email test.

```

```

Parameter name      :MODNR
Parameter type      :Module parameter
Parameter no. [p]   :5
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

```

Module number.

```

Parameter name      :MODNAME
Parameter type      :Module parameter
Parameter no. [p]   :6
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

Module name.

```

Parameter name      :MODTEXT
Parameter type      :Module parameter
Parameter no. [p]   :31
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

Module street address.

```

Parameter name      :MODADDRESS
Parameter type      :Module parameter
Parameter no. [p]   :7
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par

```

Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :9
Maxlength (as ascii) :Not specified

Module technical address.

Data: "{mmmm}0000". mmmm = Module number.

Parameter name :DBSNAME
Parameter type :Module parameter
Parameter no. [p] :16
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..7
Readable, Read access :Yes, View
Writeable, Write access :No, -
Can be disabled :No
Member of file :all.par
Location :FLASH
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

Database name.

Parameter name :DBSLOGGTIME
Parameter type :Module parameter
Parameter no. [p] :17
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned long)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Database Short time logging interval.

Parameter name :DBSHOURTIME
Parameter type :Module parameter
Parameter no. [p] :18
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access :Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned long)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Database Hour logging interval.

Parameter name :EVENTACTIONTAB
Parameter type :Module parameter
Parameter no. [p] :28
Channeltype no. [t] :-
Channel no. [c] :1..2 (used for alternate purpose)
Data no. [d] :1..50
Readable, Read access :Yes, View
Writeable, Write access :Yes, Operate
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :Structure (struct)
Maxlength (as binary) :54
Maxlength (as ascii) :Not specified

Event action table.

An event action is used to manipulate an action parameter value when a trig parameter value changes.

Lines are optionally sorted by chronology.

[c]: 0 = Access unsorted lines:

[d]: 0 = Read/write all lines.
1..n = Read/write line.

[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines / Append line.
1..n = Read/write line.

[c]: 2 = Read info / Delete sorted lines:

[d]: 1 = Read maximum number of lines.
0 = Delete all lines (no data).
1..n = Delete line (no data).

Data: "{order},
{trig p},{trig t},{trig c},{trig d},{trig value},
{action p},{action t},{action c},{action d},{action value},{action string}".

Parameter name :TIMEACTIONTAB
Parameter type :Module parameter
Parameter no. [p] :29
Channeltype no. [t] :-
Channel no. [c] :1..2 (used for alternate purpose)
Data no. [d] :1..50
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Structure (struct)
Maxlength (as binary) :50
Maxlength (as ascii) :Not specified

Time action table.
A time action is used to manipulate an action parameter value at a certain trig time.
Lines are optionally sorted by chronology.

[c]: 0 = Access unsorted lines:

[d]: 0 = Read/write all lines.
1..n = Read/write line.

[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines / Append line.
1..n = Read/write line.

[c]: 2 = Read info / Delete sorted lines:

[d]: 1 = Read maximum number of lines.
0 = Delete all lines (no data).
1..n = Delete line (no data).

Data: "{order},
{trig hh:mm:ss},{trig daymask},
{action p},{action t},{action c},{action d},{action value},{action string}".

Parameter name :DAYCHANGETAB
Parameter type :Module parameter
Parameter no. [p] :35
Channeltype no. [t] :-
Channel no. [c] :1..2 (used for alternate purpose)
Data no. [d] :1..200
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, holiday.par
Location :EEPROM
Format :Structure (struct)
Maxlength (as binary) :5
Maxlength (as ascii) :Not specified

Day change table (extra holidays).
Lines are optionally sorted by date.

[c]: 0 = Access unsorted lines:

[d]: 0 = Read/write all lines.
1..n = Read/write line.

[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines / Append line.
1..n = Read/write line.

[c]: 2 = Read info / Delete sorted lines:

[d]: 1 = Read maximum number of lines.
0 = Delete all lines (no data).
1..n = Delete line (no data).

Data: "{yyyy-mm-dd},{weekday no}".

Parameter name :QUICKVIEWTAB
Parameter type :Module parameter

Parameter no. [p] :54
Channeltype no. [t] :-
Channel no. [c] :1..2 (used for alternate purpose)
Data no. [d] :1..20
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Quick view table.

Lines are optionally sorted by
channeltype number (t), channel number (c), parameter number (p).

[c]: 0 = Access unsorted lines:

[d]: 0 = Read/write all lines.
1..n = Read/write line.

[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines / Append line.
1..n = Read/write line.

[c]: 2 = Read info / Delete sorted lines:

[d]: 1 = Read maximum number of lines.
0 = Delete all lines (no data).
1..n = Delete line (no data).

Read data: "{t},{c},{p},{io name},{chn name},{text},{value},
{dynamic unit},{yyyymmdd},{hh:mm:ss}".
Some fields are empty for some parameters.

Write data: "{t},{c},{p}"

Parameter name :AUTOTRANSFERTAB
Parameter type :Module parameter
Parameter no. [p] :55
Channeltype no. [t] :-
Channel no. [c] :1..2 (used for alternate purpose)
Data no. [d] :1..16
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Auto transfer table.

Lines are optionally sorted by
database number (dbs), channeltype number (t), channel number (c).

[c]: 0 = Access unsorted lines:

[d]: 0 = Read/write all lines.
1..n = Read/write line.

[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines / Append line.
1..n = Read/write line.

[c]: 2 = Read info / Delete sorted lines:

[d]: 1 = Read maximum number of lines.
0 = Delete all lines (no data).
1..n = Delete line (no data).

Read data: "{dbs},{c},{p},{dbsname},{ioname},{chnname}"

Write data: "{dbs},{c},{p}"

Parameter name :ACTIVEALARMTAB
Parameter type :Module parameter
Parameter no. [p] :36
Channeltype no. [t] :-
Channel no. [c] :1..1 (used for alternate purpose)
Data no. [d] :1..66
Readable, Read access :Yes, View
Writeable, Write access:No, -
Can be disabled :No
Member of file :all.par
Location :RAM

```
Format :Structure (struct)
Maxlength (as binary) :14
Maxlength (as ascii) :Not specified
```

Active alarm table.
Only events treated as errors are included in this table.
Lines are optionally sorted by yy:mm:dd hh:mm:ss.

[c]: 0 = Access unsorted lines:

[d]: 0 = Read/write all lines.
1..n = Read line.

[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines.
1..n = Read line.

[c]: 2 = Read info:

[d]: 1 = Read maximum number of lines.

Data: "{yy-mm-dd},{hh:mm:ss},{alarm name},{chn name},{alarm value},{unit text},{t},{c},{io name}".
Some fields are blanked for module events.

```
Parameter name :ACTIVEALARMCNT
Parameter type :Module parameter
Parameter no. [p] :37
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, Login
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified
```

Number of active alarms in ACTIVEALARMTAB.

```
Parameter name :ACTIVEALARMINTERVAL
Parameter type :Module parameter
Parameter no. [p] :40
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, Login
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified
```

Update interval for ACTIVEALARMTAB.

Data: "0" = Never.
"5".."600" = Interval in seconds.

```
Parameter name :OVERVIEWINTERVAL
Parameter type :Module parameter
Parameter no. [p] :56
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified
```

Update interval for custom page overview.

Data: "0" = Never.
"30".."600" = Interval in seconds.

```
Parameter name :QUICKVIEWINTERVAL
Parameter type :Module parameter
Parameter no. [p] :57
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
```


Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Update interval for quick view.

Data: "0" = Never.
"30".."600" = Interval in seconds.

Parameter name :QUICKVIEWDBSSELECTION
Parameter type :Module parameter
Parameter no. [p] :60
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, View
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

Selected databases in graphical quickview-menu.

[d]: 0 = All.
1..4 = Curve 1..4 info.

Parameter name :STARTPAGE
Parameter type :Module parameter
Parameter no. [p] :58
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Use as start page.

Note: This is a "radio button" parameter, i.e. when "1" is written to a field, all other fields are set to "0".

[d]: 0 = All.
1 = Enable Overview. Data: "0" = None, "1" = Overview.
2 = Enable Quickview. Data: "0" = None, "1" = Quick view.

Parameter name :COMMAND
Parameter type :Module parameter
Parameter no. [p] :12
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..114
Readable, Read access :No , -
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Execute command.

Data: "INIT":

[d]: 001 = Default init values, databases (Backup-RAM).
002 = Default init non-protected config (EEPROM : L0).
003 = Default init level 1 protected config (EEPROM : L0+L1).
004 = Default init level 2 protected config (EEPROM : L0+L1+L2).
012 = Same as 001 + 002.
013 = Same as 001 + 003.
014 = Same as 001 + 004.
1xx = Same as 0xx + reset.

Data: "CLEARDBS":

[d]: 000 = Clear all databases (except Event).
001 = Clear database Short time.
002 = Clear database Hour + Hour min + Hour max.

005 = Clear database Day.
006 = Clear database Month.
007 = Clear database Event.
10x = Same as 00x + reset.

Data: "RESET":

[d]: 001 = Reset.

Data: "TEST_ASSERT":

[d]: 001 = Generate program error (assert).

Data: "TEST_PANIC":

[d]: 001 = Generate program error (panic).

Data: "TEST_VOV":

[d]: 001 = Generate watchdog reset.

Data: "TEST_RAMFAIL":

[d]: 001 = Generate memory corruption.

Data: "TEST_EMAIL":

[d]: 001 = Generate module event "Email test", and then set it immediately to "Normal" again.

```
Parameter name      :CLOCK
Parameter type      :Module parameter
Parameter no. [p]   :13
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, Login
Writeable, Write access:Yes, Operate
Can be disabled     :No
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified
```

Clock.

[d]: 0 = Data: "{yyyy-mm-dd} {hh:mm:ss}".
1 = Data: "{yyyy-mm-dd}".
2 = Data: "{hh:mm:ss}".

```
Parameter name      :SYNCCLOCK
Parameter type      :Module parameter
Parameter no. [p]   :61
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :No , -
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified
```

Clock synchronization.

If +/- difference = 00..14s --> Do nothing.
If +/- difference = 15..29s --> Set clock
If +/- difference >= 30s --> Set event Clock error (1).

[d]: 0 = Data: "{yyyy-mm-dd} {hh:mm:ss}".
1 = Data: "{yyyy-mm-dd}".
2 = Data: "{hh:mm:ss}".

```
Parameter name      :NIGHT
Parameter type      :Module parameter
Parameter no. [p]   :65
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled     :No
Member of file      :all.par
Location            :RAM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Night (as numeric).
Set from time control.

Data: "0" = Day, "1" = Night.

Parameter name :NIGHTTEXT
Parameter type :Module parameter
Parameter no. [p] :66
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Night (as text).
Set from time control.

Parameter name :PUMPCYCLE
Parameter type :Module parameter
Parameter no. [p] :67
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :No , -
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Pump cycling, start.
Set from time control.
Affect REGPUMPCYCLE and SMHIPUMPCYCLE when written.

Data: "1" = Yes.

Parameter name :REGKEY
Parameter type :Module parameter
Parameter no. [p] :1000
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Regulator, function unlocked (as numeric).

Data: "0" = No, "1" = Yes.

Parameter name :REGKEYTEXT
Parameter type :Module parameter
Parameter no. [p] :1048
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Regulator, function unlocked (as text).

Parameter name :REGINTERVAL
Parameter type :Module parameter
Parameter no. [p] :1047
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, Login
Writeable, Write access:Yes, Operate

Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Regulator, update interval for view-page.

Data: "0" = Never.
"30".."600" = Interval in seconds.

Parameter name :REGMODE
Parameter type :Module parameter
Parameter no. [p] :1002
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual values
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Regulator, mode.

Data: "0" = No regulator function.
"1" = Regulator 1 normal (AO1).
"2" = Regulator 1 normal (AO1) with single pump (DO1).
"3" = Regulator 1 normal (AO1) with twin pump (DO1-2).
"4" = Regulator 1 sequence (AO1-2).
"5" = Regulator 1 sequence (AO1-2) with single pump (DO1).
"6" = Regulator 1 sequence (AO1-2) with twin pump (DO1-2).
"7" = Regulator 1 normal (AO1),
Regulator 2 normal (AO2).
"8" = Regulator 1 normal (AO1) with single pump (DO1),
Regulator 2 normal (AO2).
"9" = Regulator 1 normal (AO1) with single pump (DO1),
= Regulator 2 normal (AO2) with single pump (DO2).
"10" = Regulator 1 normal (AO1) with twin pump (DO1-2),
Regulator 2 normal (AO2).

Parameter name :REGDEADBANDSTART
Parameter type :Module parameter
Parameter no. [p] :1003
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Sequence regulator, deadband start.

[d]: 1..2 = Regulator number.

Data: "0".."100" = Deadband start, in %.

Parameter name :REGDEADBANDSTOP
Parameter type :Module parameter
Parameter no. [p] :1004
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Sequence regulator, deadband stop.

[d]: 1..2 = Regulator number.

Data: "0".."100" = Deadband stop, in %.

Parameter name :REGNAME
Parameter type :Module parameter

Parameter no. [p] :1005
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

Regulator, name.

[d]: 1..2 = Regulator number.

Parameter name :REGACTIVE
Parameter type :Module parameter
Parameter no. [p] :1006
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Regulator, activation (as numeric).

[d]: 1..2 = Regulator number.

Data: "0" = Not active, "1" = Active.

Parameter name :REGACTIVETEXT
Parameter type :Module parameter
Parameter no. [p] :1041
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Regulator, activation (as text).

[d]: 1..2 = Regulator number.

Parameter name :REGON
Parameter type :Module parameter
Parameter no. [p] :1039
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Regulator, on (as numeric).

[d]: 1..2 = Regulator number.

Data: "0" = Off, "1" = On.

Parameter name :REGONTEXT
Parameter type :Module parameter
Parameter no. [p] :1040
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)

Format :Structure (struct)
 Maxlength (as binary) :21
 Maxlength (as ascii) :Not specified

Regulator, on (as text).

[d]: 1..2 = Regulator number.

Parameter name :REGOFFTEMPNIGHT
 Parameter type :Module parameter
 Parameter no. [p] :1007
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Floating point with 1 decimal (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Regulator, off-temperature during night (preset).

[d]: 1..2 = Regulator number.

Parameter name :REGOFFTEMPDAY
 Parameter type :Module parameter
 Parameter no. [p] :1008
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Floating point with 1 decimal (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Regulator, off-temperature during day (preset).

[d]: 1..2 = Regulator number.

Parameter name :REGOFFTEMP
 Parameter type :Module parameter
 Parameter no. [p] :1009
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :RAM
 Format :Floating point with 1 decimal (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Regulator, off-temperature (current).

[d]: 1..2 = Regulator number.

Parameter name :REGNIGHT
 Parameter type :Module parameter
 Parameter no. [p] :1010
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :RAM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

(Obsolete parameter).

Parameter name :REGNIGHTTEXT
 Parameter type :Module parameter
 Parameter no. [p] :1042
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View

Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

(Obsolete parameter).

Parameter name :REGOUTDOORPROBE
Parameter type :Module parameter
Parameter no. [p] :1011
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Regulator, outdoor temperature probe (channeltype number, channel number).

[d]: 1..2 = Regulator number.

Data: "0" = None.
"{c}" = Channeltype number, Channel number.
"{c:hb}" = Channeltype number (Temperature, AI Status, Forecast temp).
"{c:lb}" = Channel number (Forecast temp: only #3).

Parameter name :REGOUTDOORVALUE
Parameter type :Module parameter
Parameter no. [p] :1037
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, outdoor temperature (current).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGTEMPPROBE
Parameter type :Module parameter
Parameter no. [p] :1012
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Regulator, actual temperature probe (channel number).

[d]: 1..2 = Regulator number.

Data: "{c}" = Temperature channel number.

Parameter name :REGTEMPVALUE
Parameter type :Module parameter
Parameter no. [p] :1038
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4

Maxlength (as ascii) :Not specified

Regulator, actual temperature (current).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

```
Parameter name      :REGTEMPUNIT
Parameter type      :Module parameter
Parameter no. [p]   :1044
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified
```

Regulator, temperature unit.
Based on unit for actual temperature probe.

[d]: 1..2 = Regulator number.

```
Parameter name      :REGPUMPCYCLINGACTIVE
Parameter type      :Module parameter
Parameter no. [p]   :1013
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Regulator, pump cycling, activation.

[d]: 1..2 = Regulator number.

Data: "0" = No, "1" = Yes.

```
Parameter name      :REGPUMPCYCLE
Parameter type      :Module parameter
Parameter no. [p]   :1049
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :No , -
Writeable, Write access:Yes, Operate
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :RAM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Regulator, pump cycling, start.
Set from time control, via the global pump cycling activation parameter PUMPCYCLE.

[d]: 1..2 = Regulator number.

Data: "1" = Yes.

```
Parameter name      :REGPUMPSTATUS
Parameter type      :Module parameter
Parameter no. [p]   :1014
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :RAM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Regulator, pump status (as numeric).

[d]: 1..2 = Regulator number.

Data: "0" = Off.
"1" = Pump 1 on.
"2" = Pump 1 cycling.
"3" = Pump 2 on.
"4" = pump 2 cycling.

Parameter name :REGPUMPSTATUSTEXT
Parameter type :Module parameter
Parameter no. [p] :1043
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Regulator, pump status (as text).

[d]: 1..2 = Regulator number.

Parameter name :REGPAREASTART
Parameter type :Module parameter
Parameter no. [p] :1015
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, P-area start.

[d]: 1..2 = Regulator number.

Data: "{x}" = P-area start, in °C or °F.

Parameter name :REGPAREASTOP
Parameter type :Module parameter
Parameter no. [p] :1016
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, P-area stop.

[d]: 1..2 = Regulator number.

Data: "{x}" = P-area stop, in °C or °F.

Parameter name :REGPAREA
Parameter type :Module parameter
Parameter no. [p] :1017
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, P-area.

[d]: 1..2 = Regulator number.

Data: "1".."{x}" = P-area span, in °C or °F.

```

Parameter name      :REGITIME
Parameter type      :Module parameter
Parameter no. [p]   :1018
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Regulator, I-time.

[d]: 1..2 = Regulator number.

Data: "0" = No I-time.
" {x} " = I-time, in seconds.

```

Parameter name      :REGPVALUE
Parameter type      :Module parameter
Parameter no. [p]   :1019
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :RAM
Format              :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Regulator, P-factor.

50% when set value = actual value.

[d]: 1..2 = Regulator number.

Data: "0".."100" = P-factor, in %.

```

Parameter name      :REGIVALUE
Parameter type      :Module parameter
Parameter no. [p]   :1020
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :RAM
Format              :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Regulator, I-factor.

[d]: 1..2 = Regulator number.

Data: "-100".."100" = I-factor, in %.

```

Parameter name      :REGVALUE
Parameter type      :Module parameter
Parameter no. [p]   :1021
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par
Location            :RAM
Format              :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Regulator, value (current).

[d]: 1..2 = Regulator number.

Data: "0".."100" = Current regulator value, in %.

```

Parameter name      :REGSTOPVALUE
Parameter type      :Module parameter

```

Parameter no. [p] :1036
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with no decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, stop value.

[d]: 1..2 = Regulator number.

Data: "0".."100" = Regulator value when stopped, in %.

Parameter name :REGSETCURVEVALUEPLOT
Parameter type :Module parameter
Parameter no. [p] :1046
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :255
Maxlength (as ascii) :Not specified

Regulator, curve set values, for plot.

[d]: 1..2 = Regulator number.

Data: Plot data.

Parameter name :REGSETCURVEVALUEX
Parameter type :Module parameter
Parameter no. [p] :1045
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :16
Maxlength (as ascii) :Not specified

Regulator, curve set values, X-coordinates (outdoor temperature values).
Manual set value is used if no outdoor probe is chosen.

[d]: 1..2 = Regulator number.

Data: "{x1},{x2},{x3},{x3}" = X-coordinate data for curve set values, in °C or °F.
"{x3}" = X-coordinate data for manual set value, in °C or °F.

Parameter name :REGSETCURVEVALUEY
Parameter type :Module parameter
Parameter no. [p] :1022
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Structure (struct)
Maxlength (as binary) :16
Maxlength (as ascii) :Not specified

Regulator, curve set values, Y-coordinates (actual temperature values).
Manual set value is used if no outdoor probe is chosen.

[d]: 1..2 = Regulator number.

Data: "{y1},{y2},{y3},{y3}" = Y-coordinate data for curve set values, in °C or °F.
"{y3}" = Y-coordinate data for manual set value, in °C or °F.

Parameter name :REGCURVEVALUE
Parameter type :Module parameter
Parameter no. [p] :1023

Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access :No , -
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :RAM
 Format :Floating point with 1 decimal (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Regulator, curve set value (current).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGSETAIADJUSTCHN
 Parameter type :Module parameter
 Parameter no. [p] :1024
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access :Yes, Config
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Regulator, AI status set value displacement (channel number).

[d]: 1..2 = Regulator number.

Data: "0" = None, "{c}" = AI Status channel number.

Parameter name :REGAIADJUSTVALUE
 Parameter type :Module parameter
 Parameter no. [p] :1025
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access :No , -
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par
 Location :RAM
 Format :Floating point with 1 decimal (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Regulator, AI status set value displacement (current value).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGSETDIADJUSTCHN
 Parameter type :Module parameter
 Parameter no. [p] :1026
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access :Yes, Config
 Can be disabled :Yes, individual elements (all values)
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Regulator, DI status set value displacement (channel number).

[d]: 1..2 = Regulator number.

Data: "0" = None, "{c}" = DI Status channel number.

Parameter name :REGSETDIADJUSTVALUE
 Parameter type :Module parameter
 Parameter no. [p] :1027
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :1..2
 Readable, Read access :Yes, View
 Writeable, Write access :Yes, Operate

Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, DI status set value displacement (preset).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGDIADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1028
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, DI status set value displacement (current).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGSETNIGHTADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1029
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Night set value displacement (preset).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGNIGHTADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1030
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Night set value displacement (current).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGSETMANUALADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1031
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4

Maxlength (as ascii) :Not specified

Regulator, Manual set value displacement (preset).

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGMANUALADJUSTVALUE
Parameter type :Module parameter
Parameter no. [p] :1032
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Manual set value displacement (current).
This value is a mirror of REGSETMANUALADJUSTVALUE.

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGSETVALUE
Parameter type :Module parameter
Parameter no. [p] :1033
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Set value (current).
Set value after displacements and limitations.

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGMINSETVALUE
Parameter type :Module parameter
Parameter no. [p] :1034
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Min set value.

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

Parameter name :REGMAXSETVALUE
Parameter type :Module parameter
Parameter no. [p] :1035
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Regulator, Max set value.

[d]: 1..2 = Regulator number.

Data: "{x}" = Temperature, in °C or °F.

```
Parameter name      :SMHIKEY
Parameter type      :Module parameter
Parameter no. [p]   :1100
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes
Member of file      :all.par
Location            :RAM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Forecast, function unlocked (as numeric).

Data: "0" = No, "1" = Yes.

```
Parameter name      :SMHIKEYTEXT
Parameter type      :Module parameter
Parameter no. [p]   :1101
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :Yes
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified
```

Forecast, function unlocked (as text).

```
Parameter name      :SMHIINTERVAL
Parameter type      :Module parameter
Parameter no. [p]   :1126
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, Login
Writeable, Write access:Yes, Operate
Can be disabled     :Yes
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified
```

Forecast, update interval for view-page.

Data: "0" = Never.
"30".."600" = Interval in seconds.

```
Parameter name      :SMHIMODE
Parameter type      :Module parameter
Parameter no. [p]   :1103
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :Yes, individual values
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Forecast, mode.

Data: "0" = No forecast control.
"1" = Forecast control.
"2" = Forecast control (A02).
"3" = Forecast control temp diff (A02).
"4" = Forecast control with pump (D02).
"5" = Forecast control (A02) with pump (D02).
"6" = Forecast control temp diff (A02) with pump (D02).

```
Parameter name      :SMHIACTIVE
Parameter type      :Module parameter
Parameter no. [p]   :1104
```

Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :Yes
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Forecast, activation (as numeric).

Data: "0" = Not active, "1" = Active.

Parameter name :SMHIACTIVETEXT
 Parameter type :Module parameter
 Parameter no. [p] :1105
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :Yes
 Member of file :all.par
 Location :Virtual (constructed dynamically)
 Format :Structure (struct)
 Maxlength (as binary) :21
 Maxlength (as ascii) :Not specified

Forecast, activation (as text).

Parameter name :SMHIPUMPOFFTEMPNIGHT
 Parameter type :Module parameter
 Parameter no. [p] :1106
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :Yes
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Floating point with 1 decimal (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Forecast, pump off-temperature during night (preset).

Parameter name :SMHIPUMPOFFTEMPDAY
 Parameter type :Module parameter
 Parameter no. [p] :1107
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Operate
 Can be disabled :Yes
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Floating point with 1 decimal (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Forecast, pump off-temperature during day (preset).

Parameter name :SMHIPUMPOFFTEMP
 Parameter type :Module parameter
 Parameter no. [p] :1108
 Channeltype no. [t] :-
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :Yes
 Member of file :all.par
 Location :RAM
 Format :Floating point with 1 decimal (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Forecast, pump off-temperature (current).

Parameter name :SMHIPUMPCYCLE
 Parameter type :Module parameter
 Parameter no. [p] :1127
 Channeltype no. [t] :-
 Channel no. [c] :-

Data no. [d] :-
Readable, Read access :No , -
Writeable, Write access:Yes, Operate
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, pump cycling, start.
Set from time control, via the global pump cycling
activation parameter PUMPCYCLE.

Data: "1" = Yes.

Parameter name :SMHIPUMPSTATUS
Parameter type :Module parameter
Parameter no. [p] :1109
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, pump status (as numeric).

Data: "0" = Off.
"1" = Pump on.
"2" = Pump cycling.

Parameter name :SMHIPUMPSTATUSTEXT
Parameter type :Module parameter
Parameter no. [p] :1110
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Forecast, pump status (as text).

Parameter name :SMHIOUTDOORPROBE
Parameter type :Module parameter
Parameter no. [p] :1113
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Forecast, outdoor temperature probe (channeltype number, channel number).

Data: "0" = None.
"{c}" = Channeltype number, Channel number.
"{c:hb}" = Channeltype number (Temperature, AI Status).
"{c:lb}" = Channel number.

Parameter name :SMHIOUTDOORVALUE
Parameter type :Module parameter
Parameter no. [p] :1114
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4

Maxlength (as ascii) :Not specified

Forecast, outdoor temperature (current).

Data: "{x}" = Temperature, in °C or °F.

```

Parameter name      :SMHIFORECASTTAB
Parameter type      :Module parameter
Parameter no. [p]   :1115
Channeltype no. [t] :-
Channel no. [c]     :1..2 (used for alternate purpose)
Data no. [d]        :1..121
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :Yes
Member of file      :all.par
Location            :RAM
Format              :Structure (struct)
Maxlength (as binary) :12
Maxlength (as ascii) :Not specified

```

Forecast, table.

A forecast is an outdoor temperature prediction from SMHI weather service in Sweden.

Lines are optionally sorted by chronology.

[c]: 0 = Access unsorted lines:

[d]: 0 = Read/write all lines.
1..n = Read/write line.

[c]: 1 = Access sorted lines:

[d]: 0 = Read all lines / Append line.
1..n = Read/write line.

[c]: 2 = Read info / Delete sorted lines:

[d]: 1 = Read maximum number of lines.
0 = Delete all lines (no data).
1..n = Delete line (no data).

Data: "{yy-mm-dd},{hh:mm:ss},{To},{Te}".

```

Parameter name      :SMHIMAXFORECASTDEVIATION
Parameter type      :Module parameter
Parameter no. [p]   :1116
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled     :Yes
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

Forecast, max allowed deviation.

Data: "{x}" = Temperature, in °C or °F.

```

Parameter name      :SMHIPPACTIVE
Parameter type      :Module parameter
Parameter no. [p]   :1117
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :Yes, individual elements (all values)
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Forecast, PP-unit, activation (as numeric).

Data: "0" = Not active, "1" = Active.

```

Parameter name      :SMHIPPACTIVETEXT
Parameter type      :Module parameter
Parameter no. [p]   :1118
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, View

```

Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Forecast, PP-unit, activation (as text).

Parameter name :SMHIPPTTESTACTIVE
Parameter type :Module parameter
Parameter no. [p] :1124
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, PP-unit, test program active (only for factory test).

Parameter name :SMHIPPTTESTBITVALUE
Parameter type :Module parameter
Parameter no. [p] :1125
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

Forecast, PP-unit, test program bit value (only for factory test).

Parameter name :SMHIPPPROBE
Parameter type :Module parameter
Parameter no. [p] :1119
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, PP-unit, emulated outdoor temperature probe (as numeric).

Data: "0" = Linear (reserved).
"1" = Pt1000.
"2" = Ni1000-DIN.
"3" = Ni1000, LG.
"4" = TAC-EGU, EGUU.
"5" = QAC31,32, Siemens.
"6" = FW-T1G, Siemens.
"7" = FO-T35, Staefa.

Parameter name :SMHIPPPROBETEXT
Parameter type :Module parameter
Parameter no. [p] :1120
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Forecast, PP-unit, emulated outdoor temperature probe (as text).

Parameter name :SMHIPPPROBESWITCH
Parameter type :Module parameter

Parameter no. [p] :1121
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, PP-unit, probe switch (preset).

Data: "0" = Forecast (emulated outdoor probe).
"1" = Remote controlled (local outdoor probe).

Parameter name :SMHIPPPOBESWITCH
Parameter type :Module parameter
Parameter no. [p] :1122
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Forecast, PP-unit, probe switch (current, as numeric).

Data: "0" = Forecast (emulated outdoor probe).
"1" = Remote controlled (local outdoor probe).
"2" = Manual controlled (local outdoor probe).

Parameter name :SMHIPPPOBESWITCHTEXT
Parameter type :Module parameter
Parameter no. [p] :1123
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Forecast, PP-unit, probe switch (current, as text).

Parameter name :DINAME
Parameter type :Module parameter
Parameter no. [p] :88
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..6
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

I/O DI name.

[d]: DI I/O number.

Parameter name :DIFILTERTIME
Parameter type :Module parameter
Parameter no. [p] :80
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..6
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

I/O DI filter time (ms).

[d]: DI I/O number.

Parameter name :DIDBSSELECTION
Parameter type :Module parameter
Parameter no. [p] :94
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..6
Readable, Read access :Yes, View
Writeable, Write access:Yes, View
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

I/O DI selected database in view-page.

Parameter name :AIUINAME
Parameter type :Module parameter
Parameter no. [p] :89
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

I/O AI name.

[d]: AI I/O number.

Parameter name :AIUIDEADVALUE
Parameter type :Module parameter
Parameter no. [p] :81
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

I/O AI deadband.

[d]: AI I/O number.

Parameter name :AIUIPROBE
Parameter type :Module parameter
Parameter no. [p] :82
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

I/O AI probe type (as numeric).

[d]: AI I/O number.

Data: "0" = 0..10VDC, "1" = 0..20mA, "2" = 4..20mA.

Parameter name :AIUIPROBETEXT
Parameter type :Module parameter
Parameter no. [p] :71
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -

```

Can be disabled      :No
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

```

I/O AI probe type (as text).

```

Parameter name      :AIUIDBSSELECTION
Parameter type      :Module parameter
Parameter no. [p]   :95
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, View
Can be disabled     :No
Member of file      :all.par
Location            :RAM
Format              :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

```

I/O AI selected database in view-page.

[d]: AI I/O number.

```

Parameter name      :AITNAME
Parameter type      :Module parameter
Parameter no. [p]   :90
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

I/O T name.

[d]: T I/O number.

```

Parameter name      :AITPROBE
Parameter type      :Module parameter
Parameter no. [p]   :83
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

I/O T probe type (as numeric).

[d]: T I/O number.

Data: "0" = Linear, "1" = PT1000, "2" = NI1000, "3" = NI1000LG.

```

Parameter name      :AITPROBETEXT
Parameter type      :Module parameter
Parameter no. [p]   :72
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..4
Readable, Read access :Yes, View
Writeable, Write access:No, -
Can be disabled     :No
Member of file      :all.par
Location            :Virtual (constructed dynamically)
Format              :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

```

I/O T probe text (as text).

```

Parameter name      :AITDBSSELECTION
Parameter type      :Module parameter
Parameter no. [p]   :96
Channeltype no. [t] :-

```

```

Channel no.      [c]      :-
Data no.        [d]      :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, View
Can be disabled  :No
Member of file   :all.par
Location         :RAM
Format          :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

```

I/O T selected database in view-page.

[d]: T I/O number.

```

Parameter name      :AITRESISTANCE
Parameter type      :Module parameter
Parameter no.      [p] :99
Channeltype no.    [t] :-
Channel no.        [c] :-
Data no.          [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled    :No
Member of file     :all.par, config.par, copyable.par
Location          :EEPROM
Format            :Floating point with 1 decimal (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

```

I/O T External parallel resistance.

[d]: T I/O number.

Data: "1800".."{x}" ohm.

```

Parameter name      :AITRESISTANCEACTIVE
Parameter type      :Module parameter
Parameter no.      [p] :70
Channeltype no.    [t] :-
Channel no.        [c] :-
Data no.          [d] :1..4
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled    :No
Member of file     :all.par, config.par, copyable.par
Location          :EEPROM
Format            :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

I/O T External parallel resistance active.

[d]: T I/O number.

Data: "0" = No, "1" = Yes.

```

Parameter name      :DONAME
Parameter type      :Module parameter
Parameter no.      [p] :91
Channeltype no.    [t] :-
Channel no.        [c] :-
Data no.          [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled    :No
Member of file     :all.par, config.par, copyable.par
Location          :EEPROM
Format            :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

I/O DO name.

[d]: DO I/O number.

```

Parameter name      :DODBSSELECTION
Parameter type      :Module parameter
Parameter no.      [p] :97
Channeltype no.    [t] :-
Channel no.        [c] :-
Data no.          [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, View
Can be disabled    :No
Member of file     :all.par
Location          :RAM
Format            :Structure (struct)
Maxlength (as binary) :8

```

Maxlength (as ascii) :Not specified

I/O DO selected database in view-page.

[d]: DO I/O number.

```

Parameter name      :DOEVENTNAME
Parameter type      :Module parameter
Parameter no. [p]   :92
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par
Location            :EEPROM
Format              :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

I/O DO event name (only for internal use).

[d]: DO Event I/O number.

```

Parameter name      :DOEVENTRELAY
Parameter type      :Module parameter
Parameter no. [p]   :86
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par
Location            :RAM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

I/O DO event relay control (only for internal use).

[d]: DO Event I/O number.

```

Parameter name      :DOEVENTLED
Parameter type      :Module parameter
Parameter no. [p]   :87
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, Login
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par
Location            :RAM
Format              :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

I/O DO event LED control (only for internal use).

[d]: DO Event I/O number.

```

Parameter name      :AONAME
Parameter type      :Module parameter
Parameter no. [p]   :93
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

```

I/O AO name.

[d]: AO I/O number.

```

Parameter name      :VAITNAME
Parameter type      :Module parameter
Parameter no. [p]   :73
Channeltype no. [t] :-
Channel no. [c]     :-
Data no. [d]        :1..3
Readable, Read access :Yes, View

```


Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

I/O VT name.

[d]: VT I/O number.

Parameter name :AODBSSELECTION
Parameter type :Module parameter
Parameter no. [p] :98
Channeltype no. [t] :-
Channel no. [c] :-
Data no. [d] :1..2
Readable, Read access :Yes, View
Writeable, Write access:Yes, View
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

I/O AO selected database in view-page.

[d]: AO I/O number.

Parameter name :TYPENR
Parameter type :Channeltype parameter
Parameter no. [p] :100
Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no. [c] :-
Data no. [d] :-
Channeltype no. [t] :9, 10, 11, 12
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Channeltype number.

Parameter name :TYPENAME
Parameter type :Channeltype parameter
Parameter no. [p] :101
Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no. [c] :-
Data no. [d] :-
Channeltype no. [t] :9, 10, 11, 12
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

Channeltype name.

Parameter name :TYPEADDRESS
Parameter type :Channeltype parameter
Parameter no. [p] :102
Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no. [c] :-
Data no. [d] :-
Channeltype no. [t] :9, 10, 11, 12
Channel no. [c] :-
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :9
Maxlength (as ascii) :Not specified

Channeltype technical address.

Data: "{mmmmtt}00". mmmm = Module number, tt = Channeltype number.

```

Parameter name      :MAXCHNIDX
Parameter type      :Channeltype parameter
Parameter no. [p]   :103
Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no. [c]     :-
Data no. [d]        :-
Channeltype no. [t] :9, 10, 11, 12
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Max channel number for a channel type.

```

Parameter name      :MINBITVALUE
Parameter type      :Channeltype parameter
Parameter no. [p]   :104
Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no. [c]     :-
Data no. [d]        :-
Channeltype no. [t] :9, 10, 11
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :Integer (signed int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

```

Min bit value.

If not applicable, then MINBITVALUE = 0 and MAXBITVALUE = 0.

Data: "{x}" = Min physical or normalized bit value.

```

Parameter name      :MAXBITVALUE
Parameter type      :Channeltype parameter
Parameter no. [p]   :105
Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no. [c]     :-
Data no. [d]        :-
Channeltype no. [t] :9, 10, 11
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :Integer (signed int)
Maxlength (as binary) :2
Maxlength (as ascii) :Not specified

```

Max bit value.

If not applicable, then MINBITVALUE = 0 and MAXBITVALUE = 0.

Data: "{x}" = Max physical or normalized bit value.

```

Parameter name      :ALARMTYPE
Parameter type      :Channeltype parameter
Parameter no. [p]   :106
Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8
Channel no. [c]     :-
Data no. [d]        :-
Channeltype no. [t] :9, 10, 11, 12
Channel no. [c]     :-
Data no. [d]        :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled      :No
Member of file       :all.par
Location             :RAM
Format               :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

```

Alarm, type of alarm.

Data: "0" = None.
 "1" = DI/AI/AO (mean value).
 "2" = DI Status.
 "3" = DI/DO Time.
 "4" = AI/DI (sum value).
 "5" = DO Control.

Parameter name :MAXALARMIDX
 Parameter type :Channeltype parameter
 Parameter no. [p] :107
 Channeltype no. [t] :1, 2, 3, 4, 5, 6, 7, 8
 Channel no. [c] :-
 Data no. [d] :-
 Channeltype no. [t] :9, 10, 11, 12
 Channel no. [c] :-
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :RAM
 Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Alarm, max alarm index for type of alarm.

Data: "{x}" = Max alarm index, dependent on ALARMTYPE.

Parameter name :ALARMNAME
 Parameter type :Channel parameter
 Parameter no. [p] :214
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4
 Channeltype no. [t] :9 , 10 , 11
 Channel no. [c] :1..2, 1..2, 1..2
 Data no. [d] :1..4, 1..4, 1..4
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par
 Location :EEPROM
 Format :String (unsigned char[21])
 Maxlength (as binary) :21
 Maxlength (as ascii) :21 (including 0-terminator)

Alarm, name.

[d]: 1..x = Alarm index, dependent on ALARMTYPE.

Parameter name :CURRENTALARMNAME
 Parameter type :Channel parameter
 Parameter no. [p] :216
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :-
 Channeltype no. [t] :9 , 10 , 11
 Channel no. [c] :1..2, 1..2, 1..2
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :Virtual (constructed dynamically)
 Format :Structure (struct)
 Maxlength (as binary) :21
 Maxlength (as ascii) :Not specified

Alarm, Current active.

Data: "Normal" = No active alarm.
 "{xxx..}" = Name of active alarm.

Parameter name :ALARMACTIVE
 Parameter type :Channel parameter
 Parameter no. [p] :215
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4
 Channeltype no. [t] :9 , 10 , 11
 Channel no. [c] :1..2, 1..2, 1..2
 Data no. [d] :1..4, 1..4, 1..4
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM

Format :Positive integer (unsigned char)
 Maxlength (as binary) :1
 Maxlength (as ascii) :Not specified

Alarm, activation.

[d]: 1..x = Alarm index, dependent on ALARMTYPE.

Data: "0" = Off, "1" = On.

Parameter name :ALARMLIMIT
 Parameter type :Channel parameter
 Parameter no. [p] :200
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4, 1..4
 Channeltype no. [t] :9 , 10 , 11
 Channel no. [c] :1..2, 1..2, 1..2
 Data no. [d] :1..4, 1..4, 1..4
 Readable, Read access :Yes, View
 Writeable, Write access :Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Floating point with adjustable decimals (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Alarm, limit or feedback channel number.

[d]: 1..x = Alarm index, dependent on ALARMTYPE.

Data: "{x}" = Alarm limit or feedback channel number, dependent on ALARMTYPE.

Parameter name :ALARMDELAY
 Parameter type :Channel parameter
 Parameter no. [p] :201
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :-
 Channeltype no. [t] :9 , 10 , 11
 Channel no. [c] :1..2, 1..2, 1..2
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access :Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Positive integer (unsigned long)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Alarm, delay.

[d]: 1..x = Alarm index, dependent on ALARMTYPE.

Data: "{hh:mm:ss}" = Delay between changes of alarm values.
 "{mm:ss}"
 "{s..}"

Parameter name :ALARMDEADBAND
 Parameter type :Channel parameter
 Parameter no. [p] :202
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :-
 Channeltype no. [t] :9 , 10 , 11
 Channel no. [c] :1..2, 1..2, 1..2
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access :Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :Floating point (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Alarm, deadband.

[d]: 1..x = Alarm index, dependent on ALARMTYPE.

Data: "{x}" = Deadband, in %.

Parameter name :ALARMVALUE
 Parameter type :Channel parameter
 Parameter no. [p] :228
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6

Data no. [d] :-
 Channeltype no. [t] :9 , 10 , 11
 Channel no. [c] :1..2, 1..2, 1..2
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :RAM
 Format :Floating point with adjustable decimals (float)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Alarm, value.

[d]: 1..x = Alarm value, dependent on ALARMTYPE.

Data: "0" = Not active.
 "1".."{x}" = Active (x --> alarm number).

Parameter name :ALARMTIME
 Parameter type :Channel parameter
 Parameter no. [p] :229
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :1..2, 1..2, 1..2, 1..2, 1..2, 1..2, 1..2, 1..2, 1..2
 Channeltype no. [t] :9 , 10 , 11
 Channel no. [c] :1..2, 1..2, 1..2
 Data no. [d] :1..2, 1..2, 1..2
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :RAM
 Format :Structure (struct)
 Maxlength (as binary) :4
 Maxlength (as ascii) :Not specified

Alarm, time.

[d]: 0 = Data: "{yyyy-mm-dd} {hh:mm:ss}".
 1 = Data: "{yyyy-mm-dd}".
 2 = Data: "{hh:mm:ss}".

Parameter name :IONAME
 Parameter type :Channel parameter
 Parameter no. [p] :235
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :-
 Channeltype no. [t] :9 , 10 , 11 , 12
 Channel no. [c] :1..2, 1..2, 1..2, 1..3
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:No , -
 Can be disabled :No
 Member of file :all.par
 Location :Virtual (constructed dynamically)
 Format :Structure (struct)
 Maxlength (as binary) :21
 Maxlength (as ascii) :Not specified

Which I/O this channel is based upon.

Parameter name :CHNNAME
 Parameter type :Channel parameter
 Parameter no. [p] :203
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
 Data no. [d] :-
 Channeltype no. [t] :9 , 10 , 11 , 12
 Channel no. [c] :1..2, 1..2, 1..2, 1..3
 Data no. [d] :-
 Readable, Read access :Yes, View
 Writeable, Write access:Yes, Config
 Can be disabled :No
 Member of file :all.par, config.par, copyable.par
 Location :EEPROM
 Format :String (unsigned char[21])
 Maxlength (as binary) :21
 Maxlength (as ascii) :21 (including 0-terminator)

Channel name.

Parameter name :CHNADDRESS
 Parameter type :Channel parameter
 Parameter no. [p] :223
 Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
 Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6

```
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c] :1..2, 1..2, 1..2, 1..3
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :9
Maxlength (as ascii) :Not specified
```

Channel technical address.

```
Data: "{mmmmttcc}".
mmmm = Module number, tt = Channeltype number, cc = Channel number.
```

```
Parameter name :CHNNR
Parameter type :Channel parameter
Parameter no. [p] :224
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c] :1..2, 1..2, 1..2, 1..3
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Channel number (same as [c]).

```
Parameter name :DECIMALS
Parameter type :Channel parameter
Parameter no. [p] :226
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c] :1..2, 1..2, 1..2, 1..3
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Number of decimals for certain parameters, like VALUE.

```
Parameter name :INTEGERDIGITS
Parameter type :Channel parameter
Parameter no. [p] :242
Channeltype no. [t] :3 , 5 , 6 , 10
Channel no. [c] :1..2, 1..6, 1..6, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified
```

Number of integer digits for VALUE (only sum values).

```
Parameter name :VALUE
Parameter type :Channel parameter
Parameter no. [p] :204
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c] :1..2, 1..2, 1..2, 1..3
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
```

Format :Floating point with adjustable decimals (double)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

Value (all).

Use VALUE_W to write to writeable channeltypes.

Parameter name :VALUE_W
Parameter type :Channel parameter
Parameter no. [p] :205
Channeltype no. [t] :3 , 5 , 6 , 9 , 10 , 11
Channel no. [c] :1..2, 1..6, 1..6, 1..2, 1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :Yes, individual elements (all values)
Member of file :all.par
Location :RAM
Format :Floating point with adjustable decimals (double)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

Value (only writeable).

This parameter is identical with VALUE, except that it only contains the writeable channeltypes, and allows write to them.

Parameter name :RAWVALUE
Parameter type :Channel parameter
Parameter no. [p] :225
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11
Channel no. [c] :1..2, 1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Floating point (double)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

Bit value or normalized value (0..100%).
(Only for internal use).

Parameter name :HOURVALUE
Parameter type :Channel parameter
Parameter no. [p] :206
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11
Channel no. [c] :1..2, 1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Floating point with adjustable decimals (double)
Maxlength (as binary) :8
Maxlength (as ascii) :Not specified

Current hour value.

Parameter name :STARTVALUE
Parameter type :Channel parameter
Parameter no. [p] :236
Channeltype no. [t] :9 , 11
Channel no. [c] :1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with adjustable decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Start value for output channels.
(See STARTMODE).

Parameter name :STARTMODE
Parameter type :Channel parameter

Parameter no. [p] :237
Channeltype no. [t] :9 , 11
Channel no. [c] :1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Start mode for output channels.

Data: "0" = Same as last value.
"1" = According to STARTVALUE.

Parameter name :INVERT
Parameter type :Channel parameter
Parameter no. [p] :238
Channeltype no. [t] :9 , 11
Channel no. [c] :1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Inverted output.
Currently only used by regulator function.

Parameter name :SOURCE
Parameter type :Channel parameter
Parameter no. [p] :213
Channeltype no. [t] :9 , 11
Channel no. [c] :1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Source of value for output channels (as numeric).

Data: "0" = None (after first startup).
"1" = Start controlled (see STARTMODE).
"2" = Menu controlled.
"3" = Time controlled.
"4" = Event controlled (currently not used).
"5" = Regulator controlled.
"6" = Forecast controlled.

Parameter name :SOURCENAME
Parameter type :Channel parameter
Parameter no. [p] :232
Channeltype no. [t] :9 , 11
Channel no. [c] :1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

Source of value for output channels (as text).

Parameter name :TIMEACTIONACTIVE
Parameter type :Channel parameter
Parameter no. [p] :233
Channeltype no. [t] :9 , 11
Channel no. [c] :1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par, copyable.par
Location :EEPROM

Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Time control activation.

Data: "0" = Not active.
"1" = Active.

Parameter name :EVENTACTIONACTIVE
Parameter type :Channel parameter
Parameter no. [p] :234
Channeltype no. [t] :9 , 11
Channel no. [c] :1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :Yes, individual elements (all values)
Member of file :all.par, config.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Event control activation.

Data: "0" = Not active.
"1" = Active.

Parameter name :QUANTITY
Parameter type :Channel parameter
Parameter no. [p] :207
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c] :1..2, 1..2, 1..2, 1..3
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

Quantity for VALUE.

Parameter name :UNIT
Parameter type :Channel parameter
Parameter no. [p] :208
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c] :1..2, 1..2, 1..2, 1..3
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :String (unsigned char[21])
Maxlength (as binary) :21
Maxlength (as ascii) :21 (including 0-terminator)

Unit for VALUE (as text).

Ignore any comma separations.
(See also DYNAMICUNIT and TEMPUNIT).

Parameter name :DYNAMICUNIT
Parameter type :Channel parameter
Parameter no. [p] :239
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :-
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c] :1..2, 1..2, 1..2, 1..3
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :Virtual (constructed dynamically)
Format :Structure (struct)
Maxlength (as binary) :21
Maxlength (as ascii) :Not specified

If UNIT is comma separated, a "subunit" is returned for each value, starting at VALUE = "0".
If not, it works the same as UNIT.

Example:

If UNIT = "Off,On" and VALUE = "0": Data = "Off".
If UNIT = "Off,On" and VALUE = "1": Data = "On".
If UNIT = "Off,On" and VALUE > "1": Data = "" (mismatch).

Parameter name :TEMPUNIT
Parameter type :Channel parameter
Parameter no. [p] :227
Channeltype no. [t] :1 , 12
Channel no. [c] :1..4, 1..3
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Unit for temperatures (as numeric).
Update UNIT (as text) for temperatures as well.

Data: "0" = °C.
"1" = °F.

Parameter name :CHNEVENT
Parameter type :Channel parameter
Parameter no. [p] :209
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :1..1, 1..1, 1..1, 1..1, 1..1, 1..1, 1..1, 1..1
Channeltype no. [t] :9 , 10 , 11
Channel no. [c] :1..2, 1..2, 1..2
Data no. [d] :1..1, 1..1, 1..1
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Channel event status (as numeric).

[d]: 0 = All.
1 = Alarm.

Data: "0" = Not active.
"1.."{x}" = Active (x --> alarm number).

Parameter name :DBSACTIVE
Parameter type :Channel parameter
Parameter no. [p] :210
Channeltype no. [t] :1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..6
Data no. [d] :1..7, 1..7, 1..7, 1..7, 1..7, 1..7, 1..7, 1..7
Channeltype no. [t] :9 , 10 , 11 , 12
Channel no. [c] :1..2, 1..2, 1..2, 1..3
Data no. [d] :1..7, 1..7, 1..7, 1..7
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Database activation.
Only used as an option for file downloads (download only active databases).

Data: "0" = Not active.
"1" = Active.

Parameter name :MINVALUE
Parameter type :Channel parameter
Parameter no. [p] :211
Channeltype no. [t] :1 , 2 , 4 , 7 , 8 , 9 , 11
Channel no. [c] :1..4, 1..2, 1..6, 1..6, 1..6, 1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No

Member of file :all.par
Location :RAM
Format :Floating point with adjustable decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Min value.

Read data: "{x}" :Minimum VALUE.

Write data: "{x}" :Ignored, value is set to current VALUE instead.

Parameter name :MAXVALUE
Parameter type :Channel parameter
Parameter no. [p] :212
Channeltype no. [t] :1 , 2 , 4 , 7 , 8 , 9 , 11
Channel no. [c] :1..4, 1..2, 1..6, 1..6, 1..6, 1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Operate
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Floating point with adjustable decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Max value.

Read value: "{x}" :Maximum VALUE.

Write data: "{x}" :Ignored, value is set to current VALUE instead.

Parameter name :MINTIME
Parameter type :Channel parameter
Parameter no. [p] :230
Channeltype no. [t] :1 , 2 , 4 , 7 , 8 , 9 , 11
Channel no. [c] :1..4, 1..2, 1..6, 1..6, 1..6, 1..2, 1..2
Data no. [d] :1..2, 1..2, 1..2, 1..2, 1..2, 1..2, 1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Time when min value occurred.

[d]: 0 = Data: "{yyyy-mm-dd hh:mm:ss}".
1 = Data: "{yyyy-mm-dd}".
2 = Data: "{hh:mm:ss}".

Parameter name :MAXTIME
Parameter type :Channel parameter
Parameter no. [p] :231
Channeltype no. [t] :1 , 2 , 4 , 7 , 8 , 9 , 11
Channel no. [c] :1..4, 1..2, 1..6, 1..6, 1..6, 1..2, 1..2
Data no. [d] :1..2, 1..2, 1..2, 1..2, 1..2, 1..2, 1..2
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled :No
Member of file :all.par
Location :RAM
Format :Structure (struct)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Time when max value occurred.

[d]: 0 = Data: "{yyyy-mm-dd hh:mm:ss}".
1 = Data: "{yyyy-mm-dd}".
2 = Data: "{hh:mm:ss}".

Parameter name :MINSETVALUE
Parameter type :Channel parameter
Parameter no. [p] :217
Channeltype no. [t] :2 , 3 , 11
Channel no. [c] :1..2, 1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Min value limit (only writeable).

Read data: "{x}" = Current minimum VALUE limit,
according to MINBITVALUE, FACTOR, OFFSET.

Write data: "{x}" = Define minimum VALUE limit,
update FACTOR, OFFSET, MINRANGEVALUE, MAXRANGEVALUE.

```
Parameter name      :MAXSETVALUE
Parameter type     :Channel parameter
Parameter no. [p]  :218
Channeltype no. [t] :2 , 3 , 11
Channel no. [c]   :1..2, 1..2, 1..2
Data no. [d]      :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

Max value limit (only writeable).

Read data: "{x}" = Current maximum VALUE limit,
according to MAXBITVALUE, FACTOR, OFFSET.

Write data: "{x}" = Define maximum VALUE limit,
update FACTOR, OFFSET, MINRANGEVALUE, MAXRANGEVALUE.

```
Parameter name      :MINRANGEVALUE
Parameter type     :Channel parameter
Parameter no. [p]  :240
Channeltype no. [t] :1 , 2 , 3 , 4 , 11
Channel no. [c]   :1..4, 1..2, 1..2, 1..6, 1..2
Data no. [d]      :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par
Location            :RAM
Format              :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

Min value limit (all applicable).

Read data: "{x}" = Current minimum VALUE limit,
according to MINBITVALUE, FACTOR, OFFSET or
selected temperature probe (for temperatures).

```
Parameter name      :MAXRANGEVALUE
Parameter type     :Channel parameter
Parameter no. [p]  :241
Channeltype no. [t] :1 , 2 , 3 , 4 , 11
Channel no. [c]   :1..4, 1..2, 1..2, 1..6, 1..2
Data no. [d]      :-
Readable, Read access :Yes, View
Writeable, Write access:No , -
Can be disabled     :No
Member of file      :all.par
Location            :RAM
Format              :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified
```

Max value limit (all applicable).

Read data: "{x}" = Current maximum VALUE limit,
according to MAXBITVALUE, FACTOR, OFFSET or
selected temperature probe (for temperatures).

```
Parameter name      :FACTOR
Parameter type     :Channel parameter
Parameter no. [p]  :219
Channeltype no. [t] :2 , 3 , 5 , 6 , 7 , 8 , 9 , 10
Channel no. [c]   :1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..2, 1..2
Data no. [d]      :-
Channeltype no. [t] :11
Channel no. [c]   :1..2
Data no. [d]      :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled     :No
Member of file      :all.par, config.par, copyable.par
Location            :EEPROM
Format              :Floating point (float)
```

Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Conversion factor.

Read data: "{x}" = Current factor to convert between RAWVALUE and VALUE.

Write data: "{x}" = Define factor to convert between RAWVALUE and VALUE,
update MINSETVALUE, MAXSETVALUE,
MINRANGEVALUE, MAXRANGEVALUE.

Parameter name :OFFSET
Parameter type :Channel parameter
Parameter no. [p] :220
Channeltype no. [t] :1 , 2 , 3 , 5 , 6 , 7 , 8 , 9
Channel no. [c] :1..4, 1..2, 1..2, 1..6, 1..6, 1..6, 1..6, 1..2
Data no. [d] :-
Channeltype no. [t] :10 , 11
Channel no. [c] :1..2, 1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Conversion offset.

Read data: "{x}" = Current offset to convert between RAWVALUE and VALUE.

Write data: "{x}" = Define offset to convert between RAWVALUE and VALUE,
update MINSETVALUE, MAXSETVALUE,
MINRANGEVALUE, MAXRANGEVALUE.

Parameter name :FREQVALUE
Parameter type :Channel parameter
Parameter no. [p] :222
Channeltype no. [t] :9
Channel no. [c] :1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Floating point with 2 decimals (float)
Maxlength (as binary) :4
Maxlength (as ascii) :Not specified

Frequency value for digital output channels.
(Active when VALUE = 2).

Parameter name :DUTYCYCLE
Parameter type :Channel parameter
Parameter no. [p] :221
Channeltype no. [t] :9
Channel no. [c] :1..2
Data no. [d] :-
Readable, Read access :Yes, View
Writeable, Write access:Yes, Config
Can be disabled :No
Member of file :all.par, config.par, copyable.par
Location :EEPROM
Format :Positive integer (unsigned char)
Maxlength (as binary) :1
Maxlength (as ascii) :Not specified

Duty cycle for digital output channels.
(Active when VALUE = 2).