

XHITACHH Driver Manual

Hitachi PLC Serie H Protocol Driver



H Series
Large PLC for
Plant Engineering



CPKSoft Engineering

Process Monitoring and Industrial Automation Software

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1. Introduction

CPKSoft Engineering assumes no responsibility for any errors that may appear in this document. If you have any suggestions for improvements or amendments or have found errors in this publication, please notify us.

This driver is included with all unlimited licenses of TAS-HMITalk. It is not sold separately. It requires the TAS-HMITalk ActiveX to work, therefore it cannot be used as a stand-alone driver.

If you use this driver in your applications, you need to include the xhitachh.tlk in the set of files that you distribute. This file must be located in the same folder where the hmitalk.ocx file is registered in order to be found by the activex when the applications are executed.

The source-code for the xhitachh.tlk driver is available in plain-C language for additional USD 499 if you own a license of TAS-HMITalk 8.04 or higher.

Refer to the following link to visit the xhitachh driver page at CPKSoft Engineering website: <http://www.cpksoft.com/tabid/55/ProductID/47/PageIndex/1/Default.aspx>.

Visit this link if you want to see a complete list of drivers that are currently available for TAS-HMITak: <http://www.cpksoft.com/Drivers/tabid/55/Default.aspx>.

Also, refer to this link if you are interested in purchasing a license of the most recent version of TAS-HMITalk: <http://www.cpksoft.com/Products/tabid/54/Default.aspx>.

We welcome your comments about this document. You can reach us by e-mail at [contact @ cpksoft.com](mailto:contact@cpksoft.com).

2. Driver details

2.1. Driver overview

The XHITACHH driver allows you to connect to the Hitachi Serie H PLCs using the HI protocol. The communication is point-to-point through a RS-232 port with the master PLC. Typical COM settings are 19200 bauds, even parity, 7 data bits and 1 stop bit.

Important note:

- 1) You should set the CommT1Delay property to a minimum of 5 milliseconds.
- 2) You must configure the PLC so it does not include the Office Number in the messages that it returns (choose one-to-one communication mode).
- 3) If the RTS pin is wired and being used by the PLC, it might be necessary that you set RTS in high state while transmitting and receiving data to/from the PLC.
- 4) If you receive error codes 8077 indicating that CPU is not occupied by own station, try setting the DriverP4 parameter to 1 or 2. You will need to do this at least once, after the error was declared. When the communication operates normally, you can continue using DriverP4=0.

This driver supports task codes to do the following tasks:

- Execute RUN/STOP commands
- Request CPU Status
- Supervise PLC registers and I/O status
- Write PLC registers and I/O
- Send optional messages to:
 - Prepare the CPU to process commands
 - Release the CPU

PLC VALID DATA TYPES AND RANGES:

- X from 0 to 4FF5Fh (0 to 327519 decimal)
- Y from 0 to 4FF5Fh (0 to 327519 decimal)
- R from 0 to 7BFh (0 to 1983 decimal)
- L from 0 to 13FFFh (0 to 81919 decimal)
- M from 0 to FFFh (0 to 4095 decimal)
- TC from 0 to 1FFh (0 to 511 decimal)
- WX from 0 to 4FF9h (0 to 20473 decimal)
- WY from 0 to 4FF9h (0 to 20473 decimal)
- WR from 0 to 3FFh (0 to 1023 decimal)
- WL from 0 to 13FFh (0 to 5119 decimal)
- WM from 0 to FFh (0 to 255 decimal)
- WTC from 0 to 1FFh (0 to 511 decimal)

DRIVER ADDRESSING:

For memory positions of any type, the addresses adopt the form:

TT BBBB

Values that are sent:

- TT = X, Y, R, L, etc. (as indicated in parameter DriverP6)
- BBBB = the hexadecimal address (set with Driver P7)

BBBB must be a full hexadecimal address, not a combined hexadecimal and decimal address. This means that addresses for X and Y data types where the last 2 digits could also be expressed as decimal digits (such as in X 4FF95 where '4FF' is hexadecimal and '95' is decimal), must be first converted to its full hexadecimal notation (4FF5Fh, for example).

Example 1:

X 1000

- DriverP6 = 0 (numeric code for 'X' data type)
- DriverP7 = 1000h or 4096

Example 2:

WM 100

- DriverP6 = 12 (numeric code for 'WM' data type)
- DriverP7 = 100h or 256

Example 2:

WR 0FF

- DriverP6 = 10 (numeric code for 'WR' data type)
- DriverP7 = FFh or 255

Important note:

If you are more familiar with using the alternative ABB notation (E, A, EW, AW, etc) for the PLC data types where address positions are expressed as separate decimal numbers (as in the form E 1.00.00), you can use the XPROT200 driver instead.

2.2. Supported devices

This driver can communicate with these devices, but is not necessarily limited to this list:

HITACHI PLC H-Series

HITACHI PLC Micro-EH Series

ABB PROCONTIC T-200 PLCs with 07-ZE-60 CPU Modules

ABB PROCONTIC T-200 PLCs with 07-ZE-61 CPU Modules

ABB PROCONTIC T-200 PLCs with 07-ZE-62 CPU Modules

ABB PROCONTIC T-200 PLCs with 07-KP-60 COMM Modules

ABB PROCONTIC T-200 PLCs with 07-BR-61 REMOTE Modules

ABB PROCONTIC T-200 PLCs with 07-ZB-69 LINK Modules

SPRECHER + SCHUE SESTEP Series 90

3. Command list

3.1. Read Multiple Analog Values

Description of this command:

Use this command to read a consecutive group of up to 120 analog values of a given type starting at a given initial PLC address.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-120

Meaning of the DriverP0 parameter:

Identifies the link loop (Lump):

- 1 = CPU link loop 1
- 2 = CPU link loop 2
- 255 = No link installed

Meaning of the DriverP1 parameter:

Identifies the unit number (IUmp):

- 0-99 = units from 0 to 99
- 255 = No link installed

Meaning of the DriverP2 parameter:

Identifies the module number (luMp):

- 0 = CPU
- 4 = BASIC
- 8 = CPU LINK
- 16 = REMOTE (parent)
- 24 = COMM
- 32 = GPIB

Meaning of the DriverP3 parameter:

Identifies the port number (lumP):

- 0 = CPU Sequencer
- 1 = Peripheral device port
- 0 = BASIC
- 0-9 = REMOTE child from 0 to 9
- 0 = COMM RS-232C
- 1 = COMM RS-422
- 0 = GPIB

Meaning of the DriverP4 parameter:

Indicates if prepare/release CPU messages must be used before and after each conversation:

- 0 = do not send prepare/release CPU messages
- 1 = send prepare CPU message before the conversation
- 2 = send prepare and release CPU messages before and after the conversation
- 3 = send release CPU message after the conversation

Meaning of the DriverP5 parameter:

64

Meaning of the DriverP6 parameter:

Identifies the data type:

- 5 = Timer Counters of type TC
- 8 = Analog Inputs of type WX
- 9 = Analog Outputs of type WY
- 10 = Analog Registers of type WR
- 11 = Analog Registers of type WL
- 12 = Analog Registers of type WM
- 13 = Analog Registers of type WTC

Meaning of the DriverP7 parameter:

Indicates the address of the first element in the group of analog values to be read. When an hexadecimal address is entered, add the 'h' character at the end of the number.

Meaning of the DriverP8 parameter:

Not used

Meaning of the DriverP9 parameter:

Not used

3.2. Read Multiple Digital Values

Description of this command:

Use this command to read a consecutive group of up to 240 digital values of a given type starting at a given initial PLC address.

Type of data handled by this command:

Digital Input

Number of points accepted by this command:

1-240

Meaning of the DriverP0 parameter:

Identifies the link loop (Lump):

- 1 = CPU link loop 1
- 2 = CPU link loop 2
- 255 = No link installed

Meaning of the DriverP1 parameter:

Identifies the unit number (IUmp):

- 0-99 = units from 0 to 99
- 255 = No link installed

Meaning of the DriverP2 parameter:

Identifies the module number (luMp):

- 0 = CPU
- 4 = BASIC
- 8 = CPU LINK
- 16 = REMOTE (parent)
- 24 = COMM
- 32 = GPIB

Meaning of the DriverP3 parameter:

Identifies the port number (lumP):

- 0 = CPU Sequencer
- 1 = Peripheral device port
- 0 = BASIC
- 0-9 = REMOTE child from 0 to 9
- 0 = COMM RS-232C
- 1 = COMM RS-422
- 0 = GPIB

Meaning of the DriverP4 parameter:

Indicates if prepare/release CPU messages must be used before and after each conversation:

- 0 = do not send prepare/release CPU messages
- 1 = send prepare CPU message before the conversation
- 2 = send prepare and release CPU messages before and after the conversation
- 3 = send release CPU message after the conversation

Meaning of the DriverP5 parameter:

64

Meaning of the DriverP6 parameter:

Identifies the data type:

- 0 = Digital Inputs of type X
- 1 = Digital Outputs of type Y
- 2 = Digital Status of type R
- 3 = Digital Status of type L
- 4 = Digital Status of type M

Meaning of the DriverP7 parameter:

Indicates the address of the first element in the group of binary values to be read. When an hexadecimal address is entered, add the 'h' character at the end of the number.

Meaning of the DriverP8 parameter:

Not used

Meaning of the DriverP9 parameter:

Not used

3.3. Read PLC Status Flags

Description of this command:

Use this command to read a consecutive group of up to 8 PLC status flags.

Type of data handled by this command:

Digital Input

Number of points accepted by this command:

1-8

Meaning of the DriverP0 parameter:

Identifies the link loop (Lump):

- 1 = CPU link loop 1
- 2 = CPU link loop 2
- 255 = No link installed

Meaning of the DriverP1 parameter:

Identifies the unit number (IUmp):

- 0-99 = units from 0 to 99
- 255 = No link installed

Meaning of the DriverP2 parameter:

Identifies the module number (luMp):

- 0 = CPU
- 4 = BASIC
- 8 = CPU LINK
- 16 = REMOTE (parent)
- 24 = COMM
- 32 = GPIB

Meaning of the DriverP3 parameter:

Identifies the port number (lumP):

- 0 = CPU Sequencer
- 1 = Peripheral device port
- 0 = BASIC
- 0-9 = REMOTE child from 0 to 9
- 0 = COMM RS-232C
- 1 = COMM RS-422
- 0 = GPIB

Meaning of the DriverP4 parameter:

Indicates if prepare/release CPU messages must be used before and after each conversation:

- 0 = do not send prepare/release CPU messages
- 1 = send prepare CPU message before the conversation
- 2 = send prepare and release CPU messages before and after the conversation
- 3 = send release CPU message after the conversation

Meaning of the DriverP5 parameter:

16 (or 116)

Values that are returned:

- Value in PointValue (0) = Run/Stop flag
- Value in PointValue (1) = Halt state flag
- Value in PointValue (2) = Simulation state flag
- Value in PointValue (3) = Error state flag
- Value in PointValue (4) = Forced state flag
- Value in PointValue (5) = Debug state flag
- Value in PointValue (6) = Reserved
- Value in PointValue (7) = Battery error flag

3.4. Write Single Analog Value

Description of this command:

Use this command to write a single analog value of a given type to a given PLC address.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the link loop (Lump):

- 1 = CPU link loop 1
- 2 = CPU link loop 2
- 255 = No link installed

Meaning of the DriverP1 parameter:

Identifies the unit number (IUmp):

- 0-99 = units from 0 to 99
- 255 = No link installed

Meaning of the DriverP2 parameter:

Identifies the module number (luMp):

- 0 = CPU
- 4 = BASIC

- 8 = CPU LINK
- 16 = REMOTE (parent)
- 24 = COMM
- 32 = GPIB

Meaning of the DriverP3 parameter:

Identifies the port number (lumP):

- 0 = CPU Sequencer
- 1 = Peripheral device port
- 0 = BASIC
- 0-9 = REMOTE child from 0 to 9
- 0 = COMM RS-232C
- 1 = COMM RS-422
- 0 = GPIB

Meaning of the DriverP4 parameter:

Indicates if prepare/release CPU messages must be used before and after each conversation:

- 0 = do not send prepare/release CPU messages
- 1 = send prepare CPU message before the conversation
- 2 = send prepare and release CPU messages before and after the conversation
- 3 = send release CPU message after the conversation

Meaning of the DriverP5 parameter:

69

Meaning of the DriverP6 parameter:

Identifies the data type:

- 5 = Timer Counters of type TC
- 9 = Analog Output of type WY
- 10 = Analog Register of type WR
- 11 = Analog Register of type WL
- 12 = Analog Register of type WM
- 13 = Analog Register of type WTC

Meaning of the DriverP7 parameter:

Indicates the address of the analog element to be written. When an hexadecimal address is entered, add the 'h' character at the end of the number.

Meaning of the DriverP8 parameter:

Not used

Meaning of the DriverP9 parameter:

Not used

Values that are sent:

Value in PointValue (0) = Value to be sent to the PLC

3.5. Write Multiple Analog Values

Description of this command:

Use this command to write a consecutive group of up to 100 analog values of a given type starting at a given initial PLC address.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-100

Meaning of the DriverP0 parameter:

Identifies the link loop (Lump):

- 1 = CPU link loop 1
- 2 = CPU link loop 2
- 255 = No link installed

Meaning of the DriverP1 parameter:

Identifies the unit number (IUmp):

- 0-99 = units from 0 to 99
- 255 = No link installed

Meaning of the DriverP2 parameter:

Identifies the module number (luMp):

- 0 = CPU
- 4 = BASIC
- 8 = CPU LINK
- 16 = REMOTE (parent)
- 24 = COMM
- 32 = GPIB

Meaning of the DriverP3 parameter:

Identifies the port number (lumP):

- 0 = CPU Sequencer
- 1 = Peripheral device port
- 0 = BASIC
- 0-9 = REMOTE child from 0 to 9
- 0 = COMM RS-232C
- 1 = COMM RS-422
- 0 = GPIB

Meaning of the DriverP4 parameter:

Indicates if prepare/release CPU messages must be used before and after each conversation:

- 0 = do not send prepare/release CPU messages
- 1 = send prepare CPU message before the conversation
- 2 = send prepare and release CPU messages before and after the conversation

- 3 = send release CPU message after the conversation

Meaning of the DriverP5 parameter:

66

Meaning of the DriverP6 parameter:

Identifies the data type:

- 5 = Timer Counters of type TC
- 9 = Analog Outputs of type WY
- 10 = Analog Registers of type WR
- 11 = Analog Registers of type WL
- 12 = Analog Registers of type WM
- 13 = Analog Registers of type WTC

Meaning of the DriverP7 parameter:

Indicates the address of the first element in the group of analog values to be written. When an hexadecimal address is entered, add the 'h' character at the end of the number.

Meaning of the DriverP8 parameter:

Not used

Meaning of the DriverP9 parameter:

Not used

Values that are sent:

Value in PointValue (0) = Value 0 to be sent to the PLC

Value in PointValue (1) = Value 1 to be sent to the PLC

Value in PointValue (2) = Value 2 to be sent to the PLC

...

Value in PointValue (n-1) = Value n-1 to be sent to the PLC

3.6. Write Single Digital Value

Description of this command:

Use this command to write a single digital value of a given type to a given PLC address.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the link loop (Lump):

- 1 = CPU link loop 1
- 2 = CPU link loop 2
- 255 = No link installed

Meaning of the DriverP1 parameter:

Identifies the unit number (IUmp):

- 0-99 = units from 0 to 99
- 255 = No link installed

Meaning of the DriverP2 parameter:

Identifies the module number (luMp):

- 0 = CPU
- 4 = BASIC
- 8 = CPU LINK
- 16 = REMOTE (parent)
- 24 = COMM
- 32 = GPIB

Meaning of the DriverP3 parameter:

Identifies the port number (lumP):

- 0 = CPU Sequencer
- 1 = Peripheral device port
- 0 = BASIC
- 0-9 = REMOTE child from 0 to 9
- 0 = COMM RS-232C
- 1 = COMM RS-422
- 0 = GPIB

Meaning of the DriverP4 parameter:

Indicates if prepare/release CPU messages must be used before and after each conversation:

- 0 = do not send prepare/release CPU messages
- 1 = send prepare CPU message before the conversation
- 2 = send prepare and release CPU messages before and after the conversation
- 3 = send release CPU message after the conversation

Meaning of the DriverP5 parameter:

69

Meaning of the DriverP6 parameter:

Identifies the data type:

- 1 = Digital Output of type Y
- 2 = Digital Status of type R
- 3 = Digital Status of type L
- 4 = Digital Status of type M

Meaning of the DriverP7 parameter:

Indicates the address of the binary element to be written. When an hexadecimal address is entered, add the 'h' character at the end of the number.

Meaning of the DriverP8 parameter:

Not used

Meaning of the DriverP9 parameter:

Not used

Values that are sent:

Value in PointValue (0) = Value to be sent to the PLC

3.7. Write Multiple Digital Values

Description of this command:

Use this command to write a consecutive group of up to 200 digital values of a given type starting at a given initial PLC address.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1-200

Meaning of the DriverP0 parameter:

Identifies the link loop (Lump):

- 1 = CPU link loop 1
- 2 = CPU link loop 2
- 255 = No link installed

Meaning of the DriverP1 parameter:

Identifies the unit number (IUmp):

- 0-99 = units from 0 to 99
- 255 = No link installed

Meaning of the DriverP2 parameter:

Identifies the module number (luMp):

- 0 = CPU
- 4 = BASIC
- 8 = CPU LINK
- 16 = REMOTE (parent)
- 24 = COMM
- 32 = GPIB

Meaning of the DriverP3 parameter:

Identifies the port number (lumP):

- 0 = CPU Sequencer
- 1 = Peripheral device port
- 0 = BASIC
- 0-9 = REMOTE child from 0 to 9
- 0 = COMM RS-232C
- 1 = COMM RS-422

- 0 = GPIB

Meaning of the DriverP4 parameter:

Indicates if prepare/release CPU messages must be used before and after each conversation:

- 0 = do not send prepare/release CPU messages
- 1 = send prepare CPU message before the conversation
- 2 = send prepare and release CPU messages before and after the conversation
- 3 = send release CPU message after the conversation

Meaning of the DriverP5 parameter:

66

Meaning of the DriverP6 parameter:

Identifies the data type:

- 1 = Digital Outputs of type Y
- 2 = Digital Status of type R
- 3 = Digital Status of type L
- 4 = Digital Status of type M

Meaning of the DriverP7 parameter:

Indicates the address of the first element in the group of binary values to be written. When an hexadecimal address is entered, add the 'h' character at the end of the number.

Meaning of the DriverP8 parameter:

Not used

Meaning of the DriverP9 parameter:

Not used

Values that are sent:

Value in PointValue (0) = Value 0 to be sent to the PLC

Value in PointValue (1) = Value 1 to be sent to the PLC

Value in PointValue (2) = Value 2 to be sent to the PLC

...

Value in PointValue (n-1) = Value n-1 to be sent to the PLC

3.8. Send Prepare CPU Command to PLC

Description of this command:

Use this command to send a prepare CPU command to the PLC to capture the CPU's attention.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1-256

Meaning of the DriverP0 parameter:

Identifies the link loop (Lump):

- 1 = CPU link loop 1
- 2 = CPU link loop 2
- 255 = No link installed

Meaning of the DriverP1 parameter:

Identifies the unit number (IUmp):

- 0-99 = units from 0 to 99
- 255 = No link installed

Meaning of the DriverP2 parameter:

Identifies the module number (luMp):

- 0 = CPU
- 4 = BASIC
- 8 = CPU LINK
- 16 = REMOTE (parent)
- 24 = COMM
- 32 = GPIB

Meaning of the DriverP3 parameter:

Identifies the port number (lumP):

- 0 = CPU Sequencer
- 1 = Peripheral device port
- 0 = BASIC
- 0-9 = REMOTE child from 0 to 9
- 0 = COMM RS-232C
- 1 = COMM RS-422
- 0 = GPIB

Meaning of the DriverP4 parameter:

0

Meaning of the DriverP5 parameter:

10

Values that are sent:

Value in PointValue (0) = Ignored

3.9. Send Release CPU Command to PLC

Description of this command:

Use this command to send an release command to the PLC so the CPU can be used by other stations.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1-256

Meaning of the DriverP0 parameter:

Identifies the link loop (Lump):

- 1 = CPU link loop 1
- 2 = CPU link loop 2
- 255 = No link installed

Meaning of the DriverP1 parameter:

Identifies the unit number (IUmp):

- 0-99 = units from 0 to 99
- 255 = No link installed

Meaning of the DriverP2 parameter:

Identifies the module number (luMp):

- 0 = CPU
- 4 = BASIC
- 8 = CPU LINK
- 16 = REMOTE (parent)
- 24 = COMM
- 32 = GPIB

Meaning of the DriverP3 parameter:

Identifies the port number (lumP):

- 0 = CPU Sequencer
- 1 = Peripheral device port
- 0 = BASIC
- 0-9 = REMOTE child from 0 to 9
- 0 = COMM RS-232C
- 1 = COMM RS-422
- 0 = GPIB

Meaning of the DriverP4 parameter:

0

Meaning of the DriverP5 parameter:

11

Values that are sent:

Value in PointValue (0) = Ignored

3.10. Send Run/Stop Command to PLC

Description of this command:

Use this command to set the PLC into RUN or STOP mode.

If you get a 'PLC:Operation error' error message:

- 1) While trying to Stop the CPU, could mean that:
 - a) Key switch is not in the REMOTE position
 - b) Remote stop is not enabled
- 2) While trying to Run the CPU, could mean that:
 - a) Key switch is not in the REMOTE position
 - b) The CPU is in error state
 - c) The CPU is in debug state
 - d) The CPU is write occupied by other station
 - e) Remote run is not enabled
 - f) The user set operation conditions have not been met

If you get a 'PLC:Combination error' error message:

- 1) While trying to Stop the CPU, this message is never returned.
- 2) While trying to Run the CPU, could mean that run/stop command has already been executed and the CPU is in run/stop mode.

RUN/STOP OPERATION CONDITIONS:

The CPU can run when the following conditions are met:

- 1) The CPU to be run has not been occupied (write occupation) by another stations.
- 2) The CPU status is neither debug nor error.
- 3) The special internal output R7C3 is ON.
- 4) The special internal output R7E9 is OFF.
- 5) In case the operation control input contact is specified by the parameter, the specified input contact is ON.
- 6) The RUN/STOP/REMOTE switch is set to the REMOTE position.

The CPU can stop when the following conditions are met:

- 1) The special internal output R7C4 is ON.
- 2) The RUN/STOP/REMOTE switch is set to the REMOTE position.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1-256

Meaning of the DriverP0 parameter:

Identifies the link loop (Lump):

- 1 = CPU link loop 1
- 2 = CPU link loop 2
- 255 = No link installed

Meaning of the DriverP1 parameter:

Identifies the unit number (IUmp):

- 0-99 = units from 0 to 99
- 255 = No link installed

Meaning of the DriverP2 parameter:

Identifies the module number (luMp):

- 0 = CPU
- 4 = BASIC
- 8 = CPU LINK
- 16 = REMOTE (parent)
- 24 = COMM
- 32 = GPIB

Meaning of the DriverP3 parameter:

Identifies the port number (lumP):

- 0 = CPU Sequencer
- 1 = Peripheral device port
- 0 = BASIC
- 0-9 = REMOTE child from 0 to 9
- 0 = COMM RS-232C
- 1 = COMM RS-422
- 0 = GPIB

Meaning of the DriverP4 parameter:

Indicates if prepare/release CPU messages must be used before and after each conversation:

- 0 = do not send prepare/release CPU messages
- 1 = send prepare CPU message before the conversation
- 2 = send prepare and release CPU messages before and after the conversation
- 3 = send release CPU message after the conversation

Meaning of the DriverP5 parameter:

17

Values that are sent:

Value in PointValue (0) = 0 for STOP, 1 for RUN

4. Appendices

4.1. Error messages

The following list shows all the possible error messages that can be returned by the protocol driver during a failed communication in the 'DriverStatus' property.

This list does not include some error messages that can be returned by the activex component while attempting to establish a connection.

- [1005] DRIVER (Internal): Invalid driver stage
- [1300] PROTOCOL (Timeout): No answer
- [3037] CONFIG (P0): Invalid loop number (1-2 or 255)
- [3580] CONFIG (P1): Invalid unit number (0-99 or 255)
- [4075] CONFIG (P2): Invalid module number (0,4,8,16,24,32)
- [4556] CONFIG (P3): Invalid port number (0-9)
- [5040] CONFIG (P4): Invalid prepare-release mode (0-3)
- [5500] CONFIG (P5): Invalid command (10, 11, 17, 66 and 69 only)
- [5501] CONFIG (P5): Invalid command (16 and 64 only)
- [8003] CONFIG (Remote): Abort error returned by PLC
- [8028] CONFIG (Remote): ASCII Error returned by PLC
- [8051] CONFIG (Remote): Combination error
- [8077] CONFIG (Remote): CPU is not occupied by own station
- [8078] CONFIG (Remote): CPU is read occupied by other stations
- [8079] CONFIG (Remote): CPU is write occupied by other station
- [8110] CONFIG (Remote): Dummy error returned by PLC
- [8119] CONFIG (Remote): Error executing command
- [8124] CONFIG (Remote): Error in response CRC
- [8151] CONFIG (Remote): Framing error
- [8161] CONFIG (Remote): I/O number out of prescribed range
- [8241] CONFIG (Remote): Number of points exceeds the prescribed range
- [8247] CONFIG (Remote): Operation error
- [8256] CONFIG (Remote): Overrun error
- [8257] CONFIG (Remote): Own station is write occupying the CPU
- [8259] CONFIG (Remote): Parity error
- [8284] CONFIG (Remote): Protocol error
- [8287] CONFIG (Remote): Receive buffer error
- [8293] CONFIG (Remote): Receive time-Out error
- [8311] CONFIG (Remote): Returned error code %Xh
- [8327] CONFIG (Remote): Sum error
- [8344] CONFIG (Remote): Undefined I/O type code is requested or requested I/O type cannot be monitored
- [8345] CONFIG (Remote): Undefined I/O type code or forced set/reset impossible

4.2. Keywords list

The following list shows a set of words directly related to this driver.

"07BR-61, 07KP-60, 07ZB-69, 07ZE-60, 07ZE-61, 07ZE-62, ABB, CPU, H-Series, HITACHI, LINK, Micro-EH, Modules, PLC, PLCs, PROCONTIC, REMOTE, SCHUE, Serie, Series, SESTEP, SPRECHER, T200".