

XABH Driver Manual

Allen Bradley Half Duplex Protocol Driver

**Rockwell
Automation**
 Allen-Bradley

PLC-5



CPKSoft Engineering Process Monitoring and Industrial Automation Software

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Index

1.	Introduction	4
2.	Driver details	5
2.1.	Driver overview.....	5
2.2.	Supported devices.....	11
3.	Command list	12
3.1.	PLC-5 Commands	12
3.1.1.	Generic Read using Text Notation.....	12
3.1.2.	Generic Write using Text Notation.....	12
3.1.3.	Read Outputs (O).....	13
3.1.4.	Read Inputs (I).....	14
3.1.5.	Read Status Data (S).....	15
3.1.6.	Read Binary Data (B).....	15
3.1.7.	Read Timers (T).....	16
3.1.8.	Read Counters (C).....	17
3.1.9.	Read Control Data (R).....	18
3.1.10.	Read Integers (N).....	19
3.1.11.	Read Floats (F).....	20
3.1.12.	Write Individual Bit.....	21
3.1.13.	Write Outputs (O).....	22
3.1.14.	Write Status Data (S).....	22
3.1.15.	Write Binary Data (B).....	23
3.1.16.	Write Timers (T).....	24
3.1.17.	Write Counters (C).....	25
3.1.18.	Write Control Data (R).....	26
3.1.19.	Write Integers (N).....	26
3.1.20.	Write Floats (F).....	27
3.1.21.	Generic Read (O/I/S/B/T/C/R/N/F).....	28
3.1.22.	Generic Write (O/I/S/B/T/C/R/N/F).....	30
3.1.23.	Set Processor Mode.....	31
3.1.24.	Unprotected Read.....	32
3.1.25.	Protected Write.....	33
3.1.26.	Unprotected Write.....	34
3.1.27.	Protected Bit Write.....	34
3.1.28.	Unprotected Bit Write.....	35
3.2.	SLC-500 Commands	36
3.2.1.	Generic Read using Text Notation.....	36
3.2.2.	Generic Write using Text Notation.....	37
3.2.3.	Read Outputs (O).....	38
3.2.4.	Read Inputs (I).....	38
3.2.5.	Read Status Data (S).....	39
3.2.6.	Read Binary Data (B).....	40
3.2.7.	Read Timers (T).....	41
3.2.8.	Read Counters (C).....	42
3.2.9.	Read Control Data (R).....	42
3.2.10.	Read Integers (N).....	43
3.2.11.	Read Floats (F).....	44
3.2.12.	Write Individual Bit.....	45
3.2.13.	Write Outputs (O).....	46
3.2.14.	Write Status Data (S).....	47
3.2.15.	Write Binary Data (B).....	48

3.2.16.	Write Timers (T).....	48
3.2.17.	Write Counters (C).....	49
3.2.18.	Write Control Data (R)	50
3.2.19.	Write Integers (N).....	51
3.2.20.	Write Floats (F).....	52
3.2.21.	Generic Read (O/I/S/B/T/C/R/N/F)	53
3.2.22.	Generic Write (O/I/S/B/T/C/R/N/F)	54
3.3.	PLC-4 Commands	56
3.3.1.	Unprotected Read	56
3.3.2.	Protected Write	57
3.3.3.	Unprotected Write	57
3.3.4.	Protected Bit Write	58
3.3.5.	Unprotected Bit Write.....	59
3.4.	PLC-3 Commands	60
3.4.1.	Unprotected Read	60
3.4.2.	Protected Write	61
3.4.3.	Unprotected Write	61
3.4.4.	Protected Bit Write	62
3.4.5.	Unprotected Bit Write.....	63
3.5.	PLC-2 and 1774-PLC Commands	64
3.5.1.	Unprotected Read	64
3.5.2.	Protected Write	65
3.5.3.	Unprotected Write	65
3.5.4.	Protected Bit Write	66
3.5.5.	Unprotected Bit Write.....	67
4.	Appendices	69
4.1.	Error messages	69
4.2.	Keywords list.....	70

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 xabh.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 xabh.tlk driver is available in plain-C language for additional USD 299 if you own a license of TAS-HMITalk 8.04 or higher.

Refer to the following link to visit the xabh driver page at CPKSoft Engineering website: <http://www.cpksoft.com/tabid/55/ProductID/6/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

XABH allows you to use half-duplex protocol (System Master) to communicate with ALLEN-BRADLEY PLC-5, SLC-500, PLC-4, PLC-3, PLC-2 and 1774-PLC using any of the following adapters connected to the

RS-232 port of the PC:

- Channel 0 located in the processor
- 1747-KE (DH-485)
- 1785-KE (Data Highway Plus)
- 1770-KF2 (Data Highway Plus)
- 1770-KF3 (DH-485)
- 1771-KE/KF (Data Highway)
- 1770-KF2 (Data Highway)

No additional boards are required in the PC bus.

This driver does not manage the communication between PLCs in the network. It is only intended to give a mechanism to exchange information between the supervisory PC and selected PLCs in the network.

To minimize the number of messages required to poll all the required information, it is a good idea to concentrate all data to be transmitted in groups of consecutive integers within the PLC memory. Up to 16 ON/OFF status, 1 16-bit value, 2 8-bit values or even floating-point values (scaled to a range of 0 to 65535) can be encoded in each integer value sent.

<SLC-500 Items Naming - Text Notation>

SLC-500 Items Naming:

This convention for accessing to the SLC-500 controllers' data

is used by the following SLC-500 commands:

- Generic Read using Text Notation.
- Generic Write using Text Notation.

The general format of item names for data from SLC-500 controllers matches the naming convention used by the programming software. The format is shown below. (The parts of the name shown in square brackets ([]) are optional.)

X [FILE] : ELEMENT [.FIELD] [/BIT]

X:

Identifies the file type. The list below summarizes the valid file types and the default file number for each type:

X	File Type	Default File O	*Output	0 I	*Input	1 S	Status
2 B	Binary	3 T	Timer	4 C	Counter	5 R	Control
Integer	7 F	**Floating P.	8				

* Output and Input file types may be Read Only depending on the SLC-500 model. ** Available only on certain SLC500 models. Check the Processor Manual for the model being used. If the Floating Point file type is not supported, file 8 is reserved and unusable.

FILE:

File number must be 0-255 decimal. File 0 must be Output, file 1 must be Input, file 2 must be Status and so on for all the default file types. If this number is not specified, the default file number will be used.

ELEMENT:

Element number within the file. For Input and Output files it must be between 0 and 30 decimal. All other file types, it must be between 0 and 255 decimal.

FIELD:

Refers to the subelement number. If the file type is Timer, Counter or Control, then the subelement field must be replaced by its corresponding number. In some cases there is no reference needed for a subelement number, and if a subelement is included in the command, it will be ignored.

BIT:

Valid for all file types except Floating Point. Must be 0-15 decimal.

DESCRIPTION OF THE AVAILABLE FILE ITEMS:

OUTPUT FILE ITEMS:

O[n]:e.s[/b]

- "n" represents the file number and is optional. If not specified, it is assumed to be zero.
- "e" indicates the element number in the file.
- "s" indicates the sub-element number (0 - 255).
- "b" specifies the bit (0 - 15 decimal.) "/b" may be omitted if necessary to treat the I/O group as a numeric value.

Examples:

- O0:0/0
- O:2/15
- O:3

INPUT FILE ITEMS:

I[n]:e.s[/b]

- "n" represents the file number and is optional. If not specified, it is assumed to be one.
- "e" indicates the element number in the file.
- "s" indicates the sub-element number (0 - 255).
- "b" specifies the bit (0 - 15 decimal.) "/b" may be omitted if necessary to treat the I/O group as a numeric value.

Examples:

- I1:0/0
- I:2/15
- I:3

ADDRESSING I/O MODULES:

The elements (words) in I/O modules are mapped into a memory table. If the Analog I/O modules are being used, then the point naming will differ from the point naming in the

programming software. The Item Name must be computed from the sum total of words used by the previous input or output blocks regardless their relative position in the module rack. The operator can use the programming software Data Monitor to look at the memory map of the I file or O file to verify your address. If the address is unsure, or if the PLC configuration is likely to change, copy the points in question to the N table or B table and access the data from there.

LABEL I/O MODULES WITH "WORD COUNTS":

The address of any point within the I/O datatable space, in an SLC processor, is the sum of the words occupied by previous modules (to the left in the rack) of the same type.

Therefore, to determine the correct address for any particular point in the I/O datatable, one must know the number of words each module will consume. Refer to the list below:

N. of Words	Module	
0	1747-L524	SLC 5/02 Module Processor
1	1746-IA8	8 point 120VAC input module
1	1746-OA16	16 Point 120VAC output module
1	1746-IA16	16 point 120VAC input module
4	1746-NI4	4 point 20mA analog input module
4	1746-NO4I	4 point 20mA analog output module
1	1746-OA8	8 point 120VAC input module
2	1746-IB32	32 point DC input module

Important note:

In the table above, the minimum amount of words which can be consumed by a module is 1 (16 bits). This is due to the memory scheme of all Allen-Bradley processors.

STATUS FILE ITEMS:

S[n]:e[b]

- "n" represents the file number and is optional. If not specified, it is assumed to be two.
- "e" indicates the element number in the file (0 - 255 decimal).
- "b" is optional. If specified, it indicates the bit (0 - 15 decimal).

Important note:

Refer to the SLC-500 Family Processor Manual (Allen-Bradley Publication) for a complete description of Status file information.

Examples:

- S2:6 (major error fault)
- S2:13 (math register)
- S:1/5 (forces enabled)

BINARY FILE ITEMS:

B[n]:e/b or B[n]/m

- "n" represents the file number and is optional. If not specified, it is assumed to be three. If specified, the file number must be between 9 and 255 decimal.
- "e" specifies the element (word) number within the Binary file. It must be between 0 and 255 decimal.
- "b" specifies the bit number within the word. In the first form (where ":e" is present,) the bit number must be between 0 and 15 decimal.

- "m" also represents the bit number. However, in the second form, no word number is specified and the bit number may be between 0 and 4095.

Examples:

- B3/4095 (same bit as B:255/15)
- B:6/4 (same bit as B/100)
- B3

TIMER FILE ITEMS:

T[n]:e[f][/b]

- "n" represents the file number and is optional. If not specified, it is assumed to be four. If specified, the file number must be between 9 and 255 decimal.
- "e" specifies the element number (three words per element) within the Timer file. It must be between 0 and 255 decimal.
- "f" identifies one of the valid Timer fields. The valid fields for Timer Files are listed in the table below (use the numeric order as reference). If "f" is omitted, it is assumed to be the word 0.
- "b" is optional and is normally not used. All of the fields of a timer can be accessed by specifying the ".f" fields. However, it is possible to use "/b" to single out a bit in the .PRE or .ACC fields (which are words).

Order number Timer Fields

0	.PRE
1	.ACC
2	.EN
3	.TT
4	.DN

Examples:

- T4:0.1 (means: .ACC)
- T4:3.4 (means: .DN)
- T4:1.0 (means: .PRE)

COUNTER FILE ITEMS:

C[n]:e[f][/b]

- "n" represents the file number and is optional. If not specified, it is assumed to be five. If specified, the file number must be between 9 and 255 decimal.
- "e" specifies the element number (three words per element) within the Counter file. It must be between 0 and 255 decimal.
- "f" identifies one of the valid Counter fields. The valid fields for the Counter Files are listed in the table below (use the numeric order as reference). If "f" is omitted, it is assumed to be the word 0.
- "b" is optional and is normally not used. All of the fields of a counter can be accessed by specifying the ".f" fields. However, it is possible to use "/b" to single out a bit in the .PRE or .ACC fields (which are words).

Order number Counter Fields

0	.PRE
1	.ACC

2	.CU
3	.CD
4	.DN
5	.OV
6	.UN
7	.UA

Examples:

- C5:0.1 (means: .ACC)
- C5:3.5 (means: .OV)
- C5:1.0 (means: .PRE)

CONTROL FILE ITEMS:

R[n]:e[f][/b]

- "n" represents the file number and is optional. If not specified, it is assumed to be six. If specified, the file number must be between 9 and 255 decimal.
- "e" specifies the element number (three words per element) within the Control file. It must be between 0 and 255 decimal.
- "f" identifies one of the valid Control fields. The valid fields for the Control files are listed in the table below (use the numeric order as reference). If "f" is omitted, it is assumed to be the word 0.
- "b" is optional and is normally not used. All of the fields of a Control file can be accessed by specifying the ".f" fields. However, it is possible to use "/b" to single out a bit in the .LEN or .POS fields (which are words).

Order number Control Fields

0	.LEN
1	.POS
2	.EN
3	.DN
4	.ER
5	.UL
6	.IN
7	.FD

Examples:

- R6:0.0 (means: .LEN)
- R6:3.2 (means: .EN)
- R6:1.1 (means: .POS)

INTEGER FILE ITEMS:

N[n]:e[/b]

- "n" represents the file number and is optional. If not specified, it is assumed to be seven. If specified, the file number must be between 9 and 255 decimal.
- "e" specifies the element number within the Integer file. It must be between 0 and 255 decimal.
- "b" is optional. If specified, it indicates the bit (0 - 15 decimal).

Examples:

- N7:0
- N7:0/15
- N7:3

FLOATING POINT FILE ITEMS:

F[n]:e

- "n" represents the file number (optional). If not specified, it is assumed to be eight. If specified, the file number must be between 9 and 255 decimal.
- "e" specifies the element number within the Floating Point file. It must be between 0 and 255 decimal.

Examples:

- F8:0
- F8:2

<If you are using 1747-KE with SLC-500>

IMPORTANT NOTES:

----- Remember to configure the 1747-KE to use the following settings:

- Use the DF1 HALF DUPLEX Protocol
- Use the checksum mode (BCC or CRC) as stated in P5 parameter.
- Use the baud-rate, parity, stop bits and data bits that are currently used in the driver settings.

You should verify these settings by connecting your PC to the 1747-KE CONFIG port using an ASCII terminal (i.e. PROCOMM or XTALK) and then follow the steps described in the 1747-KE User Manual.

Be careful to include the 1747-KE node address as the source node in your HMITalk1.DriverP0 parameter if it is other than 0.

<If you are using PLC-5>

IMPORTANT NOTES:

----- To be able to communicate with your PLC-5, a procedure must be loaded in the processors memory or you will get errors. If the red led labeled "PROC" in the processor's front-panel is active, it means that no program is loaded and the communication will not work.

To load a PLC program, follow this steps with the PLC-5 Programming

Software from Allen Bradley supplied with your PLC device:

From the main menu:

- Enter the 'Who' option (F5)
- Enter the 'Who Active' sub-option (F5)
- Select your station and enter 'Online Program' (F1)
- If you get an error such as 'PROCESSOR RAM IS FAULTED' (due to a battery problem, for example), press <ENTER> to clear memory.
- Select the 'Restore Program' option (F6)
- With the arrow keys, select the program to load.
- Select 'Begin Restore' when you are done (F1)
- Wait for a 'PRESS ANY KEY TO CONTINUE MESSAGE' and press any key.
- Now the program should be loaded and the communications working properly.

- Be sure to turn the key in your PLC to the RUN position to activate your program.
- If you want to edit the program loaded, you may enter the 'Monitor File' menu option (F8)
- Use 'Return to Menu' to go back to the main menu (F3)

Another cause of communication problems could be a mismatch in the communication parameters used by this driver and the PLC processor. Check what settings the driver is using entering the Driver Setup option in the TAS-HMITalk menu.

To change the communication settings in the PLC side (baud-rate, parity, etc), follow this steps:

From the main menu:

- Enter 'Online Program' menu option (F1)
- Enter 'Monitor File' sub-option (F8)
- Enter 'General Utility' sub-option (F7)
- Enter 'Channel Overview' sub-option (F4)
- If you get a 'NO ACCESS OR PRIVILEGE VIOLATION' message, be sure your PLC key is not in PROG position.
- You will get a screen with some information to change, like Channel 0 active protocol (System Slave mode should be active when using this driver)
- Enter the 'Channel Config' sub-option (F5)
- You will get a screen with the current communication options. Move around using the arrow keys until you select the option you want to change.
- Press 'Select Option' to explore the available options (F10)
- Finally press 'Accept Edits' to efectivize your changes.
- Don't forget to turn the key to its original position again (either RUN or REM)

2.2. Supported devices

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

ALLEN BRADLEY PLC-5 using Half Duplex Protocol
ALLEN BRADLEY PLC-4 using Half Duplex Protocol
ALLEN BRADLEY PLC-3 using Half Duplex Protocol
ALLEN BRADLEY PLC-2 using Half Duplex Protocol
ALLEN BRADLEY SLC-500 using Half Duplex Protocol
ALLEN BRADLEY 1774-PLC using Half Duplex Protocol

3. Command list

3.1. PLC-5 Commands

3.1.1. Generic Read using Text Notation

Description of this command:

Reads information in any area of the PLC data table memory, indicating the address as text instead of as a set of separated parameters. This command uses ASCII addressing.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

Analog Input:1-122/Digital Input:1-250

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

9

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

Meaning of the DriverP6 parameter:

Indicates the address information (ASCII Symbol) of the first element to be read. Example: N7:30

3.1.2. Generic Write using Text Notation

Description of this command:

Writes information to any area of the PLC data table memory, indicating the address as text instead of as a set of separated parameters. This command uses ASCII addressing.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

Analog Output:1-114/Digital Output:1-250

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

9

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

Meaning of the DriverP6 parameter:

Indicates the address information (ASCII Symbol) of the first element to be read. Example: N7:30

3.1.3. Read Outputs (O)

Description of this command:

Reads outputs (O) information. This command uses logical binary addressing.

Type of data handled by this command:

Digital Input

Number of points accepted by this command:

1-250

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

0

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.4. Read Inputs (I)**Description of this command:**

Reads inputs (I) information. This command uses logical binary addressing.

Type of data handled by this command:

Digital Input

Number of points accepted by this command:

1-250

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

1

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.5. Read Status Data (S)**Description of this command:**

Reads status (S) information. This command uses logical binary addressing.

Type of data handled by this command:

Digital Input

Number of points accepted by this command:

1-250

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

2

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.6. Read Binary Data (B)**Description of this command:**

Reads binary (B) information. This command uses logical binary addressing.

Type of data handled by this command:

Digital Input

Number of points accepted by this command:

1-250

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

3

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.7. Read Timers (T)

Description of this command:

Reads current values of timers (T). This command uses logical binary addressing.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-122

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

4

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Preset

2 = Accumulated

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.8. Read Counters (C)

Description of this command:

Reads current values of counters (C). This command uses logical binary addressing.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-122

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

5

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Preset

2 = Accumulated

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.9. Read Control Data (R)**Description of this command:**

Reads control (R) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-122

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

*Example:***Meaning of the DriverP0 parameter:**

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

6

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Length

2 = Position

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.10. Read Integers (N)**Description of this command:**

Reads integers (N) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-122

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

7

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.11. Read Floats (F)

Description of this command:

Reads floats (F) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-61

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

8

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number. For PD:

0 = Control

1 = Control

2 = SP

4 = Kp

6 = Ki

8 = Kd

26 = PV For MG:

0 = Control

1 = Error

2 = RLEN

3 = DLEN For BT:

- 0 = Control
- 1 = RLEN
- 2 = DLEN
- 3 = Data file #
- 4 = Element #
- 5 = Rack/grp/slot

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.12. Write Individual Bit**Description of this command:**

Use this command to set or reset a specified bit in a specified word of data table memory. The value to be written will be taken from the current value of the first channel of the record used for this purpose. This command uses logical binary addressing.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

11

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the bit index within the word (0-15).

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.13. Write Outputs (O)

Description of this command:

Writes outputs (O). This command uses logical binary addressing.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1-250

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

0

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.14. Write Status Data (S)

Description of this command:

Writes status (S) information. This command uses logical binary addressing.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1-250

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

2

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.15. Write Binary Data (B)**Description of this command:**

Writes binary (B) information. This command uses logical binary addressing.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1-250

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

3

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.16. Write Timers (T)**Description of this command:**

Writes current values of timers (T). This command uses logical binary addressing.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-114

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

4

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Preset

2 = Accumulated

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.17. Write Counters (C)**Description of this command:**

Writes current values of counters (C). This command uses logical binary addressing.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-114

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

5

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Preset

2 = Accumulated

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.18. Write Control Data (R)**Description of this command:**

Writes control (R) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-114

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

6

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Length

2 = Position

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.19. Write Integers (N)**Description of this command:**

Writes integers (N) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-114

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

7

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.20. Write Floats (F)

Description of this command:

Writes floats (F) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-57

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

8

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number. For PD:

0 = Control

1 = Control

2 = SP

4 = Kp

6 = Ki

8 = Kd

26 = PV For MG:

0 = Control

1 = Error

2 = RLEN

3 = DLEN For BT:

0 = Control

1 = RLEN

2 = DLEN

3 = Data file #

4 = Element #

5 = Rack/grp/slot

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.21. Generic Read (O/I/S/B/T/C/R/N/F)**Description of this command:**

Reads information in any area of the PLC data table memory. Previous read commands are just particular configurations of this command. This command uses logical binary addressing.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

Analog Input:1-122/Digital Input:1-250

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

Identifies the file type.

- 0 = Outputs (O).
- 1 = Inputs (I).
- 2 = Status (S).
- 3 = Binary (B).
- 4 = Timer (T).
- 5 = Counter (C).
- 6 = Control (R).
- 7 = Integer (N).
- 8 = Float (F).

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number. To Ignore it: -1 For Timer/Counter:

- 0 = Control
- 1 = Preset
- 2 = Accumulated For Control:
- 0 = Control
- 1 = Length
- 2 = Position For PD:
- 0 = Control
- 1 = Control
- 2 = SP
- 4 = Kp
- 6 = Ki
- 8 = Kd

- 26 = PV For MG:
- 0 = Control
- 1 = Error
- 2 = RLEN
- 3 = DLEN For BT:
- 0 = Control
- 1 = RLEN
- 2 = DLEN
- 3 = Data file #
- 4 = Element #
- 5 = Rack/grp/slot For any other type, HMITalk1.DriverP4 = Not used.

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.22. Generic Write (O//S/B/T/C/R/N/F)

Description of this command:

Writes information to any area of the PLC data table memory. Previous write commands are just particular configurations of this command. This command uses logical binary addressing.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

Analog Output:1-114/Digital Output:1-250

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

Identifies the file type.

- 0 = Outputs (O).
- 1 = Inputs (I).
- 2 = Status (S).
- 3 = Binary (B).
- 4 = Timer (T).
- 5 = Counter (C).

- 6 = Control (R).
- 7 = Integer (N).
- 8 = Float (F).

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number. To Ignore it: -1 For Timer/Counter:

- 0 = Control
- 1 = Preset
- 2 = Accumulated For Control:
- 0 = Control
- 1 = Length
- 2 = Position For PD:
- 0 = Control
- 1 = Control
- 2 = SP
- 4 = Kp
- 6 = Ki
- 8 = Kd
- 26 = PV For MG:
- 0 = Control
- 1 = Error
- 2 = RLEN
- 3 = DLEN For BT:
- 0 = Control
- 1 = RLEN
- 2 = DLEN
- 3 = Data file #
- 4 = Element #
- 5 = Rack/grp/slot For any other type, sSerial1.DriverP4 = Not used.

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.23. Set Processor Mode

Description of this command:

Use this command to set the operating mode of the processor for the next I/O scan.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

12

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

Values that are sent:

Value in PointValue (0) = 0 means Program/Load Mode (processor idle, I/O disabled)

Value in PointValue (0) = 1 means Remote Test Mode (processor scanning, I/O disabled)

Value in PointValue (0) = 2 means Remote Run Mode (processor scanning, I/O enabled)

Value in PointValue (0) = 3 means No Change (only remote bit affected)

3.1.24. Unprotected Read

Description of this command:

Reads words of data from any area of the PLC data table memory.

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 destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.25. Protected Write**Description of this command:**

Writes words of data into limited areas of the PLC data table memory. Its access is limited by memory access ranges in the communication zone of the PLC's ladder diagram program.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-120

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

*Example:***Meaning of the DriverP0 parameter:**

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

0

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.26. Unprotected Write

Description of this command:

Writes words of data to any area of the PLC data table memory.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-120

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.27. Protected Bit Write

Description of this command:

This command sets or reset individual bits within limited areas of the PLC data table memory. Its access is limited by memory access ranges in the communication zone of the PLC's ladder diagram program.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of byte containing the bit in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

0

Meaning of the DriverP4 parameter:

Defines the bit index within the word (0-7).

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.1.28. Unprotected Bit Write**Description of this command:**

This command sets or reset individual bits within any area of the PLC data table memory.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of byte containing the bit in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP4 parameter:

Defines the bit index within the word (0-7).

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

[SLC-500 Commands]

3.2. SLC-500 Commands

3.2.1. Generic Read using Text Notation

Description of this command:

Reads information in any area of the PLC data table memory, indicating the address as text instead of as a set of separated parameters. This command uses ASCII addressing. See the "SLC-500 Items Naming - Text Notation" link in this help's main page.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

Analog Input:1-30/Digital Input:1-240

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

109

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

Meaning of the DriverP6 parameter:Indicates the address information (ASCII Symbol) of the first element to be read. Example:
N7:30

3.2.2. Generic Write using Text Notation

Description of this command:

Writes information to any area of the PLC data table memory, indicating the address as text instead of as a set of separated parameters. This command uses ASCII addressing. See the "SLC-500 Items Naming - Text Notation" link in this help's main page.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

Analog Output:1-30/Digital Output:1-240

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

*Example:***Meaning of the DriverP0 parameter:**

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

109

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

Meaning of the DriverP6 parameter:Indicates the address information (ASCII Symbol) of the first element to be read. Example:
N7:30

3.2.3. Read Outputs (O)

Description of this command:*(This command may not be supported)

Reads outputs (O) information. This command uses logical binary addressing.

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 destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

100

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.4. Read Inputs (I)

Description of this command:*(This command may not be supported)

Reads inputs (I) information. This command uses logical binary addressing.

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 destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

101

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.5. Read Status Data (S)**Description of this command:*(This command may not be supported)**

Reads status (S) information. This command uses logical binary addressing.

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 destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

102

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.6. Read Binary Data (B)**Description of this command:**

Reads binary (B) information. This command uses logical binary addressing.

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 destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

103

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.7. Read Timers (T)**Description of this command:**

Reads current values of timers (T). This command uses logical binary addressing.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-30

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

104

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Preset

2 = Accumulated

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.8. Read Counters (C)

Description of this command:

Reads current values of counters (C). This command uses logical binary addressing.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-30

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

105

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Preset

2 = Accumulated

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.9. Read Control Data (R)

Description of this command:

Reads control (R) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-30

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

106

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Length

2 = Position

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.10. Read Integers (N)

Description of this command:

Reads integers (N) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-30

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

107

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.11. Read Floats (F)

Description of this command:*(This command may not be supported)

Reads floats (F) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-15

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

108

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number. For PD:

0 = Control

1 = Control

2 = SP

4 = Kp

6 = Ki

8 = Kd

26 = PV For MG:

0 = Control

1 = Error

2 = RLEN

3 = DLEN For BT:

0 = Control

1 = RLEN

2 = DLEN

3 = Data file #

4 = Element #

5 = Rack/grp/slot

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.12. Write Individual Bit

Description of this command:

Use this command to set or reset a specified bit in a specified word of data table memory.

The value to be written will be taken from the current value of the first channel of the record used for this purpose. This command uses logical binary addressing.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

111

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the bit index within the word (0-15).

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.13. Write Outputs (O)

Description of this command:*(This command may not be supported)

Writes outputs (O). This command uses logical binary addressing.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1-240

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

100

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.14. Write Status Data (S)**Description of this command:**

Writes status (S) information. This command uses logical binary addressing.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1-240

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

102

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.15. Write Binary Data (B)

Description of this command:

Writes binary (B) information. This command uses logical binary addressing.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1-240

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

103

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.16. Write Timers (T)

Description of this command:

Writes current values of timers (T). This command uses logical binary addressing.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-30

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

104

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Preset

2 = Accumulated

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.17. Write Counters (C)

Description of this command:

Writes current values of counters (C). This command uses logical binary addressing.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-30

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

105

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Preset

2 = Accumulated

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.18. Write Control Data (R)**Description of this command:**

Writes control (R) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-30

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

106

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number.

0 = Control

1 = Length

2 = Position

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.19. Write Integers (N)**Description of this command:**

Writes integers (N) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-30

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

*Example:***Meaning of the DriverP0 parameter:**

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

107

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

-1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.20. Write Floats (F)**Description of this command:*(This command may not be supported)**

Writes floats (F) information. This command uses logical binary addressing.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-15

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

108

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number. For PD:

- 0 = Control
- 1 = Control
- 2 = SP
- 4 = Kp
- 6 = Ki

8 = Kd
26 = PV For MG:
0 = Control
1 = Error
2 = RLEN
3 = DLEN For BT:
0 = Control
1 = RLEN
2 = DLEN
3 = Data file #
4 = Element #
5 = Rack/grp/slot

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.21. Generic Read (O/I/S/B/T/C/R/N/F)**Description of this command:**

Reads information in any area of the PLC data table memory. Previous read commands are just particular configurations of this command. This command uses logical binary addressing.

Type of data handled by this command:

Analog Input / Digital Input

Number of points accepted by this command:

Analog Input:1-30/Digital Input:1-240

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

Identifies the file type.

100 = Outputs (O). *(This command may not be supported)
101 = Inputs (I). *(This command may not be supported)
102 = Status (S). *(This command may not be supported)
103 = Binary (B).
104 = Timer (T).

- 105 = Counter (C).
- 106 = Control (R).
- 107 = Integer (N).
- 108 = Float (F). *(This command may not be supported)

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number. To Ignore it: -1 For Timer/Counter:

- 0 = Control
- 1 = Preset
- 2 = Accumulated For Control:
- 0 = Control
- 1 = Length
- 2 = Position For PD:
- 0 = Control
- 1 = Control
- 2 = SP
- 4 = Kp
- 6 = Ki
- 8 = Kd
- 26 = PV For MG:
- 0 = Control
- 1 = Error
- 2 = RLEN
- 3 = DLEN For BT:
- 0 = Control
- 1 = RLEN
- 2 = DLEN
- 3 = Data file #
- 4 = Element #
- 5 = Rack/grp/slot For any other type, HMITalk1.DriverP4 = Not used.

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.2.22. Generic Write (O/I/S/B/T/C/R/N/F)

Description of this command:

Writes information to any area of the PLC data table memory. Previous write commands are just particular configurations of this command. This command uses logical binary addressing.

Type of data handled by this command:

Analog Output / Digital Output

Number of points accepted by this command:

Analog Output:1-30/Digital Output:1-240

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

Identifies the file type.

- 100 = Outputs (O). *(This command may not be supported)
- 101 = Inputs (I). *(This command may not be supported)
- 102 = Status (S). *(This command may not be supported)
- 103 = Binary (B).
- 104 = Timer (T).
- 105 = Counter (C).
- 106 = Control (R).
- 107 = Integer (N).
- 108 = Float (F). *(This command may not be supported)

Meaning of the DriverP2 parameter:

Defines the File number (0-999).

Meaning of the DriverP3 parameter:

Defines the Element number (0-999).

Meaning of the DriverP4 parameter:

Defines the Sub-element number. To Ignore it: -1 For Timer/Counter:

- 0 = Control
- 1 = Preset
- 2 = Accumulated For Control:
- 0 = Control
- 1 = Length
- 2 = Position For PD:
- 0 = Control
- 1 = Control
- 2 = SP
- 4 = Kp
- 6 = Ki
- 8 = Kd

26 = PV For MG:
0 = Control
1 = Error
2 = RLEN
3 = DLEN For BT:
0 = Control
1 = RLEN
2 = DLEN
3 = Data file #
4 = Element #
5 = Rack/grp/slot For any other type, HMITalk1.DriverP4 = Not used.

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

[PLC-4 Commands]

3.3. PLC-4 Commands

3.3.1. Unprotected Read

Description of this command:

Reads words of data from any area of the PLC data table memory.

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 destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.3.2. Protected Write**Description of this command:**

Writes words of data into limited areas of the PLC data table memory. Its access is limited by memory access ranges in the communication zone of the PLC's ladder diagram program.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-120

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

*Example:***Meaning of the DriverP0 parameter:**

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

0

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.3.3. Unprotected Write**Description of this command:**

Writes words of data to any area of the PLC data table memory.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-120

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.3.4. Protected Bit Write

Description of this command:

This command sets or reset individual bits within limited areas of the PLC data table memory. Its access is limited by memory access ranges in the communication zone of the PLC's ladder diagram program.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of byte containing the bit in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

0

Meaning of the DriverP4 parameter:

Defines the bit index within the word (0-7).

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.3.5. Unprotected Bit Write

Description of this command:

This command sets or reset individual bits within any area of the PLC data table memory.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of byte containing the bit in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP4 parameter:

Defines the bit index within the word (0-7).

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

[PLC-3 Commands]

3.4. PLC-3 Commands

3.4.1. Unprotected Read

Description of this command:

Reads words of data from any area of the PLC data table memory.

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 destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

*Example:***Meaning of the DriverP0 parameter:**

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.4.2. Protected Write

Description of this command:

Writes words of data into limited areas of the PLC data table memory. Its access is limited by memory access ranges in the communication zone of the PLC's ladder diagram program.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-120

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

0

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.4.3. Unprotected Write

Description of this command:

Writes words of data to any area of the PLC data table memory.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-120

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.4.4. Protected Bit Write

Description of this command:

This command sets or reset individual bits within limited areas of the PLC data table memory. Its access is limited by memory access ranges in the communication zone of the PLC's ladder diagram program.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of byte containing the bit in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

0

Meaning of the DriverP4 parameter:

Defines the bit index within the word (0-7).

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.4.5. Unprotected Bit Write

Description of this command:

This command sets or reset individual bits within any area of the PLC data table memory.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of byte containing the bit in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP4 parameter:

Defines the bit index within the word (0-7).

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

[PLC-2 and 1774-PLC Commands]

3.5. PLC-2 and 1774-PLC Commands

3.5.1. Unprotected Read

Description of this command:

Reads words of data from any area of the PLC data table memory.

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 destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.5.2. Protected Write

Description of this command:

Writes words of data into limited areas of the PLC data table memory. Its access is limited by memory access ranges in the communication zone of the PLC's ladder diagram program.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-120

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

0

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.5.3. Unprotected Write

Description of this command:

Writes words of data to any area of the PLC data table memory.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-120

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of starting word in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.5.4. Protected Bit Write

Description of this command:

This command sets or reset individual bits within limited areas of the PLC data table memory. Its access is limited by memory access ranges in the communication zone of the PLC's ladder diagram program.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of byte containing the bit in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

0

Meaning of the DriverP4 parameter:

Defines the bit index within the word (0-7).

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

3.5.5. Unprotected Bit Write

Description of this command:

This command sets or reset individual bits within any area of the PLC data table memory.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Identifies the destination address of the PLC you want to communicate with (0-255). If it is also necessary to indicate a source address other than 0, you should consider HMITalk1.DriverP0 as a combined parameter of the form SSSDDD

Values that are sent:

SSS = source address of Ch0, KE or KF adapter (0-255) DDD = destination address of the PLC (0-255)

Example:

Meaning of the DriverP0 parameter:

063001 means source is 63 and destination is 1.

Meaning of the DriverP1 parameter:

10

Meaning of the DriverP2 parameter:

Address of byte containing the bit in the PLC memory (0 to 65535).

Meaning of the DriverP3 parameter:

1

Meaning of the DriverP4 parameter:

Defines the bit index within the word (0-7).

Meaning of the DriverP5 parameter:

Defines if BCC (0) or CRC (1) must be used.

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.

- [1003] DRIVER (Internal): Exception reports not supported
- [1005] DRIVER (Internal): Invalid driver stage
- [1300] PROTOCOL (Timeout): No answer
- [2139] CONFIG (NumValues): Only one bit can be written with this command
- [2147] CONFIG (NumValues): Only one value can be read or written
- [2180] CONFIG (NumValues): Too many values (max=114)
- [2183] CONFIG (NumValues): Too many values (max=122)
- [2203] CONFIG (NumValues): Too many values (max=250)
- [3014] CONFIG (P0): Invalid device address (0-255)
- [3044] CONFIG (P0): Invalid source address (0-255)
- [3045] CONFIG (P0): Invalid source address for receiving exception reports (0-255)
- [3516] CONFIG (P1): Invalid command (0-10)
- [3517] CONFIG (P1): Invalid command (0-12)
- [3565] CONFIG (P1): Invalid PLC model (0-1)
- [4061] CONFIG (P2): Invalid file number (0-999)
- [4071] CONFIG (P2): Invalid memory address (0-65535)
- [4538] CONFIG (P3): Invalid element number (0-999)
- [4571] CONFIG (P3): Invalid sub-command (0-1)
- [5002] CONFIG (P4): Invalid bit to be written (0-15)
- [5003] CONFIG (P4): Invalid bit to be written (0-7)
- [5036] CONFIG (P4): Invalid sub-element number (0-2 or -1 to omit it)
- [5513] CONFIG (P5): Invalid validation mode (0=BCC/1=CRC)
- [6011] CONFIG (P6): Invalid address format (valid format: N[7]:0[.0][/0])
- [6012] CONFIG (P6): Invalid bit number (0-255)
- [6017] CONFIG (P6): Invalid element number (0-999)
- [6018] CONFIG (P6): Invalid file number (0-999)
- [6019] CONFIG (P6): Invalid file type (must be I/O/S/B/T/C/R/N or F)
- [6028] CONFIG (P6): Invalid sub-element number (0-999)
- [8000] CONFIG (Remote): 1771 module response was not valid
- [8001] CONFIG (Remote): A file has an illegal value
- [8010] CONFIG (Remote): Access denied (improper privilege)
- [8017] CONFIG (Remote): Adapter cannot communicate with module
- [8018] CONFIG (Remote): Address does not point to something usable
- [8022] CONFIG (Remote): Address reference exist to deleted area
- [8023] CONFIG (Remote): Addressing problem
- [8025] CONFIG (Remote): Another node is program owner

- [8027] CONFIG (Remote): Application layer timeout error
- [8038] CONFIG (Remote): Cannot complete request
- [8039] CONFIG (Remote): Cannot execute command
- [8052] CONFIG (Remote): Command cannot be executed
- [8055] CONFIG (Remote): Command execution failure for unknown reason
- [8067] CONFIG (Remote): Communication zone problem
- [8070] CONFIG (Remote): Condition already exist
- [8071] CONFIG (Remote): Condition cannot be generated
- [8080] CONFIG (Remote): Data conversion error
- [8090] CONFIG (Remote): Data or file is too large
- [8111] CONFIG (Remote): Duplicated label
- [8112] CONFIG (Remote): Duplicated node detected error
- [8113] CONFIG (Remote): Duplicated token holder detected error
- [8115] CONFIG (Remote): EOT received indicating there is nothing to transmit
- [8140] CONFIG (Remote): File is open (another node owns it)
- [8141] CONFIG (Remote): File is wrong size
- [8152] CONFIG (Remote): Function disallowed
- [8156] CONFIG (Remote): Hardware fault
- [8157] CONFIG (Remote): Histogram overflow
- [8158] CONFIG (Remote): Host could not complete function
- [8159] CONFIG (Remote): Host has a problem and will not communicate
- [8165] CONFIG (Remote): Illegal command or format (try using less values)
- [8169] CONFIG (Remote): Illegal data type
- [8197] CONFIG (Remote): Invalid parameter or data
- [8204] CONFIG (Remote): Less levels specified in address
- [8206] CONFIG (Remote): Link layer error
- [8208] CONFIG (Remote): Local port is disconnected
- [8216] CONFIG (Remote): More levels specified in address
- [8218] CONFIG (Remote): No access
- [8240] CONFIG (Remote): Not used
- [8274] CONFIG (Remote): Processor is in program mode
- [8297] CONFIG (Remote): Remote node cannot buffer command
- [8298] CONFIG (Remote): Remote node host is missing or shut down
- [8299] CONFIG (Remote): Remote node problem
- [8315] CONFIG (Remote): Scanner not able to communicate with 1771 module
- [8326] CONFIG (Remote): Station is offline
- [8328] CONFIG (Remote): Symbol is of improper format
- [8329] CONFIG (Remote): Symbol not found
- [8338] CONFIG (Remote): Transaction size plus word address is too large
- [8347] CONFIG (Remote): Unknown error

4.2. Keywords list

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

"1774PLC, ALLEN, BRADLEY, Duplex, Half, PLC2, PLC3, PLC4, PLC5, SLC500".