

Soluciones de comunicación industrial para Windows

Manual del Driver XFINS

Omron SYSMAC Host Link FINS Protocol Driver

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Especificaciones técnicas del driver XFINS

Información general

XFINS driver allows you to connect to the OMRON SYSMAC CS/CJ/CP Series and SYSMAC One NSJ Series programmable controllers which use the FINS commands via the Host Link serial communication protocol.

This driver does not support slave-initiated communications. All communications are always initiated by the host PC.

Listado de comandos

Memory Area Read

Descripción del comando:

Reads the contents of the specified number of consecutive memory area items starting from the specified address.

Métodos usados para ejecutar este comando:

Analog Input / Digital Input

Número de puntos permitidos para este comando:

1-250

Significado del parámetro P0:

Identifies the CPU Unit connected to the host PC. (See note below).

Significado del parámetro P1:

Response wait time, in milliseconds (0-150). (See note below).

Significado del parámetro P2:

Identifies the Destination Network Address of the target PLC (0-127). Use -1 if the target is the directly connected PLC.

Significado del parámetro P3:

Identifies the Destination Node Address of the target PLC (0-254). Leave empty or 0 if the target is the directly connected PLC. (See note below).

Significado del parámetro P4:

Identifies the Memory Area Code to be read. (See tables for CS/CJ/CV below).

Significado del parámetro P5:

Identifies the starting Memory Address to be read. (See tables for CS/CJ/CV below).

Valores que son devueltos:

Valor del punto (0) = First item value read (0-65535)

Valor del punto (1) = Second item value read (0-65535)

...

Valor del punto (n-1) = Last item value read (0-65535)

NOTE ABOUT DIGITAL INPUTS:

When DriverDataType is set to Digital Input, values returned are forced to 0 if value received was ≤ 0 , or to 1 if value received was > 0 , regardless of the memory Area Code or Item Data Type being read.

NOTE ABOUT UNIT NUMBER:

The unit number set in DriverP0 is that of the destination CPU Unit connected to the host computer. When the host computer is connected to a CPU Unit, the unit number is designated in the PLC Setup. When the host computer is connected to a Serial Communications Board or a Serial Communications Unit, the unit number is the designated in the Setup for the Board or Unit. DriverP0 accepts values from 0 to 99.

NOTE ABOUT RESPONSE WAIT TIME:

The response wait time set in DriverP1 sets the time from when the CPU Unit receives a command block until it starts to return a response. It can be set from 0 to 150 ms, in units of 10 ms.

NOTE ABOUT DESTINATION NODE ADDRESS:

The destination node address is set in DriverP3 and it is required only when sending to a CPU Unit on a network. Set it to -1 if the PLC to be read is the same that is directly connected to the host PC.

Must be set within the following ranges:

- PLC directly connected to the Host PC = -1

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- Ethernet Units with model numbers ending in ETN21 = 1 to 254
- Ethernet Units with other model numbers = 1 to 126
- Controller Link Unit = 1 to 32
- SYSMAC NET = 1 to 126
- SYSMAC LINK = 1 to 62

MEMORY ADDRESS TABLE FOR CS/CJ MODE:

Select the data type to be read and set the Memory Area Code in DriverP4 and the Memory Address in DriverP5.

- CIO Bit: Memory Area Code = 30h, Memory Address for CIO 000000 to CIO 614315 = 000000h to 17FF0Fh
- WR Bit: Memory Area Code = 31h, Memory Address for W00000 to W51115 = 000000h to 01FF0Fh
- HR Bit: Memory Area Code = 32h, Memory Address for H00000 to H51115 = 000000h to 01FF0Fh
- AR Bit (read only): Memory Area Code = 33h, Memory Address for A00000 to A44715 = 000000h to 01BF0Fh
- AR Bit (read/write): Memory Area Code = 33h, Memory Address for A44800 to A95915 = 01C000h to 03BF0Fh
- CIO Word: Memory Area Code = B0h, Memory Address for CIO 0000 to CIO 6143 = 000000h to 17FF00h
- WR Word: Memory Area Code = B1h, Memory Address for W000 to W511 = 000000h to 01FF00h
- HR Word: Memory Area Code = B2h, Memory Address for H000 to H511 = 000000h to 01FF00h
- AR Word (read only): Memory Area Code = B3h, Memory Address for A000 to A447 = 000000h to 01BF00h
- AR Word (read /write): Memory Area Code = B3h, Memory Address for A448 to A959 = 01C000h to 03BF00h
- TIM Completion Flag: Memory Area Code = 09h, Memory Address for T0000 to T4095 = 000000h to 0FFF00h
- CNT Completion Flag: Memory Area Code = 09h, Memory Address for C0000 to C4095 = 800000h to 8FFF00h
- TIM PV: Memory Area Code = 89h, Memory Address for T0000 to T4095 = 000000h to 0FFF00h
- CNT PV: Memory Area Code = 89h, Memory Address for C0000 to C4095 = 800000h to 8FFF00h
- DM Bit: Memory Area Code = 02h, Memory Address for D0000000 to D3276715 = 000000h to 7FFF0Fh
- DM Word: Memory Area Code = 82h, Memory Address for D00000 to D32767 = 000000h to 7FFF00h
- EM Bank 0 to Bank F Bit: Memory Area Code = 20h to 2Fh, Memory Address for E0_0000000 to 3276715 / EF_0000000 to 3276715 = 000000h to 7FFF0Fh
- EM Bank 10 to Bank 18: Memory Area Code = E0h to E8h, Memory Address for E10_0000000 to 3276715 / E18_0000000 0 to 3276715 = 000000h to 7FFF0Fh
- EM Bank 0 to Bank F Word: Memory Area Code = A0h to AFh or 50h to 5Fh, Memory Address for E0_00000 to 32767 / EF_00000 to 32767 = 000000h to 7FFF00h
- EM Bank 10 to Bank 18 Word: Memory Area Code = 60h to 68h, Memory Address for E10_00000 to 32767 / E18_00000 to 32767 = 000000h to 7FFF00h
- EM Current Bank Bit: Memory Area Code = 0Ah, Memory Address for E0000000 to E3276715 = 000000h to 7FFF0Fh
- EM Current Bank Word: Memory Area Code = 98h, Memory Address for E00000 to E32767 = 000000h to 7FFF00h
- EM Current Bank No. Word: Memory Area Code = BCh, Memory Address = 0F0000h
- TK Bit: Memory Area Code = 06h, Memory Address for TK0000 to TK0031 = 000000h to 001F00h
- TK Status Bit: Memory Area Code = 46h, Memory Address for TK0000 to TK0031 = 000000h to 001F00h
- IR PV: Memory Area Code = DCh, Memory Address for IR00 to IR15 = 010000h to 010F00h
- DR PV: Memory Area Code = BCh, Memory Address for DR00 to DR15 = 020000h to 020F00h

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MEMORY ADDRESS TABLE FOR CV MODE:

Select the data type to be read and set the Memory Area Code in DriverP4 and the Memory Address in DriverP5.

- CIO Bit: Memory Area Code = 00h, Memory Address for CIO 000000 to CIO 255515 = 000000h to 09FB0Fh
- AR Bit (read only): Memory Area Code = 00h, Memory Address for A00000 to A44715 = 0B0000h to 0CBF0Fh
- AR Bit (read/write): Memory Area Code = 00h, Memory Address for A44800 to A95915 = 0CC000h to 0EBF0Fh
- CIO Word: Memory Area Code = 80h, Memory Address for CIO 0000 to CIO 2555 = 000000h to 09FB00h
- AR Word (read only): Memory Area Code = 80h, Memory Address for A000 to A447 = 0B0000h to 0CBF00h
- AR Word (read /write): Memory Area Code = 80h, Memory Address for A448 to A959 = 0CC000h to 0EBF00h
- TIM Completion Flag: Memory Area Code = 01h, Memory Address for T0000 to T2047 = 000000h to 07FF00h
- CNT Completion Flag: Memory Area Code = 01h, Memory Address for C0000 to C2047 = 080000h to 0FFF00h
- TIM PV: Memory Area Code = 81h, Memory Address for T0000 to T2047 = 000000h to 07FF00h
- CNT PV: Memory Area Code = 81h, Memory Address for C0000 to C2047 = 080000h to 0FFF00h
- DM Word: Memory Area Code = 82h, Memory Address for D00000 to D32767 = 000000h to 7FFF00h
- EM Bank 0 to Bank F Word: Memory Area Code = 90h to 97h, Memory Address for E0_00000 to 32767 / E7_00000 to 32767 = 000000h to 7FFF00h
- EM Current Bank Word: Memory Area Code = 98h, Memory Address for E00000 to E32767 = 000000h to 7FFF00h
- DR PV: Memory Area Code = 9Ch, Memory Address for DR0 to DR2 = 000300h to 000500h

Memory Area Write

Descripción del comando:

Writes the contents of the specified number of consecutive memory area items starting at the specified address.

Métodos usados para ejecutar este comando:

Analog Output / Digital Output

Número de puntos permitidos para este comando:

1-250

Significado del parámetro P0:

Identifies the CPU Unit connected to the host PC. (See note below).

Significado del parámetro P1:

Response wait time, in milliseconds (0-150). (See note below).

Significado del parámetro P2:

Identifies the Destination Network Address of the target PLC (0-127). Use -1 if the target is the directly connected PLC.

Significado del parámetro P3:

Identifies the Destination Node Address of the target PLC (0-254). Leave empty or 0 if the target is the directly connected PLC. (See note below).

Significado del parámetro P4:

Identifies the Memory Area Code to be written. (See tables for CS/CJ/CV below).

Significado del parámetro P5:

Identifies the starting Memory Address to be written. (See tables for CS/CJ/CV below).

Valores que son enviados:

Valor del punto (0) = First item value to be sent (0-65535)

Valor del punto (1) = Second item value to be sent (0-65535)

...

Valor del punto (n-1) = Last item value to be sent (0-65535)

NOTE ABOUT DIGITAL OUTPUTS:

When DriverDataType is set to Digital Output, values sent are forced to 0 if value was originally <= 0, or to 1 if value was originally > 0, regardless of the memory Area Code or Item Data Type to be written.

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NOTE ABOUT UNIT NUMBER:

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NOTE ABOUT RESPONSE WAIT TIME:

The response wait time set in DriverP1 sets the time from when the CPU Unit receives a command block until it starts to return a response. It can be set from 0 to 150 ms, in units of 10 ms.

NOTE ABOUT DESTINATION NODE ADDRESS:

The destination node address is set in DriverP3 and it is required only when sending to a CPU Unit on a network. Set it to -1 if the PLC to be read is the same that is directly connected to the host PC.

Must be set within the following ranges:

- PLC directly connected to the Host PC = -1
- Ethernet Units with model numbers ending in ETN21 = 1 to 254
- Ethernet Units with other model numbers = 1 to 126
- Controller Link Unit = 1 to 32
- SYSMAC NET = 1 to 126
- SYSMAC LINK = 1 to 62

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- HR Bit: Memory Area Code = 32h, Memory Address for H00000 to H51115 = 000000h to 01FF0Fh
- AR Bit (read/write): Memory Area Code = 33h, Memory Address for A44800 to A95915 = 01C000h to 03BF0Fh
- CIO Word: Memory Area Code = B0h, Memory Address for CIO 0000 to CIO 6143 = 000000h to 17FF00h
- WR Word: Memory Area Code = B1h, Memory Address for W000 to W511 = 000000h to 01FF00h
- HR Word: Memory Area Code = B2h, Memory Address for H000 to H511 = 000000h to 01FF00h
- AR Word (read /write): Memory Area Code = B3h, Memory Address for A448 to A959 = 01C000h to 03BF00h
- TIM Completion Flag: Memory Area Code = 09h, Memory Address for T0000 to T4095 = 000000h to 0FFF00h
- CNT Completion Flag: Memory Area Code = 09h, Memory Address for C0000 to C4095 = 800000h to 8FFF00h
- TIM PV: Memory Area Code = 89h, Memory Address for T0000 to T4095 = 000000h to 0FFF00h
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- DM Word: Memory Area Code = 82h, Memory Address for D00000 to D32767 = 000000h to 7FFF00h
- EM Bank 0 to Bank F Bit: Memory Area Code = 20h to 2Fh, Memory Address for E0_0000000 to 3276715 / EF_0000000 to 3276715 = 000000h to 7FFF0Fh
- EM Bank 10 to Bank 18: Memory Area Code = E0h to E8h, Memory Address for E10_0000000 to 3276715 / E18_0000000 0 to 3276715 = 000000h to 7FFF0Fh
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- EM Bank 10 to Bank 18 Word: Memory Area Code = 60h to 68h, Memory Address for E10_00000 to 32767 / E18_00000 to 32767 = 000000h to 7FFF00h
- EM Current Bank Bit: Memory Area Code = 0Ah, Memory Address for E0000000 to E3276715 = 000000h to 7FFF0Fh

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- EM Current Bank Word: Memory Area Code = 98h, Memory Address for E00000 to E32767 = 000000h to 7FFF00h
- EM Current Bank No. Word: Memory Area Code = BCh, Memory Address = 0F0000h
- TK Bit: Memory Area Code = 06h, Memory Address for TK0000 to TK0031 = 000000h to 001F00h
- TK Status Bit: Memory Area Code = 46h, Memory Address for TK0000 to TK0031 = 000000h to 001F00h
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- CIO Word: Memory Area Code = 80h, Memory Address for CIO 0000 to CIO 2555 = 000000h to 09FB00h
- AR Word (read /write): Memory Area Code = 80h, Memory Address for A448 to A959 = 0CC000h to 0EBF00h
- TIM Completion Flag: Memory Area Code = 01h, Memory Address for T0000 to T2047 = 000000h to 07FF00h
- CNT Completion Flag: Memory Area Code = 01h, Memory Address for C0000 to C2047 = 080000h to 0FFF00h
- TIM PV: Memory Area Code = 81h, Memory Address for T0000 to T2047 = 000000h to 07FF00h
- CNT PV: Memory Area Code = 81h, Memory Address for C0000 to C2047 = 080000h to 0FFF00h
- DM Word: Memory Area Code = 82h, Memory Address for D00000 to D32767 = 000000h to 7FFF00h
- EM Bank 0 to Bank F Word: Memory Area Code = 90h to 97h, Memory Address for E0_00000 to 32767 / E7_00000 to 32767 = 000000h to 7FFF00h
- EM Current Bank Word: Memory Area Code = 98h, Memory Address for E00000 to E32767 = 000000h to 7FFF00h
- DR PV: Memory Area Code = 9Ch, Memory Address for DR0 to DR2 = 000300h to 000500h

Mensajes de error

La siguiente lista muestra los mensajes de error que pueden ser retornados por el driver en la propiedad 'Status' durante una comunicación fallida.

- [1005] DRIVER (Internal): Invalid driver stage
- [1300] PROTOCOL (Timeout): No answer
- [1433] PROTOCOL (Format): Validation error in device response
- [3007] CONFIG (P0): Invalid device address
- [8348] CONFIG (Remote): Unknown error code
- [8405] CONFIG (Remote): Local node error: Local node not in network
- [8406] CONFIG (Remote): Local node error: Token timeout
- [8407] CONFIG (Remote): Retries failed
- [8408] CONFIG (Remote): Too many send frames
- [8409] CONFIG (Remote): Node address range error
- [8410] CONFIG (Remote): Node address duplication
- [8411] CONFIG (Remote): Destination node error: Destination node not in network
- [8412] CONFIG (Remote): Destination node error: Unit missing
- [8413] CONFIG (Remote): Destination node error: Third node missing
- [8414] CONFIG (Remote): Destination node error: Destination node busy
- [8415] CONFIG (Remote): Destination node error: Response timeout
- [8416] CONFIG (Remote): Controller error: Communications controller error
- [8417] CONFIG (Remote): Controller error: CPU Unit error
- [8418] CONFIG (Remote): Controller error: Controller error
- [8419] CONFIG (Remote): Controller error: Unit number error

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[8420] CONFIG (Remote): Service unsupported: Undefined command
[8421] CONFIG (Remote): Service unsupported: Not supported by model/version
[8422] CONFIG (Remote): Routing table error: Destination address setting error
[8423] CONFIG (Remote): Routing table error: No routing tables
[8424] CONFIG (Remote): Routing table error: Routing table error
[8425] CONFIG (Remote): Routing table error: Too many relays
[8426] CONFIG (Remote): Command format error: Command too long
[8427] CONFIG (Remote): Command format error: Command too short
[8428] CONFIG (Remote): Command format error: Elements data don't match
[8429] CONFIG (Remote): Command format error: An incorrect format was used
[8430] CONFIG (Remote): Command format error: Header error
[8431] CONFIG (Remote): Parameter error: Area classification missing
[8432] CONFIG (Remote): Parameter error: Access size error
[8433] CONFIG (Remote): Parameter error: Address range error
[8434] CONFIG (Remote): Parameter error: Address range exceeded
[8435] CONFIG (Remote): Parameter error: Program missing
[8436] CONFIG (Remote): Parameter error: Relational error
[8437] CONFIG (Remote): Parameter error: Duplicate data access
[8438] CONFIG (Remote): Parameter error: Response too long
[8439] CONFIG (Remote): Parameter error: Parameter error
[8440] CONFIG (Remote): Read not possible: The program area is protected
[8441] CONFIG (Remote): Read not possible: Table missing
[8442] CONFIG (Remote): Read not possible: Data missing
[8443] CONFIG (Remote): Read not possible: Program missing
[8444] CONFIG (Remote): Read not possible: File missing
[8445] CONFIG (Remote): Read not possible: Data mismatch
[8446] CONFIG (Remote): Write not possible: The specified area is read-only
[8447] CONFIG (Remote): Write not possible: Protected
[8448] CONFIG (Remote): Write not possible: Cannot register
[8449] CONFIG (Remote): Write not possible: Program missing
[8450] CONFIG (Remote): Write not possible: File missing
[8451] CONFIG (Remote): Write not possible: File name already exists
[8452] CONFIG (Remote): Write not possible: Cannot change
[8453] CONFIG (Remote): Not executable in current mode: Not possible during execution
[8454] CONFIG (Remote): Not executable in current mode: Not possible while running
[8455] CONFIG (Remote): Not executable in current mode: Wrong PLC mode (PROGRAM)
[8456] CONFIG (Remote): Not executable in current mode: Wrong PLC mode (DEBUG)
[8457] CONFIG (Remote): Not executable in current mode: Wrong PLC mode (MONITOR)
[8458] CONFIG (Remote): Not executable in current mode: Wrong PLC mode (RUN)
[8459] CONFIG (Remote): Not executable in current mode: Specified node not polling node
[8460] CONFIG (Remote): Not executable in current mode: Step cannot be executed
[8461] CONFIG (Remote): No such device: File device missing
[8462] CONFIG (Remote): No such device: Memory missing
[8463] CONFIG (Remote): No such device: Clock missing
[8464] CONFIG (Remote): Cannot start/stop: Table missing
[8465] CONFIG (Remote): Unit error: Memory error
[8466] CONFIG (Remote): Unit error: I/O setting error
[8467] CONFIG (Remote): Unit error: Too many I/O points
[8468] CONFIG (Remote): Unit error: CPU bus error
[8469] CONFIG (Remote): Unit error: I/O duplication
[8470] CONFIG (Remote): Unit error: I/O bus error
[8471] CONFIG (Remote): Unit error: SYSMAC BUS/2 error
[8472] CONFIG (Remote): Unit error: CPU Bus Unit error
[8473] CONFIG (Remote): Unit error: SYSMAC BUS No. duplication
[8474] CONFIG (Remote): Unit error: Memory error
[8475] CONFIG (Remote): Unit error: SYSMAC BUS terminator missing
[8476] CONFIG (Remote): Command error: No protection
[8477] CONFIG (Remote): Command error: Incorrect password
[8478] CONFIG (Remote): Command error: The specified area is protected
[8479] CONFIG (Remote): Command error: Service already executing
[8480] CONFIG (Remote): Command error: Service stopped
[8481] CONFIG (Remote): Command error: No execution right

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[8482] CONFIG (Remote): Command error: Settings not complete
[8483] CONFIG (Remote): Command error: Necessary items not set
[8484] CONFIG (Remote): Command error: Number already defined
[8485] CONFIG (Remote): Command error: Error will not clear
[8486] CONFIG (Remote): Access right error: No access right
[8487] CONFIG (Remote): Abort: Service aborted

Equipos soportados

Este driver se puede comunicar con estos equipos, aunque no necesariamente está limitado a los que aparecen en esta lista:

OMRON SYSMAC CS/CJ/CP Series
OMRON SYSMAC CS1G/H-CPUxxH
OMRON SYSMAC CS1G/H-CPUxx-EV1
OMRON SYSMAC CS1D-CPUxxH
OMRON SYSMAC CS1D-CPUxxS
OMRON SYSMAC CS1W-SCBxx-V1
OMRON SYSMAC CS1W-SCUxx-V1
OMRON SYSMAC CJ2H-CPU6x-EIP
OMRON SYSMAC CJ2H-CPU6x
OMRON SYSMAC CJ2M-CPUxx
OMRON SYSMAC CJ1H-CPUxxH-R
OMRON SYSMAC CJ1G/H-CPUxxH
OMRON SYSMAC CJ1G-CPUxxP
OMRON SYSMAC CJ1G-CPUxx
OMRON SYSMAC CJ1M-CPUxx
OMRON SYSMAC CJ1W-SCUxx-V1
OMRON SYSMAC CP1H-Xxxx-x
OMRON SYSMAC CP1H-XAxxx-x
OMRON SYSMAC CP1H-Yxxx-x
OMRON SYSMAC CP1L-M/Lxxx-x
OMRON SYSMAC CP1E-ExxDx-x
OMRON SYSMAC CP1E-NxxDx-x
OMRON SYSMAC One NSJ Series
OMRON SYSMAC NSJx-xxxx(B)-G5D
OMRON SYSMAC NSJx-xxxx(B)-M3D

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