



eScada

v24.2.0  
Drivers

eScada.Drivers.OmronFinsTcp

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( Host Link Protocol - FINS Commands )

**OS availability**

Windows, Linux, RaspBian

**Atomic data type**

bit or 16, 32 bit Word oriented protocol.

**Hardware and documentation reference**

www.omron.com

Specification W342-E1-16, W421-E1-04

**Parameters available in every section**

Channel: none

Device:	FINS mode	0=CPU unit directly connected (default) 1=CPU unit on a network (*). This mode has not been tested.
	PLC Series	0=CS/CJ/CP/NSJ (default), 1=CVM1/CV
	IP address	It can be IPV4 Multiple addresses can be expressed using multiple rows or a comma. e.g. 192.168.1.10,192.168.1.11
	TCP Port	A valid TCP port number.
	(* ) DNA	Destination network hardware (HEX value)
	(* ) DA1	Destination node address (HEX value) Set 0xFF for using the automatic address obtained during the connection procedure.
	(* ) DA2	Destination unit Address
	(* ) SNA	Source network hardware (HEX value)
	(* ) SA1	Source node address (HEX value) Set 0xFF for using the automatic address obtained during the connection procedure.
	(* ) SA2	Source unit Address
	Reconnect timeout [ms]	Waiting time before a reconnection after COMM break-down
	Response timeout [ms]	Timeout interval used to wait for a response.

Group: none

Tag: none

**Remarks for devices**

The following attributes can be expressed for each device.

Bytes order actions	None, Swap bytes order, Swap bytes order in DWords, Swap words order, Swap bytes order in DWords then words order
String actions	None, Swap bytes in words

**Implemented I/O memory area**

CIO	CIOx, CIOx.b	Read/Write	
WR	Wx, Wx.b	Read/Write	
HR	Hx, Hx.b	Read/Write	
AR	Ax, Ax.b	Read/Write	(From A0 to A447 Read Only)
Timers PV	TPVx	Read/Write	
Timers Status	TSTx	Read only	
Counters PV	CPVx	Read/Write	
Counters Status	CSTx	Read only	
DM	Dx, Dx.b	Read/Write	
EM	Ee.x, Ee.x.b	Read/Write	
Task flag TK	Kx	Read only	
Task flag TK status	KSTx	Read only	
IR	IRx	Read/Write	(32 bit data)
DR	DRx	Read/Write	

**Implemented Parameters area**

PLC Setup Area	PSAx	Read/Write
I/O Table Registration Area	PTRx	Read/Write
Routing table Area	PRTx	Read/Write
CPU Bus Unit Setup Area	PBUx	Read/Write

x = Address

b = Bit number from 0 to 15

e = EM bank number

Expressed using base 10 numbers

**BCD values**

If it's necessary to use BCD codification for integers values, please precede the value address with this character @

It is possible to use this type of character with all integers format from 16 bits to 64 bits.

e.g.

@TPV3 (value using BCD format), TPV3 (value using binary format)

@D3 (value using BCD format), D3 (value using binary format)

**Addressing**

Variable type	Type	Address type	Items
<b>Boolean</b> The number of items used declaring TAGs, must be a multiple of 16			
Single bit	Bit	CIO, W, H, A, TST, CST, D, E, K	(C)
<b>Byte</b> The number of items used declaring TAGs, must be a multiple of 2			
Unsigned 8 bit	UInt8	CIO, W, H, A, D, E, DR, PSA, PTR, PRT, PBU	(C)
Signed 8 bit	Int8		
<b>16 bit</b>			
Unsigned integer 16 bit	UInt16	CIO, W, H, A, TPV, CPV, D, E, DR, PSA, PTR, PRT, PBU	(C)
Signed integer 16 bit	Int16		
<b>32 bit</b>			
Unsigned integer 32 bit	UInt32	CIO, W, H, A, TPV, CPV, D, E, IR, DR, PSA, PTR, PRT, PBU	(C)
Signed integer 32 bit	Int32		
Single precision 32 bit - ( IEEE 754 )	Float		
<b>64 bit</b>			
Unsigned integer 64 bit	UInt64	CIO, W, H, A, TPV, CPV, D, E, IR, DR, PSA, PTR, PRT, PBU	(C)
Signed integer 64 bit	Int64		
Double precision 64 bit - ( IEEE 754 )	Double		
<b>Strings</b> The string length used declaring TAGs, must be a multiple of 2 String bytes can be interpreted as ASCII, UTF-7, UTF-8, UTF-16 or UTF-32 encoding			
Array of bytes	String	CIO, W, H, A, D, E	(A, C)
Array of bytes. (Siemens S7) Array of bytes. (AllenBradley style)	S7String ABString	CIO, W, H, A, D, E	(B, C)
(A) It depends on the strings length: e.g. if you want to read strings with a length of 10 chars each string, you can set a number of items of $74 / 10 = 7$ consecutive items.			
(B) It depends on the strings length: e.g. if you want to read strings with a length of 10 chars each string, you can set a number of items of $74 / (10+2) = 6$ consecutive items.			
(C) It depends on PLC model. The best way is to try with the maximum items you need. Please refer to your PLC model documentation and protocol specification W342-E1-16			

**S7 strings format**

They have got two bytes at the beginning.

The first byte is for max allowed string length, the second one is for the real string length.

These types of strings can be declared with a length of 255 bytes max.

**AB Strings format**

They have got one word (16 bit) at the beginning, it contains the string length.

**Consecutive items**

The number of consecutive read/write items depends on the PLC model.