

I/O systems

SIMATIC ET 200 systems without control cabinet
SIMATIC ET 200AL

I/O modules > Communication > CM IO-Link

Overview



- 30-mm-wide CM IO-Link communication module
- For the connection of up to 4 IO-Link devices according to IO-Link Specification V1.0 and V1.1 and port Class B
- The IO-Link parameters are configured using the Port Configuration Tool (PCT), version V3.2 and higher

Technical specifications

Article number	6ES7147-5JD00-0BA0 ET 200AL, CM 4X IO-LINK, 4XM12
General information	
Product type designation	CM 4x IO-LINK, 4xM12
HW functional status	E03
Firmware version	V1.0.x
Product function	
• I&M data	Yes; I&M0 to I&M3
Engineering with	
• STEP 7 TIA Portal configurable/ integrated as of version	STEP 7 V13 SP1 or higher
• STEP 7 configurable/integrated as of version	From V5.5 SP4 Hotfix 3
• PROFIBUS as of GSD version/ GSD revision	GSD as of Revision 5
• PROFINET as of GSD version/ GSD revision	GSDML V2.3.1
Supply voltage	
Load voltage 1L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Load voltage 2L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes; against destruction; load increasing

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Input current	
Current consumption (rated value)	40 mA; without load
from load voltage 1L+ (unswitched voltage)	4 A; Maximum value
from load voltage 2L+, max.	4 A; Maximum value
Encoder supply	
Number of outputs	4
24 V encoder supply	
• Short-circuit protection	Yes; per module, electronic
• Output current, max.	1.4 A; Total current of all ports
Power loss	
Power loss, typ.	2.6 W
IO-Link	
Number of ports	4
• of which simultaneously controllable	4
IO-Link protocol 1.0	Yes
IO-Link protocol 1.1	Yes
Transmission rate	4.8 kBaud (COM1); 38.4 kBaud (COM2), 230 kBaud (COM3)
Size of process data, input per port	32 byte
Size of process data, input per module	32 byte
Size of process data, output per port	32 byte
Size of process data, output per module	32 byte
Memory size for device parameter	2 kbyte; for each port
Cable length unshielded, max.	20 m
Operating modes	
• IO-Link	Yes
• DI	Yes
• DQ	Yes; max. 100 mA
Connection of IO-Link devices	
• Port type A	Yes; via 3-core cable
• Port type B	Yes; Additional device supply: 1.6 A total current of all ports

Technical specifications (continued)

Article number	6ES7147-5JD00-0BA0 ET 200AL, CM 4X IO-LINK, 4XM12
Interrupts/diagnostics/ status information	
Alarms	
• Diagnostic alarm	Yes; Parameterizable
Diagnostic messages	
• Monitoring the supply voltage	Yes
• Wire-break	Yes
• Short-circuit	Yes
Diagnostics indication LED	
• Channel status display	Yes; Green LED
• for module diagnostics	Yes; Green/red LED
• For load voltage monitoring	Yes; Green LED
Potential separation	
between the load voltages	Yes
Potential separation channels	
• between the channels	No
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	No
Isolation	
Isolation tested with	707 V DC (type test)
Degree and class of protection	
Degree of protection acc. to EN 60529	
• IP65	Yes
• IP67	Yes
Standards, approvals, certificates	
Suitable for safety-oriented group deactivation	Yes
Highest safety class achievable in safety mode	
• Performance level according to ISO 13849-1	PL d
• SIL acc. to IEC 61508	SIL 2

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Ambient conditions	
Ambient temperature during operation	
• min.	-25 °C
• max.	55 °C
Connection method	
Design of electrical connection for the inputs and outputs	M12, 5-pole
Power supply	M8, 4-pole
ET-Connection	
• ET-Connection	M8, 4-pin, shielded
Dimensions	
Width	30 mm
Height	159 mm
Depth	40 mm
Weights	
Weight, approx.	145 g

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Ordering data	Article No.		Article No.
CM IO-Link		M8 power cable	
CM 4X IO-Link, 4XM12; for the connection of up to 4 IO-Link devices according to IO-Link Specification V1.0 and V1.1 and port Class B	6ES7147-5JD00-0BA0	4-pin	
Accessories		Pre-assembled at both ends, M8 connector and M8 socket	
Bus cable for backplane bus (ET connection)		0.19 m	6ES7194-2LH02-1AA0
4-pin, shielded		0.3 m	6ES7194-2LH03-1AA0
Pre-assembled at both ends, 2 M8 connectors		1 m	6ES7194-2LH10-1AA0
0.19 m	6ES7194-2LH02-0AA0	2 m	6ES7194-2LH20-1AA0
0.3 m	6ES7194-2LH03-0AA0	5 m	6ES7194-2LH50-1AA0
1 m	6ES7194-2LH10-0AA0	10 m	6ES7194-2LN10-1AA0
2 m	6ES7194-2LH20-0AA0	15 m	6ES7194-2LN15-1AA0
5 m	6ES7194-2LH50-0AA0	Pre-assembled at both ends, angled M8 connector and angled M8 socket	
10 m	6ES7194-2LN10-0AA0	0.3 m	6ES7194-2LH03-1AB0
15 m	6ES7194-2LN15-0AA0	1 m	6ES7194-2LH10-1AB0
Pre-assembled at both ends, 2 M8 connectors, angled		2 m	6ES7194-2LH20-1AB0
0.3 m	6ES7194-2LH03-0AB0	5 m	6ES7194-2LH50-1AB0
1 m	6ES7194-2LH10-0AB0	10 m	6ES7194-2LN10-1AB0
2 m	6ES7194-2LH20-0AB0	15 m	6ES7194-2LN15-1AB0
5 m	6ES7194-2LH50-0AB0	Pre-assembled at one end, M8 socket	
10 m	6ES7194-2LN10-0AB0	2 m	6ES7194-2LH20-1AC0
15 m	6ES7194-2LN15-0AB0	5 m	6ES7194-2LH50-1AC0
Pre-assembled at one end, 1 M8 connector		10 m	6ES7194-2LN10-1AC0
2 m	6ES7194-2LH20-0AC0	15 m	6ES7194-2LN15-1AC0
5 m	6ES7194-2LH50-0AC0	M8 connector for ET connection	6ES7194-2AB00-0AA0
10 m	6ES7194-2LN10-0AC0	4-pin, shielded	
15 m	6ES7194-2LN15-0AC0	M8 power connector	
		Male contact insert, 4-pin	6ES7194-2AA00-0AA0
		Female contact insert, 4-pin	6ES7194-2AC00-0AA0
		ET connection FastConnect stripping tool	6ES7194-2KA00-0AA0
		Stripping tool for stripping the ET connection bus cable	
		Labels	6ES7194-2BA00-0AA0
		10 x 5 mm, RAL 9016; 5 frames with 40 labels each	