SIEMENS

Data sheet 6ES7141-5AH00-0BL0



SIMATIC ET 200AL, IO-Link, DI 16x 24 V DC, 8x M12, Degree of protection IP67

General information	
Product type designation	IO-Link DI 16x24VDC
HW functional status	FS01
Firmware version	V1.0.x
Vendor identification (VendorID)	42
Device identifier (DeviceID)	229380
Engineering with	
● IODD file	Yes
Supply voltage	
Load voltage 1L+	
● Rated value (DC)	24 V; Supply from 1Us+ of the IO-Link master
● permissible range, lower limit (DC)	18 V
● permissible range, upper limit (DC)	30 V
● Reverse polarity protection	Yes; Against destruction; encoder power supply outputs applied with reversed polarity
Input current	
Current consumption (rated value)	20 mA; without load
Encoder supply	
Number of outputs	8; Supply from 1Us+ of the IO-Link master
24 V encoder supply	
● Short-circuit protection	Yes; per module, electronic
● Output current, max.	0.7 A; Total current of all encoders (depending on IO-Link master supply via 1Us+)
Power loss	
Power loss, typ.	2.4 W
Digital inputs	
Number of digital inputs	16
Sourcing/sinking input	P-reading
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 55 °C, max.	16
Input voltage	
● Rated value (DC)	24 V
● for signal "0"	-30 to +5 V
● for signal "1"	+11 to +30V
Input current	
● for signal "1", typ.	3 mA
Input delay (for rated value of input voltage)	

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for standard inputs	
— at "0" to "1", min.	1.2 ms
— at "0" to "1", max.	4.8 ms
— at "1" to "0", min.	1.2 ms
— at "1" to "0", max.	4.8 ms
Cable length	
● unshielded, max.	30 m
Encoder	
Connectable encoders	
● 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
IO-Link	
IO-Link protocol 1.1	Yes
Transmission rate	38.4 kBd (COM2)
Cycle time, min.	2.5 ms
Size of process data, input per module	2 byte
Size of process data, output per module	0 byte
Supported IO-Link profiles	common profile
Cable length unshielded, max.	20 m
Connection of IO-Link devices	
● Port type A	Yes
Interrupts/diagnostics/status information	
Alarms	
● Diagnostic alarm	Yes; Parameterizable
Diagnoses	
● Short-circuit	Yes; Sensor supply to M; module by module
Diagnostics indication LED	
● Channel status display	Yes; green LED
● for module diagnostics	Yes; green/red LED
Potential separation	
Potential separation channels	
● between the channels	No
● 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	
IP degree of protection	IP65/67
Ambient conditions	
Ambient temperature during operation	
● min.	-30 °C
● max.	55 °C
Connection method	
Design of electrical connection for the inputs and outputs	M12, 5-pin, A-coded
Type of electrical connection for IO-Link	M12, 5-pin, A-coded
Dimensions	
Width	45 mm
Height	159 mm
Depth	40 mm
Weights	
Weight, approx.	155 g
Classifications	

	Version	Classification
eClass	16	27-24-26-04
eClass	14	27-24-26-04
eClass	12	27-24-26-04
eClass	9.1	27-24-26-04

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eClass	9	27-24-26-04
eClass	8	27-24-26-04
eClass	7.1	27-24-26-04
eClass	6	27-24-26-04
ETIM	10	EC001599
ETIM	9	EC001599
ETIM	8	EC001599
ETIM	7	EC001599
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

CE EG-Konf. | Miscellaneous | Manufacturer Declaration | UKCA | UL | RCM

General Product Approval				Functional Saftey	Maritime application
EAC	China RoHS	CE EG-Konf.	UKCA	TUEV	ABS

Maritime application

BUREAU VERITAS	DNV	LRS	NK / Nippon Kaiji Kyokai	RINA	CCS (China Classification Society)

Maritime application	other
KR (Korean Register of Shipping)	KC

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