



SIMATIC ET 200AL, IO-Link, DIQ 4+DQ 4x 24 V DC/0.5 A, 8x M8, Degree of protection IP67

General information

Product type designation	IO-Link DIQ 4+DQ 4x24VDC/0.5A
HW functional status	FS01
Firmware version	V1.0.x
Vendor identification (VendorID)	42
Device identifier (DeviceID)	229382
Engineering with	
• IODD file	Yes

Supply voltage

Load voltage 1L+	
• Rated value (DC)	24 V; Supply from 1U+ 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
Load voltage 2L+	
• Rated value (DC)	24 V; Supply from 2UA+ of the IO-Link master
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	28.8 V
• Reverse polarity protection	Yes; Against destruction; encoder power supply outputs applied with reversed polarity, loads pick up

Input current

Current consumption (rated value)	15 mA; without load
from load voltage 2L+, max.	4 A; Maximum value

Encoder supply

Number of outputs	8; Supply from 2UA+ 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 2UA+)

Power loss

Power loss, typ.	2.3 W
------------------	-------

Digital inputs

Number of digital inputs	4; Parameterizable as DIQ
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 55 °C, max.	4
Input voltage	
• Rated value (DC)	24 V

• for signal "0" • for signal "1"	-3 to +5V +11 to +30V
Input current	
• for signal "1", typ.	3 mA
Input delay (for rated value of input voltage)	
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
Digital outputs	
Number of digital outputs	8; 4 DQ fixed, 4 DIQ parameterizable
Short-circuit protection	Yes; per channel, electronic
• Response threshold, typ.	0.7 A
Limitation of inductive shutdown voltage to	2L+ (-50 V)
Switching capacity of the outputs	
• on lamp load, max.	5 W
Load resistance range	
• lower limit • upper limit	48 Ω 4 kΩ
Output voltage	
• for signal "1", min.	L+ (-0.8 V)
Output current	
• for signal "1" rated value • for signal "0" residual current, max.	0.5 A 0.5 mA
Switching frequency	
• with resistive load, max. • with inductive load, max. • on lamp load, max.	100 Hz 0.5 Hz 1 Hz
Total current of the outputs	
• Current per module, max.	4 A
Cable length	
• unshielded, max.	30 m
Encoder	
Connectable encoders	
• 2-wire sensor — permissible quiescent current (2-wire sensor), max.	Yes 1.5 mA
IO-Link	
IO-Link protocol 1.1	Yes
Transmission rate	38.4 kBd (COM2)
Cycle time, min.	2.4 ms
Size of process data, input per module	1 byte
Size of process data, output per module	1 byte
Supported IO-Link profiles	common profile
Cable length unshielded, max.	20 m
Connection of IO-Link devices	
• Port type B	Yes
Interrupts/diagnostics/status information	
Substitute values connectable	Yes; channel by channel, parameterizable
Alarms	
• Diagnostic alarm	Yes; Parameterizable
Diagnoses	
• Short-circuit	Yes; outputs to ground; encoder supply to ground; module by module
Diagnostics indication LED	
• Channel status display • for module diagnostics • For load voltage monitoring	Yes; green LED Yes; green/red LED Yes; green LED

Potential separation	
between the load voltages	Yes
Potential separation channels	
• between the channels	No
• between the channels and the power supply of the electronics	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Degree and class of protection	
IP degree of protection	IP65/67
Standards, approvals, certificates	
Suitable for safety-related tripping of standard modules	Yes; From FS01
Highest safety class achievable for safety-related tripping of standard modules	
• Performance level according to ISO 13849-1	PL d
• Category according to ISO 13849-1	Cat. 3
• SIL acc. to IEC 62061	SIL 2
Ambient conditions	
Ambient temperature during operation	
• min.	-30 °C
• max.	55 °C
connection method / header	
Design of electrical connection for the inputs and outputs	M8, 3-pole
Type of electrical connection for IO-Link	M12, 5-pin, A-coded
Dimensions	
Width	30 mm
Height	159 mm
Depth	40 mm
Weights	
Weight, approx.	125 g

last modified:

3/7/2022 