



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 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
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

<ul style="list-style-type: none"> <li>• for signal "0"</li> <li>• for signal "1"</li> </ul>	-3 to +5V +11 to +30V
<b>Input current</b>	
<ul style="list-style-type: none"> <li>• for signal "1", typ.</li> </ul>	3 mA
<b>Input delay (for rated value of input voltage)</b>	
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
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>	30 m
<b>Digital outputs</b>	
Number of digital outputs	8; 4 DQ fixed, 4 DIQ parameterizable
Short-circuit protection	Yes; per channel, electronic
<ul style="list-style-type: none"> <li>• Response threshold, typ.</li> </ul>	0.7 A
Limitation of inductive shutdown voltage to	2L+ (-50 V)
<b>Switching capacity of the outputs</b>	
<ul style="list-style-type: none"> <li>• on lamp load, max.</li> </ul>	5 W
<b>Load resistance range</b>	
<ul style="list-style-type: none"> <li>• lower limit</li> <li>• upper limit</li> </ul>	48 Ω 4 kΩ
<b>Output voltage</b>	
<ul style="list-style-type: none"> <li>• for signal "1", min.</li> </ul>	L+ (-0.8 V)
<b>Output current</b>	
<ul style="list-style-type: none"> <li>• for signal "1" rated value</li> <li>• for signal "0" residual current, max.</li> </ul>	0.5 A 0.5 mA
<b>Switching frequency</b>	
<ul style="list-style-type: none"> <li>• with resistive load, max.</li> <li>• with inductive load, max.</li> <li>• on lamp load, max.</li> </ul>	100 Hz 0.5 Hz 1 Hz
<b>Total current of the outputs</b>	
<ul style="list-style-type: none"> <li>• Current per module, max.</li> </ul>	4 A
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>	30 m
<b>Encoder</b>	
Connectable encoders	
<ul style="list-style-type: none"> <li>• 2-wire sensor</li> <li>— permissible quiescent current (2-wire sensor), max.</li> </ul>	Yes 1.5 mA
<b>IO-Link</b>	
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
<b>Connection of IO-Link devices</b>	
<ul style="list-style-type: none"> <li>• Port type B</li> </ul>	Yes
<b>Interrupts/diagnostics/status information</b>	
Substitute values connectable	Yes; channel by channel, parameterizable
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>	Yes; Parameterizable
<b>Diagnoses</b>	
<ul style="list-style-type: none"> <li>• Short-circuit</li> </ul>	Yes; outputs to ground; encoder supply to ground; module by module
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>• Channel status display</li> <li>• for module diagnostics</li> <li>• For load voltage monitoring</li> </ul>	Yes; green LED Yes; green/red LED Yes; green LED

Potential separation	
between the load voltages	Yes
Potential separation channels	
<ul style="list-style-type: none"> <li>• between the channels</li> </ul>	No
<ul style="list-style-type: none"> <li>• between the channels and the power supply of the electronics</li> </ul>	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	
<ul style="list-style-type: none"> <li>• Performance level according to ISO 13849-1</li> </ul>	PL d
<ul style="list-style-type: none"> <li>• Category according to ISO 13849-1</li> </ul>	Cat. 3
<ul style="list-style-type: none"> <li>• SIL acc. to IEC 62061</li> </ul>	SIL 2
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> <li>• min.</li> </ul>	-30 °C
<ul style="list-style-type: none"> <li>• max.</li> </ul>	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
<b>last modified:</b>	3/7/2022 