



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	
<ul style="list-style-type: none"> <li>• IODD file</li> </ul>	Yes
Supply voltage	
Load voltage 1L+	
<ul style="list-style-type: none"> <li>• Rated value (DC)</li> </ul>	24 V; Supply from 1Us+ of the IO-Link master
<ul style="list-style-type: none"> <li>• permissible range, lower limit (DC)</li> </ul>	18 V
<ul style="list-style-type: none"> <li>• permissible range, upper limit (DC)</li> </ul>	30 V
<ul style="list-style-type: none"> <li>• Reverse polarity protection</li> </ul>	Yes; against destruction
Load voltage 2L+	
<ul style="list-style-type: none"> <li>• Rated value (DC)</li> </ul>	24 V; Supply from 2UA+ of the IO-Link master
<ul style="list-style-type: none"> <li>• permissible range, lower limit (DC)</li> </ul>	20.4 V
<ul style="list-style-type: none"> <li>• permissible range, upper limit (DC)</li> </ul>	28.8 V
<ul style="list-style-type: none"> <li>• Reverse polarity protection</li> </ul>	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	
<ul style="list-style-type: none"> <li>• Short-circuit protection</li> </ul>	Yes; per module, electronic
<ul style="list-style-type: none"> <li>• Output current, max.</li> </ul>	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	
<ul style="list-style-type: none"> <li>• Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>• for signal "0"</li> </ul>	-3 to +5V

• for signal "1"	+11 to +30V
<b>Input current</b>	
• for signal "1", typ.	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>	
• unshielded, max.	30 m
<b>Digital outputs</b>	
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)
<b>Switching capacity of the outputs</b>	
• on lamp load, max.	5 W
<b>Load resistance range</b>	
• lower limit	48 Ω
• upper limit	4 kΩ
<b>Output voltage</b>	
• for signal "1", min.	L+ (-0.8 V)
<b>Output current</b>	
• for signal "1" rated value	0.5 A
• for signal "0" residual current, max.	0.5 mA
<b>Switching frequency</b>	
• with resistive load, max.	100 Hz
• with inductive load, max.	0.5 Hz
• on lamp load, max.	1 Hz
<b>Total current of the outputs</b>	
• Current per module, max.	4 A
<b>Cable length</b>	
• unshielded, max.	30 m
<b>Encoder</b>	
<b>Connectable encoders</b>	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	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>	
• Port type B	Yes
<b>Interrupts/diagnostics/status information</b>	
Substitute values connectable	Yes; channel by channel, parameterizable
<b>Alarms</b>	
• Diagnostic alarm	Yes; Parameterizable
<b>Diagnoses</b>	
• Short-circuit	Yes; outputs to ground; encoder supply to ground; module by module
<b>Diagnostics indication LED</b>	
• Channel status display	Yes; green LED
• for module diagnostics	Yes; green/red LED
• For load voltage monitoring	Yes; green LED
<b>Potential separation</b>	
between the load voltages	Yes

<b>Potential separation channels</b>	
<ul style="list-style-type: none"> <li>• between the channels</li> <li>• between the channels and the power supply of the electronics</li> </ul>	<p>No</p> <p>Yes</p>
<b>Isolation</b>	
Isolation tested with	707 V DC (type test)
<b>Degree and class of protection</b>	
IP degree of protection	IP65/67
<b>Standards, approvals, certificates</b>	
Suitable for safety-related tripping of standard modules	Yes; From FS01
<b>Highest safety class achievable for safety-related tripping of standard modules</b>	
<ul style="list-style-type: none"> <li>• Performance level according to ISO 13849-1</li> <li>• Category according to ISO 13849-1</li> <li>• SIL acc. to IEC 62061</li> </ul>	<p>PL d</p> <p>Cat. 3</p> <p>SIL 2</p>
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	<p>-30 °C</p> <p>55 °C</p>
<b>connection method</b>	
Design of electrical connection for the inputs and outputs	M8, 3-pole
Type of electrical connection for IO-Link	M12, 5-pin, A-coded
<b>Dimensions</b>	
Width	30 mm
Height	159 mm
Depth	40 mm
<b>Weights</b>	
Weight, approx.	125 g

**last modified:** 3/7/2022 