



SIMATIC ET 200AL, DIQ 4+DQ 4X24VDC/0,5A, 8XM8, DEGREE OF PROTECTION IP67

Product type designation

General information

HW functional status	E01
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Firmware version	V1.0.0
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Product function

<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
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Engineering with

<ul style="list-style-type: none"> STEP 7 TIA Portal can be configured/integrated as of version 	STEP 7 V13 SP1 or higher
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<ul style="list-style-type: none"> PROFIBUS as of GSD version/GSD revision 	GSD as of Revision 5
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<ul style="list-style-type: none"> PROFINET as of GSD version/GSD revision 	GSDML V2.3.1
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Supply voltage

Load voltage 1L+

<ul style="list-style-type: none"> Rated value (DC) 	24 V
<ul style="list-style-type: none"> permissible range, lower limit (DC) 	20.4 V
<ul style="list-style-type: none"> permissible range, upper limit (DC) 	28.8 V
<ul style="list-style-type: none"> Reverse polarity protection 	Yes; Against destruction; encoder power supply outputs applied with reversed polarity

Load voltage 2L+

<ul style="list-style-type: none"> Rated value (DC) 	24 V
<ul style="list-style-type: none"> permissible range, lower limit (DC) 	20.4 V
<ul style="list-style-type: none"> permissible range, upper limit (DC) 	28.8 V
<ul style="list-style-type: none"> Reverse polarity protection 	Yes; against destruction; load increasing

Input current

Current consumption (rated value)	30 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	
<ul style="list-style-type: none"> • short-circuit protection 	Yes; per module, electronic
<ul style="list-style-type: none"> • Output current, max. 	0.7 A

Power losses

Power loss, typ.	2.6 W
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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"> • Rated value (DC) 	24 V
<ul style="list-style-type: none"> • for signal "0" 	-3 to +5V
<ul style="list-style-type: none"> • for signal "1" 	+11 to +30V
Input current	
<ul style="list-style-type: none"> • for signal "1", typ. 	3.2 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	
<ul style="list-style-type: none"> • Unshielded, max. 	30 m

Digital outputs

Number of digital outputs	8; 4 DQ fixed, 4 DIQ parameterizable
<ul style="list-style-type: none"> • In groups of 	4; 2 load groups for 4 outputs each
short-circuit protection	Yes; per channel, electronic
<ul style="list-style-type: none"> • Response threshold, typ. 	0,7 A
Limitation of inductive shutdown voltage to	2L+ (-47 V)
Switching capacity of the outputs	
<ul style="list-style-type: none"> • on lamp load, max. 	5 W
Load resistance range	
<ul style="list-style-type: none"> • lower limit 	48 Ω

• upper limit	4 kΩ
Output voltage	
• for signal "1", min.	24 V; L+ (-0.8 V)
Output current	
• for signal "1" rated value	0.5 A
• for signal "0" residual current, max.	0.5 mA
Switching frequency	
• with resistive load, max.	100 Hz
• with inductive load, max.	0.5 Hz
• on lamp load, max.	1 Hz
Aggregate current of the outputs	
• Current per group, max.	2 A
Cable length	
• Unshielded, max.	30 m
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
— Permissible quiescent current (2-wire sensor), max.	1.5 mA
Interrupts/diagnostics/status information	
Substitute values connectable	Yes; channel by channel, parameterizable
Alarms	
• Diagnostic alarm	Yes; Parameterizable
Diagnostic messages	
• Short circuit	Yes; Outputs to M; encoder supply to M; module by module
Diagnostics indication LED	
• Channel status display	Yes; Green LED
• for module diagnostics	Yes; Green/red LED
Galvanic isolation	
between the load voltages	Yes
Electrical isolation channels	
• between the channels, in groups of	4; DIQ channels are isolated from DQ channels
• between the channels and the backplane bus	Yes
• between the channels and the supply voltage of the electronics	No; DIQ channels are non-isolated and DQ channels are isolated from supply voltage 1L+
Permissible potential difference	
between different circuits	60 V DC/50 V AC (basic insulation)
Isolation	
Isolation checked with	707 V DC (type test)
Degree and class of protection	

Degree of protection to EN 60529	
• IP65	Yes
• IP67	Yes
Ambient conditions	
Ambient temperature in operation	
• Min.	-25 °C
• max.	55 °C
Connection method	
Inputs/outputs	M8, 3-pole
Power supply	M8, 4-pole
ET-Connection	
• ET-Connection	M8, 4-pin, shielded
Dimensions	
Width	30 mm
Height	159 mm
Depth	34 mm; Without connector
Weights	
Weight, approx.	145 g
last modified:	12.03.2015