



SIMATIC ET 200AL, DIQ 4+DQ 4x 24 V DC/0.5 A, 8XM8, Degree of protection IP67

General information	
Product type designation	DIQ 4+DQ 4x24VDC/0.5A
HW functional status	E01
Firmware version	V1.0.x
Product function	
• I&M data	Yes; I&M0 to I&M3
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	STEP 7 V13 SP1 or higher
• STEP 7 configurable/integrated from version	From V5.5 SP4 Hotfix 3
• PROFIBUS from GSD version/GSD revision	GSD as of Revision 5
• PROFINET from GSD version/GSD revision	GSDML V2.3.1
Supply voltage	
Load voltage 1L+	
• Rated value (DC)	24 V
• 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
Load voltage 2L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	28.8 V
• Reverse polarity protection	Yes; against destruction; load increasing
Input current	
Current consumption (rated value)	40 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	
• Short-circuit protection	Yes; per module, electronic
• Output current, max.	0.7 A; Total current of all encoders
Power loss	
Power loss, typ.	2.5 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"> Rated value (DC) for signal "0" for signal "1" 	24 V -3 to +5V +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	
<ul style="list-style-type: none"> at "0" to "1", min. at "0" to "1", max. at "1" to "0", min. at "1" to "0", max. 	1.2 ms 4.8 ms 1.2 ms 4.8 ms
Cable length	
<ul style="list-style-type: none"> unshielded, max. 	30 m
Digital outputs	
Number of digital outputs <ul style="list-style-type: none"> in groups of 	8; 4 DQ fixed, 4 DIQ parameterizable 4; 2 load groups for 4 outputs each
Short-circuit protection <ul style="list-style-type: none"> Response threshold, typ. 	Yes; per channel, electronic 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 upper limit 	48 Ω 4 kΩ
Output voltage	
<ul style="list-style-type: none"> for signal "1", min. 	L+ (-0.8 V)
Output current	
<ul style="list-style-type: none"> for signal "1" rated value for signal "0" residual current, max. 	0.5 A 0.5 mA
Switching frequency	
<ul style="list-style-type: none"> with resistive load, max. with inductive load, max. on lamp load, max. 	100 Hz 0.5 Hz 1 Hz
Total current of the outputs	
<ul style="list-style-type: none"> Current per group, max. 	2 A
Cable length	
<ul style="list-style-type: none"> unshielded, max. 	30 m
Encoder	
Connectable encoders	
<ul style="list-style-type: none"> 2-wire sensor <ul style="list-style-type: none"> permissible quiescent current (2-wire sensor), max. 	Yes 1.5 mA
Interrupts/diagnostics/status information	
Substitute values connectable	Yes; channel by channel, parameterizable
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	Yes; Parameterizable
Diagnoses	
<ul style="list-style-type: none"> Short-circuit 	Yes; Outputs to M; encoder supply to M; module by module
Diagnostics indication LED	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> between the channels, in groups of between the channels and backplane bus between the channels and the power supply of the electronics 	4; DIQ channels are isolated from DQ channels Yes No; DIQ channels are non-isolated and DQ channels are isolated from supply voltage 1L+
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"> • Performance level according to ISO 13849-1 • Category according to ISO 13849-1 • SIL acc. to IEC 62061 	PL d Cat. 3 SIL 2
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> • min. • max. 	-30 °C 55 °C
connection method	
Design of electrical connection for the inputs and outputs	M8, 3-pole
Design of electrical connection for supply voltage	M8, 4-pole
ET-Connection	
<ul style="list-style-type: none"> • ET-Connection 	M8, 4-pin, shielded
Dimensions	
Width	30 mm
Height	159 mm
Depth	40 mm
Weights	
Weight, approx.	145 g

last modified: 8/16/2023 