



SIMATIC ET 200AL, DIQ 8x 24VDC/0,5A, 8x M8, Degree of protection IP67

General information	
Product type designation	DIQ 8x24VDC/0.5A, 8xM8
HW functional status	FS01
Firmware version	V2.0.x
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M4
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision 	STEP 7 V18 or higher V5.6 and higher GSD as of Revision 5 GSDML V2.4.x
Supply voltage	
power supply according to NEC Class 2 required	No
Load voltage 1L+	
<ul style="list-style-type: none"> Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection 	24 V 20.4 V 28.8 V Yes; against destruction
Load voltage 2L+	
<ul style="list-style-type: none"> Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection 	24 V 20.4 V 28.8 V Yes; Against destruction; encoder power supply outputs applied with reversed polarity, loads pick up
Input current	
Current consumption (rated value)	20 mA; 20 mA (1L+) / 40 mA (2L+); without load
from load voltage 1L+ (unswitched voltage)	3.25 A; Maximum value
from load voltage 2L+, max.	4 A; Maximum value
Encoder supply	
Number of outputs	8
24 V encoder supply	
<ul style="list-style-type: none"> Short-circuit protection Output current, max. 	Yes; per module, electronic 1.4 A; Total current of all encoders
Power loss	
Power loss, typ.	2.6 W
Digital inputs	
Number of digital inputs	8; Parameterizable as DIQ
Source/sink input	P-reading
Input characteristic curve in accordance with IEC 61131, type 3	Yes

Number of simultaneously controllable inputs	
all mounting positions	
— up to 55 °C, max.	8
Input voltage	
• Rated value (DC)	24 V
• for signal "0"	-3 to +5V
• for signal "1"	+11 to +30V
Input current	
• for signal "1", typ.	2.4 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
Current-sourcing	Yes
output type acc. to IEC 61131, type 0.5	Yes
Short-circuit protection	Yes; per channel, electronic
• Response threshold, typ.	0.7 A
Limitation of inductive shutdown voltage to	2L+ (-47 V)
Switching capacity of the outputs	
• on lamp load, max.	5 W
Load resistance range	
• lower limit	48 Ω
• upper limit	4 kΩ
Output voltage	
• for signal "1", min.	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
Total current of the outputs	
• Current per module, max.	4 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
Diagnoses	
• 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
• For load voltage monitoring	Yes; green LED
Potential separation	
between the load voltages	Yes
Potential separation channels	

- between the channels and backplane bus
- between the channels and the power supply of the electronics

Yes
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
- remark on safety-oriented shutdown <https://support.industry.siemens.com/cs/document/39198632>

Security

signed firmware update Yes

data integrity Yes

Ambient conditions

Ambient temperature during operation

- min. -30 °C
- max. 55 °C

Altitude during operation relating to sea level

- Ambient air temperature-barometric pressure-altitude Up to max. 5 000 m, at installation height > 2 000 m additional restrictions

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

- ET-Connection M8, 4-pin, shielded

Dimensions

Width 30 mm

Height 159 mm

Depth 40 mm

Weights

Weight, approx. 145 g

Classifications

	Version	Classification
eClass	14	27-24-26-04
eClass	12	27-24-26-04
eClass	9.1	27-24-26-04
eClass	9	27-24-26-04
eClass	8	27-24-26-04
eClass	7.1	27-24-26-04
eClass	6	27-24-26-04
ETIM	10	EC001599
ETIM	9	EC001599
ETIM	8	EC001599
ETIM	7	EC001599

Approvals / Certificates

General Product Approval

[Manufacturer Declaration](#)



[KC](#)

[Miscellaneous](#)



General Product Approval

EMV

Maritime application



[KC](#)



Maritime application



[CCS \(China Classification Society\)](#)



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