

SIMATIC ET 200AL, DI 16x 24 V DC, 8x M12, Degree of protection IP67



General information	
Product type designation	DI 16x24VDC
HW functional status	FS03
Firmware version	V1.0.x
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated as of version 	STEP 7 V13 SP1 or higher
<ul style="list-style-type: none"> STEP 7 configurable/integrated as of version 	V5.5 SP4 Hotfix 7 or higher
<ul style="list-style-type: none"> PROFIBUS as of GSD version/GSD revision 	GSD as of Revision 5
<ul style="list-style-type: none"> PROFINET as of GSD version/GSD revision 	GSDML V2.3.1
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

- Reverse polarity protection

Yes; Against destruction; encoder power supply outputs applied with reversed polarity

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	8
24 V encoder supply	
• Short-circuit protection	Yes; per module, electronic
• Output current, max.	1.4 A; Total current of all encoders

Power loss

Power loss, typ.	2.7 W
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Digital inputs

Number of digital inputs	16
Input characteristic curve in accordance with IEC 61131, type 3	Yes

Number of simultaneously controllable inputs

all mounting positions

— up to 55 °C, max.

16

Input voltage

- Rated value (DC) 24 V
- for signal "0" -30 to +5V
- for signal "1" +11 to +30V

Input current

- 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

- 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

Alarms	
• Diagnostic alarm	Yes; Parameterizable
Diagnostic messages	
• Short-circuit	Yes; Sensor supply to M; module by module
Diagnostics indication LED	
• Channel status display	Yes; Green LED
• for module diagnostics	Yes; Green/red LED
Potential separation	
between the load voltages	Yes
Potential separation channels	
• between the channels	No
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	No
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
• SILCL according to IEC 62061	SILCL 2
Ambient conditions	
Ambient temperature during operation	
• min.	-30 °C
• max.	55 °C
Connection method	
Design of electrical connection for the inputs and outputs	M12, 5-pole
Design of electrical connection for supply voltage	M8, 4-pole
ET-Connection	
• ET-Connection	M8, 4-pin, shielded
Dimensions	
Width	45 mm
Height	159 mm
Depth	40 mm
Weights	

Weight, approx.

184 g

last modified:

11/13/2019