



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	FS06
Firmware version	V2.0.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	
power supply according to NEC Class 2 required	No
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; 40 mA (1L+) / 20 mA (2L+); 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
Sourcing/sinking input	P-reading
Input characteristic curve in accordance with IEC 61131, type 3	Yes
<b>Number of simultaneously controllable inputs</b>	
all mounting positions	
— up to 55 °C, max.	4
<b>Input voltage</b>	
• Rated value (DC)	24 V
• for signal "0"	-3 to +5V
• for signal "1"	+11 to +30V
<b>Input current</b>	
• for signal "1", typ.	3.2 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
• in groups of	4; 2 load groups for 4 outputs each
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)
<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 group, max.	2 A
<b>Cable length</b>	
• unshielded, max.	30 m
<b>Encoder</b>	
Connectable encoders	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
<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 M; encoder supply to M; 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>		
• between the channels, in groups of	4; DIQ channels are isolated from DQ channels	
• between the channels and backplane bus	Yes	
• between the channels and the power supply of the electronics	No; DIQ channels are non-isolated and DQ channels are isolated from supply voltage 1L+	
<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>		
• 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	<a href="https://support.industry.siemens.com/cs/de/en/view/39198632">https://support.industry.siemens.com/cs/de/en/view/39198632</a>	
<b>Security</b>		
signed firmware update	Yes	
data integrity	Yes	
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• min.	-30 °C	
• max.	55 °C	
<b>Altitude during operation relating to sea level</b>		
• Ambient air temperature-barometric pressure-altitude	Up to max. 5 000 m, at installation height > 2 000 m additional restrictions	
<b>Connection method</b>		
Design of electrical connection for the inputs and outputs	M8, 3-pole	
Design of electrical connection for supply voltage	M8, 4-pole	
<b>ET-Connection</b>		
• ET-Connection	M8, 4-pin, shielded	
<b>Dimensions</b>		
Width	30 mm	
Height	159 mm	
Depth	40 mm	
<b>Weights</b>		
Weight, approx.	145 g	
<b>Classifications</b>		
	<b>Version</b>	<b>Classification</b>
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
IDEA	4	3566
UNSPSC	15	32-15-17-05
<b>Approvals / Certificates</b>		
<b>General Product Approval</b>		

[Miscellaneous](#)

[Manufacturer Declaration](#)



General Product Approval

EMV



[China RoHS](#)



For use in hazardous locations



[FM](#)

[CCC-Ex](#)



[Type Examination Certificate](#)



IECEX

For use in hazardous locations

Maritime application

[Miscellaneous](#)

[CCC-Ex](#)



ABS



BUREAU VERITAS



DNV



LRS

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Environment

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RINA



RMRS

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

[KR \(Korean Register of Shipping\)](#)



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