



SIMATIC ET 200eco PN, DQ 8x 24 V DC/2A, M12-L, 8x M12, single and double assignment, source output (PNP, switching to P potential), substitute value output, channel diagnostics for wire break and short-circuit at the output, shared device with 2 controllers, 0.25 ms isochronous mode, prioritized startup, MSO, MRP, S2 redundancy, I&M0...3, multi-fieldbus, PN IO, Ethernet IP, Modbus TCP, degree of protection IP67

General information	
HW functional status	FS02
Firmware version	V5.1.x
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
Vendor identification (VendorID)	002AH
Device identifier (DeviceID)	0306H
Manufacturer ID according to ODVA (VendorID)	04E3H
Device ID according to ODVA (Product code)	0FA7H
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Prioritized startup</li> </ul>	Yes
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	STEP 7 V17 or higher with HSP 0363
<ul style="list-style-type: none"> <li>PROFINET from GSD version/GSD revision</li> </ul>	GSDML V2.3.x
<ul style="list-style-type: none"> <li>Multi Fieldbus Configuration Tool (MFCT)</li> </ul>	from V1.3 SP1
Operating mode	
<ul style="list-style-type: none"> <li>DQ</li> </ul>	Yes
<ul style="list-style-type: none"> <li>MSO</li> </ul>	Yes
Supply voltage	
power supply according to NEC Class 2 required	No
Load voltage 1L+	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>permissible range, lower limit (DC)</li> </ul>	20.4 V
<ul style="list-style-type: none"> <li>permissible range, upper limit (DC)</li> </ul>	28.8 V
<ul style="list-style-type: none"> <li>Reverse polarity protection</li> </ul>	Yes
Load voltage 2L+	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>permissible range, lower limit (DC)</li> </ul>	20.4 V
<ul style="list-style-type: none"> <li>permissible range, upper limit (DC)</li> </ul>	28.8 V
<ul style="list-style-type: none"> <li>Reverse polarity protection</li> </ul>	Yes; against destruction
Input current	
Current consumption (rated value)	65 mA; without load
from load voltage 1L+ (unswitched voltage)	12 A; Maximum value
from load voltage 2L+, max.	12 A; Maximum value
Power loss	
Power loss, typ.	8.2 W
Address area	

<b>Address space per module</b>	
• Inputs	1 byte for QI information
• Outputs	1 byte
<b>Hardware configuration</b>	
<b>Submodules</b>	
• Number of configurable submodules, max.	2
<b>Digital outputs</b>	
Number of digital outputs	8
Current-sourcing	Yes
Short-circuit protection	Yes; per channel, electronic
• Response threshold, typ.	4 A
Limitation of inductive shutdown voltage to	Type -14 V
Controlling a digital input	Yes
<b>Switching capacity of the outputs</b>	
• with resistive load, max.	2 A
• with inductive load, max.	2 A
• on lamp load, max.	10 W
<b>Load resistance range</b>	
• lower limit	12 Ω
• upper limit	4 kΩ
<b>Output voltage</b>	
• for signal "1", min.	2L+ (-0,8 V)
<b>Output current</b>	
• for signal "1" rated value	2 A
• for signal "1" permissible range, max.	2 A
• for signal "0" residual current, max.	0.2 mA
<b>Output delay with resistive load</b>	
• "0" to "1", max.	50 μs; at rated load
• "1" to "0", max.	100 μs; at rated load
<b>Parallel switching of two outputs</b>	
• for uprating	No
• for redundant control of a load	Yes
<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 module, max.	8 A
<b>Cable length</b>	
• unshielded, max.	30 m
<b>Interfaces</b>	
Number of PROFINET interfaces	1
<b>1. Interface</b>	
Interface type	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
<b>Interface types</b>	
• M12 port	Yes; 2x M12, 4-pin, D-coded
• Number of ports	2
• integrated switch	Yes
<b>Protocols</b>	
• PROFINET IO Device	Yes
• Open IE communication	Yes
<b>Interface types</b>	
<b>M12 port</b>	
• Autonegotiation	Yes
• Autocrossing	Yes
• Transmission rate, max.	100 Mbit/s
<b>Protocols</b>	
Supports protocol for PROFINET IO	Yes
PROFIsafe	No

EtherNet/IP	Yes
Modbus TCP	Yes
<b>PROFINET IO Device</b>	
Services	
— IRT	Yes; 250 µs to 4 ms in 125 µs frame
— Prioritized startup	Yes
— Shared device	Yes
— Number of IO Controllers with shared device, max.	2
Redundancy mode	
• PROFINET system redundancy (S2)	Yes
— on S7-1500R/H	Yes
— on S7-400H	Yes
• Redundant PROFINET configuration (R1)	No
• H-Sync forwarding	Yes
Media redundancy	
— MRP	Yes
<b>EtherNet/IP</b>	
Services	
— CIP Implicit Messaging	Yes
— CIP Explicit Messaging	Yes
— CIP Safety	No
— Shared device	Yes; 2x EtherNet/IP Scanner
— Number of scanners with shared device, max.	2
Updating times	
— Requested Packet Interval (RPI)	2 ms
Redundancy mode	
— DLR (Device Level Ring)	No
Address area	
— Address space per module, max.	20 byte
— LargeForwardOpen (Class3)	No
<b>Modbus TCP</b>	
Services	
— read coils (code=1)	Yes
— read discrete inputs (code=2)	Yes
— Read Holding Registers (Code=3)	Yes
— write single coil (code=5)	Yes
— write multiple coils (code=15)	Yes
— Write Multiple Registers (Code=16)	Yes
— Parameter change by master	No
— Modbus TCP Security Protocol	No
Address space per station	
— Address space per station, max.	20 byte
— Access-consistent address space	2 byte
Updating time	
— I/O request interval	2 ms
Connections	
— Number of connections per slave	12
<b>Open IE communication</b>	
• TCP/IP	Yes; (only EtherNet/IP or Modbus TCP)
• SNMP	Yes
• LLDP	Yes
• ARP	Yes
<b>Isochronous mode</b>	
Equidistance	Yes
shortest clock pulse	250 µs
max. cycle	4 ms
Jitter, max.	10 µs
<b>Interrupts/diagnostics/status information</b>	
Substitute values connectable	Yes

<b>Alarms</b>	
• Diagnostic alarm	Yes; Parameterizable
• Maintenance interrupt	Yes; Parameterizable
<b>Diagnoses</b>	
• Diagnostic information readable	Yes
• Monitoring the supply voltage	Yes
— parameterizable	Yes
• Wire-break	Yes
• Short-circuit	Yes; Outputs to M; channel by channel
<b>Diagnostics indication LED</b>	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• MAINT LED	Yes; Yellow LED
• NS LED	Yes; green/red LED
• MS LED	Yes; green/red LED
• IO LED	Yes; red-green-yellow LED
• Channel status display	Yes; green LED
• for channel diagnostics	Yes; red LED
• For load voltage monitoring	Yes; green LED
• Connection display LINK TX/RX	Yes; green LED, only link
<b>Potential separation</b>	
between the load voltages	Yes
between Ethernet and electronics	Yes
<b>Potential separation channels</b>	
• between the channels	No
• between the channels and the power supply of the electronics	Yes
<b>Isolation</b>	
tested with	
• 24 V DC circuits	707 V DC (type test)
• Test voltage for interface, rms value [Vrms]	1 500 V; According to IEEE 802.3
<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 FS02
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
<b>Ambient conditions</b>	
Ambient temperature during operation	
• min.	-40 °C
• max.	60 °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
<b>connection method / header</b>	
Design of electrical connection	4/5-pin M12 circular connectors
Design of electrical connection for the inputs and outputs	M12, 5-pin, A-coded
Design of electrical connection for supply voltage	M12, 4-pin, L-coded
<b>Dimensions</b>	
Width	45 mm
Height	200 mm
Depth	48 mm
<b>Weights</b>	
Weight, approx.	780 g
<b>last modified:</b>	3/7/2022 