



SIMATIC ET 200eco PN, DI 8x 24 V DC, M12-L, 8x M12, single and double assignment, input type 3 (IEC 61131), sink input (PNP, sinking input), input delay 0.05..20 ms, channel diagnostics for: wire break at input, encoder power supply short-circuit, 0.25 ms isochronous mode, prioritized startup, MSI, MRP, S2 redundancy, I&M0...3, multi-fieldbus, PN IO, Ethernet IP, Modbus TCP, degree of protection IP67 / IP69K

General information	
HW functional status	FS05
Firmware version	V5.1.x
• FW update possible	Yes
Vendor identification (VendorID)	002AH
Device identifier (DeviceID)	0306H
Manufacturer ID according to ODVA (VendorID)	04E3H
Device ID according to ODVA (Product code)	0FA4H
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	Yes
• IRT	Yes
• Prioritized startup	Yes
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	STEP 7 V17 or higher with HSP 0363
• PROFINET from GSD version/GSD revision	GSDML V2.4.x
• Multi Fieldbus Configuration Tool (MFCT)	from V1.3 SP1
Operating mode	
• DI	Yes
• Counter	No
• MSI	Yes
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
Input current	
Current consumption (rated value)	85 mA; without load
from load voltage 1L+ (unswitched voltage)	12 A; Maximum value
from load voltage 2L+, max.	12 A; Maximum value
Encoder supply	
Number of outputs	8
24 V encoder supply	
• Short-circuit protection	Yes; per channel, electronic
• Output current, max.	100 mA; per output
Power loss	

Power loss, typ.	7.6 W
Address area	
Address space per module	
• Inputs	1 byte; + 1 byte for QI information
Hardware configuration	
Submodules	
• Number of configurable submodules, max.	2
Digital inputs	
Number of digital inputs	8
Digital inputs, parameterizable	Yes
Sourcing/sinking input	P-reading
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 60 °C, max.	8
Input voltage	
• Rated value (DC)	24 V
• for signal "0"	-30 to +5 V
• 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	
— parameterizable	Yes; 0.05 / 0.1 / 0.4 / 0.8 / 1.6 / 3.2 / 12.8 / 20 ms
Cable length	
• unshielded, max.	30 m
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
Interfaces	
Transmission procedure	100BASE-TX
Number of PROFINET interfaces	1
1. Interface	
Interface type	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
Interface types	
• M12 port	Yes; 2x M12, 4-pin, D-coded
• Number of ports	2
• integrated switch	Yes
Protocols	
• PROFINET IO Device	Yes
• Open IE communication	Yes
PROFINET IO Device	
Services	
— IRT	Yes; 250 µs to 4 ms in 125 µs frame
— Prioritized startup	Yes
— Shared device	Yes
Interface types	
M12 port	
• Autonegotiation	Yes
• Autocrossing	Yes
• Transmission rate, max.	100 Mbit/s
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIsafe	No
EtherNet/IP	Yes
Modbus TCP	Yes
Redundancy mode	

• PROFINET system redundancy (S2)	Yes
— on S7-1500R/H	Yes
— on S7-400H	Yes
• PROFINET system redundancy (R1)	No
• H-Sync forwarding	Yes
Media redundancy	
— MRP	Yes
— MRPD	No
EtherNet/IP	
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
Modbus TCP	
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 device	12
Open IE communication	
• TCP/IP	Yes; (only EtherNet/IP or Modbus TCP)
• SNMP	Yes
• LLDP	Yes
• ARP	Yes
Isochronous mode	
Equidistance	Yes
shortest clock pulse	250 µs
max. cycle	4 ms
Jitter, max.	10 µs
Interrupts/diagnostics/status information	
Alarms	
• Diagnostic alarm	Yes; Parameterizable
• Maintenance interrupt	Yes; Parameterizable
• Hardware interrupt	Yes; Parameterizable
Diagnoses	
• Diagnostic information readable	Yes
• Monitoring the supply voltage	Yes
— parameterizable	Yes
• Wire break	Yes; DI, input current < 0.3 mA, per channel

<ul style="list-style-type: none">• Short-circuit encoder supply	Yes; Per channel group		
Diagnostics indication LED			
<ul style="list-style-type: none">• RUN LED	Yes; green LED		
<ul style="list-style-type: none">• ERROR LED	Yes; red LED		
<ul style="list-style-type: none">• MAINT LED	Yes; Yellow LED		
<ul style="list-style-type: none">• NS LED	Yes; green/red LED		
<ul style="list-style-type: none">• MS LED	Yes; green/red LED		
<ul style="list-style-type: none">• IO LED	Yes; red/green/yellow LEDs		
<ul style="list-style-type: none">• Channel status display	Yes; green LED		
<ul style="list-style-type: none">• for channel diagnostics	Yes; red LED		
<ul style="list-style-type: none">• Connection display LINK TX/RX	Yes; green LED, only link		
Potential separation			
between the load voltages	Yes		
between Ethernet and electronics	Yes		
Potential separation channels			
<ul style="list-style-type: none">• between the channels	No		
<ul style="list-style-type: none">• between the channels and the power supply of the electronics	No		
Isolation			
tested with			
<ul style="list-style-type: none">• 24 V DC circuits	707 V DC (type test)		
<ul style="list-style-type: none">• Test voltage for interface, rms value [Vrms]	1 500 V; According to IEEE 802.3		
Degree and class of protection			
IP degree of protection	IP65/67/69K		
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	PL d		
<ul style="list-style-type: none">• Category according to ISO 13849-1	Cat. 3		
<ul style="list-style-type: none">• SIL acc. to IEC 62061	SIL 2		
<ul style="list-style-type: none">• remark on safety-oriented shutdown	https://www.modulplc.com/?s=6ES7141-6BG00-0BB0		
Use in hazardous areas			
<ul style="list-style-type: none">• Explosion protection category for gas	ATEX, UKEX, IECEx, CCCEx for Zone 2		
<ul style="list-style-type: none">• Explosion protection category for dust	ATEX, UKEX, IECEx, CCCEx for Zone 22		
Security			
signed firmware update	Yes		
safely removing data	Yes		
Ambient conditions			
Ambient temperature during operation			
<ul style="list-style-type: none">• min.	-40 °C		
<ul style="list-style-type: none">• max.	60 °C		
Altitude during operation relating to sea level			
<ul style="list-style-type: none">• 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	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		
Dimensions			
Width	45 mm		
Height	200 mm		
Depth	48 mm		
Weights			
Weight, approx.	780 g		
Classifications			
		Version	Classification
	eClass	16	27-24-26-04
	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

Approvals / Certificates

General Product Approval

[Miscellaneous](#)

[Manufacturer Declaration](#)



General Product Approval

For use in hazardous locations



[China RoHS](#)

[CCC-Ex](#)



[Miscellaneous](#)

For use in hazardous locations

Maritime application

[CCC-Ex](#)



[NK / Nippon Kaiji Kyokai](#)

Maritime application

other

Food, Pharmaceutical, Medical

Environment



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

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



[Confirmation](#)



Environment

Industrial Communication



[PROFINET](#)

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