

I/O systems

SIMATIC ET 200 systems without control cabinet

SIMATIC ET 200eco PN

Technical specifications (continued)

Article number	6ES7142-6BF50-0AB0 ET 200ECO PN, 8DO, DC24V/0.5A, 4XM12	6ES7142-6BF00-0AB0 ET 200ECO PN, 8DO, DC24V/1.3A, 4XM12	6ES7142-6BG00-0AB0 ET 200ECO PN, 8DO, DC24V/1.3A, 8XM12	6ES7142-6BR00-0AB0 ET 200ECO PN, 8 DO, DC24V/2A, 8XM12	6ES7142-6BH00-0AB0 ET 200ECO PN, 16DO DC24V/1.3A, 8XM12
Potential separation					
between the load voltages	Yes	Yes	Yes	Yes	Yes
between load voltage and all other switching components	No	No	No	No	No
between Ethernet and electronics	Yes	Yes	Yes	Yes	Yes
Potential separation digital outputs					
• between the channels	No	No	No	No	No
Isolation					
tested with					
• 24 V DC circuits	707 V DC (type test)	707 V DC (type test)	707 V DC (type test)	707 V DC (type test)	707 V DC (type test)
• Interface	1 500 V; According to IEEE 802.3	1 500 V; According to IEEE 802.3	1 500 V; According to IEEE 802.3	1 500 V; According to IEEE 802.3	1 500 V; According to IEEE 802.3
Degree and class of protection					
IP degree of protection	IP67	IP65/67	IP67	IP67	IP67
Connection method					
Design of electrical connection	4/5-pin M12 circular connectors	4/5-pin M12 circular connectors	4/5-pin M12 circular connectors	4/5-pin M12 circular connectors	4/5-pin M12 circular connectors
Dimensions					
Width	30 mm	30 mm	60 mm	60 mm	60 mm
Height	200 mm	200 mm	175 mm	175 mm	175 mm
Depth	49 mm	49 mm	49 mm	49 mm	49 mm
Weights					
Weight (without packaging)	550 g	550 g	910 g	910 g	910 g

Article number	6ES7147-6BG00-0AB0 ET 200ECO PN, 8 DIO, DC24V/1.3A, 8XM12
General information	
Vendor identification (VendorID)	002AH
Device identifier (DeviceID)	0306H
Supply voltage	
Rated value (DC)	24 V
Reverse polarity protection	Yes
Load voltage 2L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
Current consumption, typ.	100 mA
from supply voltage 1L+, max.	4 A
from load voltage 2L+, max.	4 A
Encoder supply	
Number of outputs	8
Short-circuit protection	Yes; Electronic
Output current	
• Rated value	100 mA; per output
Power loss	
Power loss, typ.	6.5 W
Digital inputs	
Number of digital inputs	8
• in groups of	4
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

Article number	6ES7147-6BG00-0AB0 ET 200ECO PN, 8 DIO, DC24V/1.3A, 8XM12
Input voltage	
• Type of input voltage	DC
• Rated value (DC)	24 V
• for signal "0"	-3 to +5V
• for signal "1"	+11 to +30V
Input current	
• for signal "1", typ.	7 mA
Input delay (for rated value of input voltage) for standard inputs	
- at "0" to "1", max.	typically 3 ms
- at "1" to "0", max.	typically 3 ms
Cable length	
• unshielded, max.	30 m
Digital outputs	
Number of digital outputs	8
• in groups of	4
Short-circuit protection	Yes; Electronic
• Response threshold, typ.	1.8 A
Limitation of inductive shutdown voltage to	Typ. (L1+, L2+) -47 V
Controlling a digital input	Yes
Switching capacity of the outputs	
• on lamp load, max.	5 W
Output current	
• for signal "1" rated value	1.3 A; Maximum
• for signal "0" residual current, max.	1.5 mA

Technical specifications (continued)

Article number	6ES7147-6BG00-0AB0 ET 200ECO PN, 8 DIO, DC24V/1.3A, 8XM12
Parallel switching of two outputs	
• for uprating	No
• for redundant control of a load	Yes
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 (per group)	
all mounting positions	
- up to 60 °C, max.	3.9 A
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
PROFINET IO	
• Autocrossing	Yes
• automatic detection of transmission rate	Yes
• Transmission rate, max.	100 Mbit/s
• integrated switch	Yes
PROFINET IO Device	
- IRT with the option "high flexibility"	Yes
- Prioritized startup	Yes
Protocols	
Supports protocol for PROFINET IO	Yes
PROFINET CBA	No
PROFIsafe	No
Protocols (Ethernet)	
• TCP/IP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
• ping	Yes
• ARP	Yes

Article number	6ES7147-6BG00-0AB0 ET 200ECO PN, 8 DIO, DC24V/1.3A, 8XM12
Interrupts/diagnostics/status information	
Status indicator	Yes; Green LED
Diagnostic functions	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnostic messages	
• Diagnostic information readable	Yes
• Monitoring the supply voltage	Yes; Green "ON" LED
• Wire-break in actuator cable	Yes
• Wire-break in signal transmitter cable	Yes
• Short-circuit	Yes
• Short-circuit encoder supply	Yes
• Group error	Yes; Red/yellow "SF/MT" LED
Potential separation	
between the load voltages	Yes
between load voltage and all other switching components	No
between Ethernet and electronics	Yes
Potential separation digital inputs	
• between the channels	No
Potential separation digital outputs	
• between the channels	No
Isolation	
tested with	
• 24 V DC circuits	707 V DC (type test)
• Interface	1 500 V; According to IEEE 802.3
Degree and class of protection	
IP degree of protection	IP65/67
Connection method	
Design of electrical connection	4/5-pin M12 circular connectors
Dimensions	
Width	60 mm
Height	175 mm
Depth	49 mm
Weights	
Weight (without packaging)	910 g

Ordering data	Article No.	Article No.
ET 200eco PN digital input modules <ul style="list-style-type: none"> 8 DI 24 V DC; 4 x M12, dual assignment, IP67 degree of protection 8 DI 24 V DC; 8 x M12, IP67 degree of protection 16 DI 24 V DC; 8 x M12, dual assignment, IP67 degree of protection 	6ES7141-6BF00-0AB0 6ES7141-6BG00-0AB0 6ES7141-6BH00-0AB0	PROFINET M12 connector, for user assembly IE FC M12 PRO connector, for user assembly <ul style="list-style-type: none"> 1 unit 8 units
ET 200eco PN digital output modules <ul style="list-style-type: none"> 8 DO 24 V DC/0.5 A; 4 x M12, dual assignment, 1 load voltage supply DO; IP67 degree of protection 8 DO 24 V DC/1.3 A; 4 x M12, dual assignment, IP67 degree of protection 8 DO 24 V DC/1.3 A; 8 x M12, IP67 degree of protection 8 DO 24 V DC/2 A; 8 x M12, IP67 degree of protection 16 DO 24 V DC/1.3 A; 8 x M12, dual assignment, IP67 degree of protection 	6ES7142-6BF50-0AB0 6ES7142-6BF00-0AB0 6ES7142-6BG00-0AB0 6ES7142-6BR00-0AB0 6ES7142-6BH00-0AB0	PROFINET M12 connecting cables Pre-assembled connecting cables with 2 M12 connectors (D-coded) in various lengths: <ul style="list-style-type: none"> 0.3 m 0.5 m 1.0 m 1.5 m 2.0 m 3.0 m 5.0 m 10.0 m 15.0 m
ET 200eco PN digital input/output modules <ul style="list-style-type: none"> 8 DI/DO 24 V DC/1.3 A; 8 x M12, IP67 degree of protection 	6ES7147-6BG00-0AB0	M12 connector for 24 V DC load power supply Connection socket for 24 V DC incoming supply; 4-pin, A-coded, 3 units Connector for loop-through of 24 V DC; 4-pin, A-coded, 3 units
ET 200eco PN analog input modules <ul style="list-style-type: none"> 8 AI 4 U/I + 4 RTD/TC; 8 x M12, IP67 degree of protection 8 AI RTD/TC; 8 x M12, IP67 degree of protection 	6ES7144-6KD00-0AB0 6ES7144-6KD50-0AB0	M12 plug-in power cables Pre-assembled plug-in power cables, fitted at each end with M12 socket and plug 4 x 0.75 mm ² , in various lengths: <ul style="list-style-type: none"> 0.3 m 0.5 m 1.0 m 1.5 m 2.0 m 3.0 m 5.0 m 10.0 m 15.0 m
ET 200eco PN analog output modules <ul style="list-style-type: none"> 4 AO U/I; 4 x M12, IP67 degree of protection 	6ES7145-6HD00-0AB0	M12 coupler plug Can be assembled, for connecting actuators or sensors, 5-pin
ET 200eco PN IO-Link master modules <ul style="list-style-type: none"> 4 IO-L + 8 DI + 4 DO, 24 V DC/1.3 A; 8 x M12, IP67 degree of protection, enclosure width 60 mm; for connecting up to 4 IO-Link devices according to IO-Link Specification V1.0 and port Class A as well as 8 digital inputs and 4 digital outputs 4 IO-L; 4 x M12, IP67 degree of protection, enclosure width 30 mm; for connecting up to 4 IO-Link devices according to IO-Link Specification V1.0 and V1.1 and port Class B 	6ES7148-6JA00-0AB0 6ES7148-6JD00-0AB0	M12 Y cable For double connection of I/O by means of single cable to ET 200, 5-pin
Accessories <ul style="list-style-type: none"> PD voltage distributor, 24 V DC; 1 X 7/8", 4 X M12 Terminal block for ET 200eco PN, 10 A insulation displacement terminals Spare fuses for terminal block, 10 units DIN rail 0.5 m Profile screw for DIN rail, 50 units M12 sealing cap for IP67 modules, 10 units Labels 10 x 7 mm, pastel turquoise, 816 units 	6ES7148-6CB00-0AA0 6ES7194-6CA00-0AA0 6ES7194-6HB00-0AA0 6ES7194-6GA00-0AA0 6ES7194-6MA00-0AA0 3RX9802-0AA00 3RT1900-1SB10	