

I/O systems

SIMATIC ET 200 systems without control cabinet

SIMATIC ET 200eco PN

Technical specifications (continued)

Article number	6ES7141-6BF00-0AB0 ET 200ECO PN, 8DI, DC24V, 4XM12	6ES7141-6BG00-0AB0 ET 200ECO PN, 8DI, DC24V, 8XM12	6ES7141-6BH00-0AB0 ET 200ECO PN, 16DI, DC24V, 8XM12
Potential separation			
between the load voltages	Yes	Yes	Yes
between load voltage and all other switching components	No	No	No
between Ethernet and electronics	Yes	Yes	Yes
Potential separation digital inputs			
• between the channels	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)
• 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
Degree and class of protection			
IP degree of protection	IP65/67	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
Dimensions			
Width	30 mm	60 mm	60 mm
Height	200 mm	175 mm	175 mm
Depth	49 mm	49 mm	49 mm
Weights			
Weight (without packaging)	550 g	910 g	910 g

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
General information					
Vendor identification (VendorID)	002AH	002AH	002AH	002AH	002AH
Device identifier (DeviceID)	0306H	0306H	0306H	0306H	0306H
Supply voltage					
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
Reverse polarity protection	Yes	Yes	Yes	Yes	Yes
Load voltage 2L+					
• Rated value (DC)	24 V	24 V	24 V	24 V	24 V
• Reverse polarity protection	Yes	Yes	Yes	Yes	Yes
Input current					
Current consumption, typ.	100 mA	100 mA	100 mA	100 mA	100 mA
from supply voltage 1L+, max.	4 A	4 A	4 A	4 A	4 A
from load voltage 2L+, max.	4 A	4 A	4 A	4 A	4 A
Power loss					
Power loss, typ.	3 W	5.5 W	5.5 W	5 W	5.5 W
Digital outputs					
Number of digital outputs	8	8	8	8	16
• in groups of	8	4	4	4	8
Short-circuit protection	Yes	Yes	Yes	Yes	Yes
• Response threshold, typ.	0.7 A	1.8 A	1.8 A	2.8 A	1.8 A
Limitation of inductive shutdown voltage to	Typ. (L1+, L2+) -47 V	Typ. (L1+, L2+) -47 V	Typ. (L1+, L2+) -47 V	Typ. (L1+, L2+) -47 V	Typ. (L1+, L2+) -47 V
Controlling a digital input	Yes	Yes	Yes	Yes	Yes
Switching capacity of the outputs					
• on lamp load, max.	5 W	5 W	5 W	10 W	5 W
Output current					
• for signal "1" rated value	0.5 A	1.3 A; Maximum	1.3 A; Maximum	2 A	1.3 A; Maximum
• for signal "0" residual current, max.	1.5 mA	1.5 mA	1.5 mA	1.5 mA	1.5 mA

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
Parallel switching of two outputs					
• for uprating	No	No	No	No	No
• for redundant control of a load	Yes	Yes	Yes	Yes	Yes
Switching frequency					
• with resistive load, max.	100 Hz	100 Hz	100 Hz	100 Hz	100 Hz
• with inductive load, max.	0.5 Hz	0.5 Hz	0.5 Hz	0.5 Hz	0.5 Hz
• on lamp load, max.	1 Hz	1 Hz	1 Hz	1 Hz	1 Hz
Total current of the outputs (per group)					
all mounting positions					
- up to 55 °C, max.		3.9 A			
- up to 60 °C, max.	4 A	2.6 A	3.9 A	3.9 A	3.9 A
Cable length					
• unshielded, max.	30 m	30 m	30 m	30 m	30 m
Interfaces					
Transmission procedure	100BASE-TX	100BASE-TX	100BASE-TX	100BASE-TX	100BASE-TX
Number of PROFINET interfaces	1	1	1	1	1
PROFINET IO					
• Autocrossing	Yes	Yes	Yes	Yes	Yes
• automatic detection of transmission rate	Yes	Yes	Yes	Yes	Yes
• Transmission rate, max.	100 Mbit/s	100 Mbit/s	100 Mbit/s	100 Mbit/s	100 Mbit/s
• integrated switch	Yes	Yes	Yes	Yes	Yes
PROFINET IO Device					
- IRT with the option "high flexibility"	Yes	Yes	Yes	Yes	Yes
- Prioritized startup	Yes	Yes	Yes	Yes	Yes
Protocols					
Supports protocol for PROFINET IO	Yes	Yes	Yes	Yes	Yes
PROFINET CBA	No	No	No	No	No
PROFIsafe	No	No	No	No	No
Protocols (Ethernet)					
• TCP/IP	No	No	No	No	No
• SNMP	Yes	Yes	Yes	Yes	Yes
• DCP	Yes	Yes	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes	Yes	Yes
• ping	Yes	Yes	Yes	Yes	Yes
• ARP	Yes	Yes	Yes	Yes	Yes
Interrupts/diagnostics/status information					
Status indicator	Yes; Green LED	Yes; Green LED	Yes; Green LED	Yes; Green LED	Yes; Green LED
Diagnostic functions	Yes	Yes	Yes	Yes	Yes
Alarms					
• Diagnostic alarm	Yes	Yes	Yes	Yes	Yes
Diagnostic messages					
• Diagnostic information readable	Yes	Yes	Yes	Yes	Yes
• Monitoring the supply voltage	Yes; Green "ON" LED	Yes; Green "ON" LED	Yes; Green "ON" LED	Yes; Green "ON" LED	Yes; Green "ON" LED
• Wire-break in actuator cable	Yes	Yes	Yes	Yes	Yes
• Short-circuit	Yes	Yes	Yes	Yes	Yes
• Group error	Yes; Red/yellow "SF/MT" LED	Yes; Red/yellow "SF/MT" LED	Yes; Red/yellow "SF/MT" LED	Yes; Red/yellow "SF/MT" LED	Yes; Red/yellow "SF/MT" LED

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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