

Technical specifications (continued)

Article number	6ES7142-4BD00-0AA0 ET 200PRO, EM 4DO 24V DC/2.0A	6ES7142-4BD00-0AB0 ET 200PRO, EM 4DO 24VDC/2.0A HF	6ES7142-4BF00-0AA0 ET 200PRO, EM 8DO DC24V/0.5A
Parameter			
Diagnostics wire break		channel by channel	
Diagnostics short-circuit		channel by channel	
Potential separation			
between backplane bus and all other circuit components	Yes	Yes	Yes
Potential separation digital outputs			
• between the channels	No	No	No
• between the channels and backplane bus	Yes	Yes	Yes
Isolation			
Isolation tested with	707 V DC (type test)	707 V DC (type test)	707 V DC (type test)
Dimensions			
Width	45 mm	45 mm	45 mm
Height	130 mm	130 mm	130 mm
Depth	35 mm	35 mm; without terminal module	35 mm
Weights			
Weight, approx.	140 g	140 g	140 g

Article number	6ES7143-4BF50-0AA0 ET 200PRO, EM 4DI / 4DO DC 24V, 0.5A	6ES7143-4BF00-0AA0 ET 200PRO, EM 4 DIO / 4 DO DC 24V, 0.5A
Supply voltage		
Rated value (DC)		24 V
Reverse polarity protection		Yes; Against destruction; encoder power supply outputs applied with reversed polarity
Load voltage 2L+		
• Rated value (DC)	24 V	24 V
• Short-circuit protection	Yes	Yes
• Reverse polarity protection	Yes	Yes; against destruction; load increasing
Input current		
from supply voltage 1L+, max.		20 mA
from load voltage 2L+ (without load), max.	20 mA	20 mA
from backplane bus 3.3 V DC, max.	20 mA	30 mA
Encoder supply		
Number of outputs	4	4
Short-circuit protection	Yes; per module, electronic	Yes; per module, electronic
Output current		
• up to 55 °C, max.	1 A	1 A
Power loss		
Power loss, typ.	2 W	3 W
Digital inputs		
Number of digital inputs	4	4; 4 DIOs can be parameterized
Input characteristic curve in accordance with IEC 61131, type 3	Yes	Yes
Number of simultaneously controllable inputs		
all mounting positions		
- up to 55 °C, max.		4
Input voltage		
• Rated value (DC)	24 V	24 V
• for signal *0*	-3 to +5V	-3 to +5V
• for signal *1*	+11 to +30V	+11 to +30V
Input current		
• for signal *1*, typ.	7 mA	7 mA

I/O systems

SIMATIC ET 200 systems without control cabinet

SIMATIC ET 200pro

I/O modules > Digital expansion modules**Technical specifications (continued)**

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Input delay (for rated value of input voltage)		
for standard inputs		
- at "0" to "1", min.		1.2 ms
- at "0" to "1", max.	3 ms	4.8 ms
- at "1" to "0", min.		1.2 ms
- at "1" to "0", max.	3 ms	4.8 ms
Cable length		
• shielded, max.	30 m	30 m
• unshielded, max.	30 m	30 m
Digital outputs		
Number of digital outputs	4	8; 4 DO fixed, 4 DIO parameterizable
• in groups of		4; 2 load groups for 4 outputs each
Short-circuit protection	Yes; per channel, electronic	Yes; per channel, electronic
• Response threshold, typ.	0.7 A	0.7 A
Limitation of inductive shutdown voltage to	Typ. (2L+) -47 V	Typ. (L1+, L2+) -47 V
Controlling a digital input	Yes	Yes
Switching capacity of the outputs		
• on lamp load, max.	5 W	5 W
Load resistance range		
• lower limit	48 Ω	48 Ω
• upper limit	4 kΩ	4 kΩ
Output voltage		
• for signal "1", min.		2L+ (-0.8 V)
Output current		
• for signal "1" rated value	0.5 A	0.5 A
• for signal "0" residual current, max.	0.5 mA	0.5 mA
Parallel switching of two outputs		
• for uprating	No	No
• for redundant control of a load	Yes	Yes
Switching frequency		
• with resistive load, max.	100 Hz	100 Hz
• with inductive load, max.	0.5 Hz	0.5 Hz
• on lamp load, max.	1 Hz	1 Hz
Total current of the outputs (per group)		
all mounting positions		
- up to 55 °C, max.	2 A	2 A
Cable length		
• shielded, max.	30 m	30 m
• unshielded, max.	30 m	30 m
Encoder		
Connectable encoders		
• 2-wire sensor	Yes	Yes
- permissible quiescent current (2-wire sensor), max.	1.5 mA	1.5 mA
Interrupts/diagnostics/ status information		
Diagnostic functions	Yes	Yes
Alarms		
• Diagnostic alarm	Yes	Yes

Technical specifications (continued)

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Diagnostic messages		
• Diagnostic information readable	Yes	Yes
• Short-circuit	Yes; Short-circuit of outputs to ground; module by module	Yes; Short-circuit of outputs to ground; module by module
Diagnostics indication LED		
• Group error SF (red)		Yes
• Status indicator digital input (green)	Yes	Yes
• Status indicator digital output (green)	Yes	Yes
Potential separation		
between backplane bus and all other circuit components	Yes	Yes
Potential separation digital inputs		
• between the channels	No	No
• between the channels and backplane bus	Yes	Yes
Potential separation digital outputs		
• between the channels	No	
• between the channels and backplane bus	Yes	Yes
Isolation		
Isolation tested with	707 V DC (type test)	707 V DC (type test)
Dimensions		
Width	45 mm	45 mm
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