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Data sheet 6ES7133-1BL01-0XB0

Spare part SIMATIC DP, electronic module for ET 200L 16 DI/16 DO, 24 V DC/0.5 A



Figure similar

General information	
Usable terminal block	TB 32L
Supply voltage	
Rated value (DC)	24 V
Reverse polarity protection	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Load voltage L+	
• Rated value (DC)	24 V; 1L+, 2L+, 3L+
Input current	
from supply voltage L+, max.	70 mA; L4+ / L5+
from load voltage L+ (without load), max.	50 mA
Power loss	
Power loss, typ.	5 W
Digital inputs	
Number of digital inputs	16

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Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
• Number of simultaneously controllable inputs	16
Input voltage	
• Rated value (DC)	24 V
• for signal "0"	-30 to +5V
• for signal "1"	13 to 30V
Input current	
• for signal "0", max. (permissible quiescent current)	1.5 mA
• for signal "1", typ.	5 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— at "0" to "1", min.	2 ms
— at "0" to "1", max.	4.5 ms
— at "1" to "0", min.	2 ms
— at "1" to "0", max.	4.5 ms
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m

Digital outputs	
Number of digital outputs	16
Short-circuit protection	Yes
• Response threshold, typ.	0.7 A
Limitation of inductive shutdown voltage to	Typ. (L1+ or L2+ / L3+) -55 V
Controlling a digital input	Yes
Switching capacity of the outputs	
• on lamp load, max.	5 W
Load resistance range	
• lower limit	41 Ω
• upper limit	28 kΩ
Output voltage	
• Rated value (DC)	24 V
• for signal "1", min.	Ua - 3 V
Output current	
• for signal "1" permissible range, min.	1 mA
• for signal "1" permissible range, max.	0.5 A
• for signal "0" residual current, max.	1 mA
Output delay with resistive load	
• "0" to "1", max.	50 µs
• "1" to "0", max.	200 µs

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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.	8 Hz
Total current of the outputs (per group)	
horizontal installation	
— up to 30 °C, max.	4 A
— up to 40 °C, max.	3 A
— up to 60 °C, max.	2 A
all other mounting positions	
— up to 40 °C, max.	2 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m

Encoder	
Connectable encoders	
• 2-wire sensor	Yes

Interfaces	
PROFIBUS DP	
• Transmission rate, max.	1.5 Mbit/s
• SYNC capability	Yes
• FREEZE capability	Yes
• Direct data exchange (slave-to-slave communication)	Yes; Transmitter (for digital outputs and hybrid modules ET 200L: not for L-SC or IM-SC)

Protocols	
Bus protocol/transmission protocol	PROFIBUS DP

Interrupts/diagnostics/status information	
Alarms	No
Diagnostic functions	Yes
Diagnostics indication LED	
• Bus fault BF (red)	Yes
• Status indicator digital input (green)	Yes
• Status indicator digital output (green)	Yes
• Monitoring 24 V voltage supply ON (green)	Yes

Potential separation	
between PROFIBUS DP and all other circuit components	Yes

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Potential separation digital inputs	
• between the channels	No
• between the channels and PROFIBUS DP	Yes
Potential separation digital outputs	
• between the channels	No
• between the channels and PROFIBUS DP	Yes

Isolation	
Isolation tested with	500 V DC

Degree and class of protection	
IP degree of protection	IP20

Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	0 °C
• horizontal installation, max.	60 °C; 40°C for other mountings
Air pressure acc. to IEC 60068-2-13	
• permissible range, lower limit	795 hPa
• permissible range, upper limit	1 080 hPa
Relative humidity	
• Operation, min.	5 %
• Operation, max.	95 %; RH class 2 in accordance with IEC 1131-2
Vibrations	
• Operation, tested according to IEC 60068-2-6	Yes; IEC 68, Part 2-6; 10 to 57 Hz; (constant amplitude 0.075 mm); 57 to 150 Hz; (constant acceleration 1 g)
Shock testing	
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27; half-sine, 15 g, 11 ms

Connection method	
Design of electrical connection for the inputs and outputs	Screw-type and spring-loaded terminals, permanent wiring; standard: 2-wire connection, optional: 3 and 4-wire connection

Dimensions	
Width	145 mm
Height	60 mm
Depth	60.5 mm

Weights	
Weight, approx.	130 g

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