

ET 200X

EM 141 and EM 142 digital expansion modules



	6ES7 141-1BD31-0XA0	6ES7 141-1BF31-0XA0	6ES7 141-1BF30-0XB0	6ES7 141-1BF40-0XB0	6ES7 141-1BF41-0XA0
Current consumption					
● from backplane bus 5 V DC, max.	16 mA	16 mA	30 mA	30 mA	10 mA
● Power dissipation, typical	1.5 W	1.5 W	1.5 W	1.5 W	1.5 W
Digital inputs					
● Number of digital inputs	4	8	8	8	8
Length of cable					
– Length of cable unshielded, max	30 m	30 m	30 m	30 m	30 m
● Input characteristic to comply with IEC 1131, Type 1	Yes	Yes			Yes
● Input characteristic to comply with IEC 1131, Type 2			Yes	Yes	
Input voltage					
– Rated value, DC	24 V	24 V	24 V	24 V	24 V
– for signal "0"	-3 to 5 V	-3 to 5 V	-3 to 5 V	-3 to 5 V	-3 to 5 V
– for signal "1"	13 to 30 V	13 to 30 V	13 to 30 V	13 to 30 V	13 to 30 V
Input delay (at rated value of the input voltage)					
● For standard inputs					
– Parameterizable			Yes	Yes	
– at 0 to 1, min.	1.2 ms	1.2 ms			1.2 ms
– at 0 to 1, max.	4.8 ms	4.8 ms			4.8 ms
Digital outputs					
Summation current of the outputs (per group)					
– up to 40 °C, max.	900 mA				
– up to 55 °C, max.	400 mA				
Sensor					
Connectable encoders					
– 2-wire BEROs	Yes	Yes	Yes	Yes	Yes
– permissible closed-circuit current (2-wire BEROs), max.	1.5 mA	1.5 mA	1.5 mA	1.5 mA	1.5 mA
Status information/ interrupts/ diagnostics					
Diagnostics					
– Wire break			Yes; by channel	Yes; by channel	
– Short circuit			Yes; by channel	Yes; by channel	
Dimensions and weight					
● Width	87 mm; Spacing 60 mm	87 mm; Spacing 60 mm	87 mm; Spacing 60 mm	87 mm; Spacing 60 mm	87 mm; Spacing 60 mm
● Height	110 mm	110 mm	110 mm	180 mm	180 mm
● Depth	55 mm	55 mm	55 mm	55 mm	55 mm
6ES7 142-1BD40-0XB0 6ES7 142-1BD40-0XA0 6ES7 142-1BD30-0XA0 6ES7 142-1BF30-0XA0					

Voltages and currents

Load voltage 2L+

- Short-circuit protection

Yes

Current consumption

- from backplane bus 40 mA 28.5 mA 28.5 mA 35 mA
5 V DC, max.
- Power dissipation, 2.5 W 2.1 W 1.2 W 1.5 W
typical

Digital outputs

- Number of digital outputs 4 4 4 8
- Length of cable unshielded, max. 30 m 30 m 30 m 30 m
- Short-circuit protection of the output Yes; electronic Yes; electronic Yes; electronic Yes; electronic

Output current

- for 1 signal rated value 2 A; at 24 V DC 2 A; at 24 V DC 0.5 A; at 24 V DC 1.2 A; at 24 V DC
- for 0 signal residual current, max. 0.5 mA 0.5 mA 0.1 mA 0.5 mA

Switching frequency

- at resistive load, max. 100 Hz 100 Hz 100 Hz 100 Hz
- at inductive load, max. 0.5 Hz 0.5 Hz 0.5 Hz 0.5 Hz
- at lamp load, max. 1 Hz 1 Hz 1 Hz 1 Hz

Summation current of the outputs (per group)

- up to 20 °C, max. 6 mA 6 A 2 A 6 A
- up to 55 °C, max. 4 mA 4 A 2 A 4 A

Status information/ interrupts/ diagnostics**Diagnostics**

- Wire break Yes; by channel
- Short circuit Yes; by channel

Dimensions and weight

- Width 87 mm; Spacing 60 mm 87 mm; Spacing 60 mm 87 mm; Spacing 60 mm 87 mm; Spacing 60 mm
- Height 110 mm 110 mm 110 mm 180 mm
- Depth 55 mm 55 mm 55 mm 55 mm