11.18 2RO NO 24–120 VDC/5 A 24–230 VAC/5 A digital electronic module (6ES7 132-4HB00-0AB0)

Order number

6ES7 132-4HB00-0AB0

Note

If an SELV/PELF low voltage is connected to a channel of the 2RO NO 24–120 VDC/5 A 24–230 VAC/5 A, only one SELV/ PELF low voltage can be connected to the other channel.

From product level 2 of the 2RO NO 24–120 VDC/5 24–230 VAC/5 A the internal bridge between terminals 2 and 6 is not installed. If you require this bridge, it can be replaced by an external bridge between terminals 3 and 7 (see Figure 11-20).

Features

- Digital electronic module with two relay outputs
- Output current 5 A per output
- Rated load voltage up to 120 VDC/230 VAC
- Suitable for solenoids, DC current protection and warning lights
- Potential isolated to power supply



Caution

The rated power supply of the 2RO NO 24–120 VDC/5 A 24–230 VAC/5 A is 24 VDC. The 2RO NO 24–120 VDC/5 A 24–230 VAC/5 A must only be in a potential group with 24 VDC (from the power module).

Terminal assignment

The following table shows the terminal assignment of the 2RO NO 24–120 VDC/5 A 24–230 VAC/5A for the various terminal modules:

Table 11-26 Terminal assignment of the 2RO NO 24–120 VDC/5 A 24–230 VAC/5 A (from product level 2)

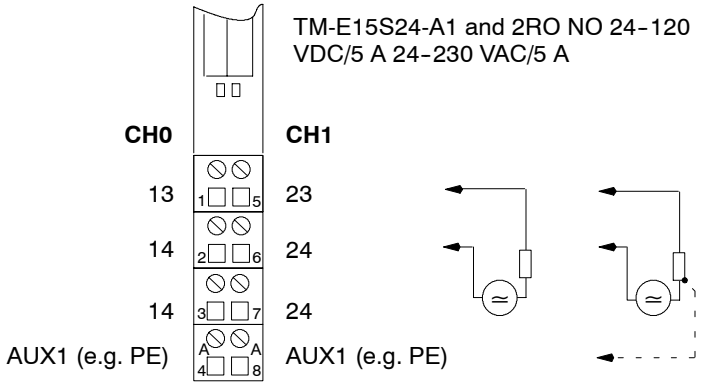
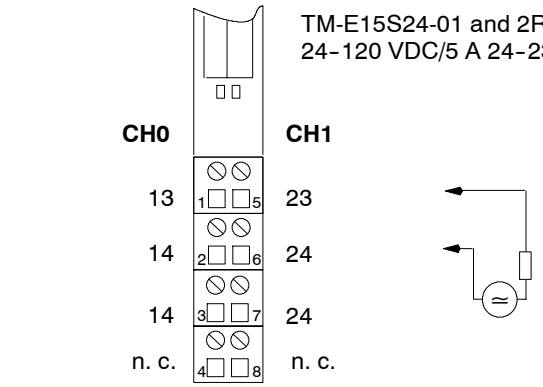
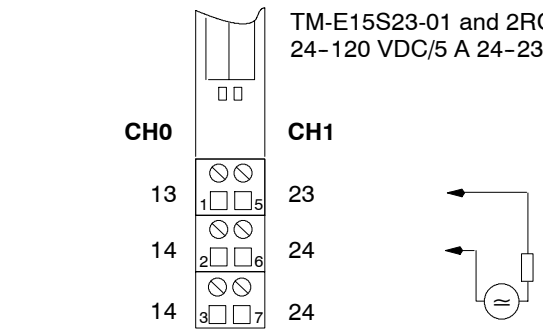
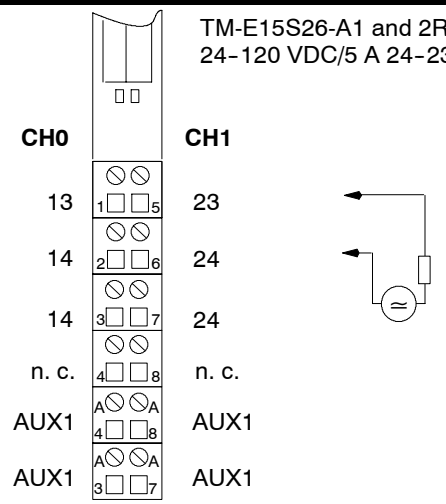
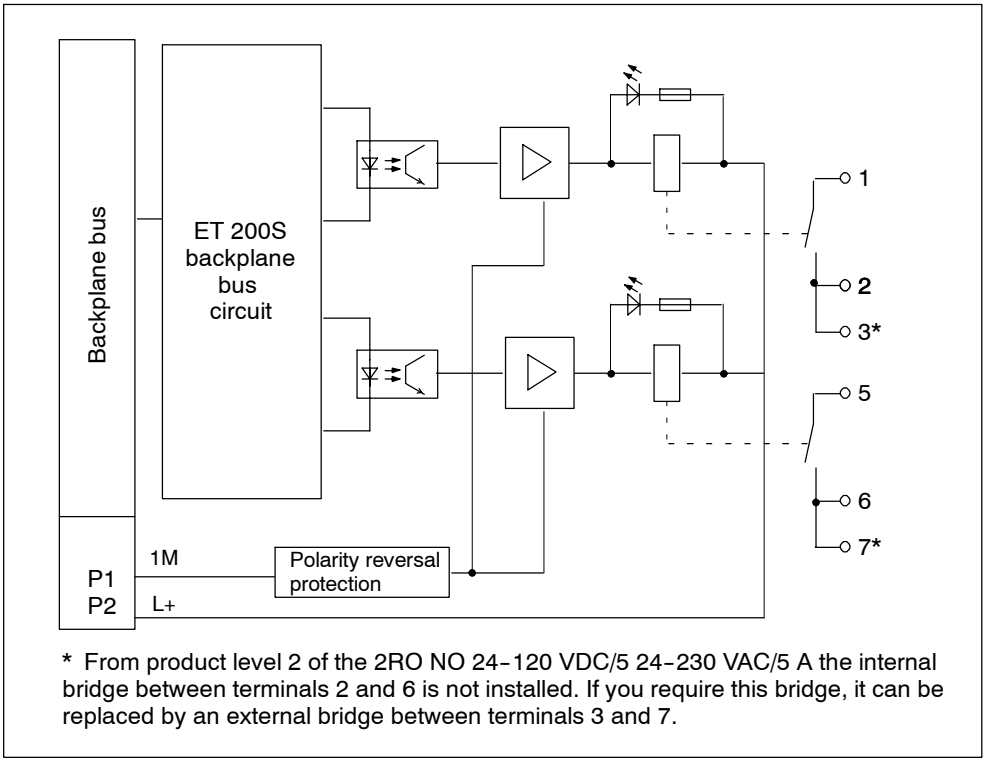
View	Terminal assignment	Remarks
	TM-E15S24-A1 and 2RO NO 24–120 VDC/5 A 24–230 VAC/5 A AUX1 rail must be assigned to PE.	Channel 0: Terminals 1 to 3 Channel 1: Terminals 5 to 7 13, 14: Channel 0 NO contact 23, 24: Channel 1 NO contact Internal bridge between terminal 2 and 3, 6 and 7
	TM-E15S24-01 and 2RO NO 24–120 VDC/5 A 24–230 VAC/5 A	Channel 0: Terminals 1 to 3 Channel 1: Terminals 5 to 7 13, 14: Channel 0 NO contact 23, 24: Channel 1 NO contact Terminals 4 and 8 can be used for connection of cables that are not required up to the amount of the load voltage in use. Internal bridge between terminal 2 and 3, 6 and 7
	TM-E15S23-01 and 2RO NO 24–120 VDC/5 A 24–230 VAC/5 A	Channel 0: Terminals 1 to 3 Channel 1: Terminals 5 to 7 13, 14: Channel 0 NO contact 23, 24: Channel 1 NO contact Internal bridge between terminal 2 and 3, 6 and 7

Table 11-26 Terminal assignment of the 2RO NO 24–120 VDC/5 A 24–230 VAC/5 A (from product level 2)

View	Terminal assignment	Remarks
		Channel 0: Terminals 1 to 3 Channel 1: Terminals 5 to 7 13, 14: Channel 0 NO contact 23, 24: Channel 1 NO contact Terminals 4 and 8 can be used for connection of cables that are not required up to the amount of the load voltage in use. Internal bridge between terminal 2 and 3, 6 and 7

Block diagram



* From product level 2 of the 2RO NO 24–120 VDC/5 24–230 VAC/5 A the internal bridge between terminals 2 and 6 is not installed. If you require this bridge, it can be replaced by an external bridge between terminals 3 and 7.

Figure 11-20 Block diagram of the 2RO NO 24–120 VDC/5 A 24–230 VAC/5 A

Technical data

Dimensions and weight	
Dimensions W x H x D (mm)	15 x 81 x 52
Weight	Approx. 50 g
Module-specific data	
Supports clock synchronized mode	No
Number of outputs	2
Cable length	
• Unshielded	max. 600 m (164 ft)
• shielded	max. 1,000 m (164 ft)
Voltages, currents, electrical potentials	
Rated power supply voltage L+ (from power module)	24 V DC
Reverse polarity protection current per channel	Yes
• to 50°C	Max. 5 A
• to 60°C	Max. 4 A
Electrical isolation	
• Between the channels	Yes
• Between channels and backplane bus	Yes
• Between channels and backplane bus	Yes
• Between power supply voltage and backplane bus	Yes
Permissible potential difference	
• Between power supply voltage and backplane bus	75 VDC / 60 VAC
• Between channels and backplane bus	240 VAC
• Between channels and power supply voltage	240 VAC
Isolation tested	Yes
• Between power supply voltage and backplane bus	500 VDC
• Between channels and backplane bus	1500 VAC
• Between channels and power supply voltage	1500 VAC
Current consumption	
• from L+ power supply	max. 30 mA
Power loss of the module	Typical 0.6 W
Status, interrupts, diagnostics	
Status display	Green LED pro Channel
Diagnostic functions	No
Data for selection of an actuator	
Output current	
• Continuous thermal current	Max. 5 A
• Minimum load current	8 mA
• Minimum voltage	17 V
Connecting 2 outputs in parallel	
• For redundant triggering of a load	No
• To increase performance	No
Actuation of a digital input	Yes
Switching frequency	
• with ohmic load	2 Hz
• with inductive load	0.5 Hz
• With lamp load	2 Hz
Limitation (internal) of the inductive disconnection voltage	No
Short-circuit protection of the output[1)]	No

1) The relay outputs must be fuse-protected with 6 A externally.

Switching capacity and service life of contacts

An external protective circuit offers a higher service life that that given in the table:

Table 11-27 Switching capacity and service life of relay contacts

Resistive load	Voltage	Current	Switching cycles (typical)
For resistive load	24 VDC	5.0 A	0.1 million
		4.0 A	0.2 million
		2.0 A	0.5 million
		1.0 A	1.6 million
		0.5 A	4 million
		0.1 A	7 million
	60 VDC	0.5 A	1.6 million
	120 VDC	0.2 A	1.6 million
	48 VAC	2.0 A	1.6 million
	60 VAC	2.0 A	1.2 million
	120 VAC	5.0 A	0.1 million
		3.0 A	0.2 million
		2.0 A	0.4 million
		1.0 A	0.8 million
		0.5 A	1.5 million
	230 VAC	5.0 A	0.1 million
		3.0 A	0.2 million
		2.0 A	0.4 million
		1.0 A	0.8 million
		0.5 A	1.5 million
For inductuve load as per IEC 947-5-1 DC 13/ AC 15	24 VDC	2.0 A	0.1 million
		1.0 A	0.2 million
		0.5 A	0.5 million
	60 VDC	0.5 A	0.2 million
	120 VDC	0.2 A	0.5 million
	48 VAC	1.0 A	0.7 million
	60 VAC	1.0 A	0.5 million
	120 VAC	2.0 A	0.1 million
		1.0 A	0.3 million
		0.5 A	1 million
		0.1 A	2 million
For inductuve load as per IEC 947-5-1 DC 13/ AC 15	230 VAC	2.0 A	0.1 million
		1.0 A	0.3 million
		0.5 A	1 million