Wiring SIMATIC TOP connect to the I/O modules 5

Introduction

You can use SIMATIC TOP connect system cabling to wire I/O modules with actuators/sensors. The SIMATIC TOP connect components used depend on the following factors:

- The I/O module to be wired and
- The connection system (screw-type terminal / push-in system, 1-wire, 3-wire, 2 A connection, relay or optocoupler).

5.1 SIMATIC TOP connect components and selection guide

Components for 16-pin connecting cable

The table below lists the SIMATIC TOP connect system cabling components for a 16-pin connecting cable.

Components of SIMATIC TOP connect system cabling				
Front connector modules	...for digital I/O modules		Voltage supply with - Screw-type terminals - Push-in system	 6ES7921-5AB20-0AA0 6ES7921-5AH20-0AA0
	…for 2 A output module		Voltage supply with - Screw-type terminals - Push-in system	 6ES7921-5AD00-0AA0 6ES7921-5AJ00-0AA0
	...for analog modules			6ES7921-5AK20-0AA0
Terminal modules	TP1	…digital, for 1-wire connection, without LED	- Screw-type terminals - Push-in system	6ES7924-0AA20-0AA0 6ES7924-0AA20-0AC0
		…digital, for 1-wire connection, with LED	- Screw-type terminals - Push-in system	6ES7924-0AA20-0BA0 6ES7924-0AA20-0BC0
	TP2	…digital, for 2-ampere modules, without LED, digital	- Screw-type terminals - Push-in system	6ES7924-0BB20-0AA0 6ES7924-0BB20-0AC0
	TP3	…digital, for 3-wire connection, without LED	- Screw-type terminals - Push-in system	6ES7924-0CA20-0AA0 6ES7924-0CA20-0AC0
		…digital, for 3-wire connection, with LED	- Screw-type terminals - Push-in system	6ES7924-0CA20-0BA0 6ES7924-0CA20-0BC0
	TPF	…for 3-wire connection, with LED, digital and fuse in the signal path	- Screw-type terminals - Push-in terminals	6ES7924-0CL20-0BA0 6ES7924-0CL20-0BC0

Selection guide for 16-pin connecting cable

The tables below list the SIMATIC TOP connect system cabling components which you can use to wire the I/O modules of the automation system.

Front connector module for ...	...I/O modules, connectable with...	TP1		TP2	TP3		TPF	TPS	TPA	TPRi 230 V	TPRi 110 V	TPRo	TPOo
		Without LED	With LED	Without LED	Without LED	With LED	LED fuse	LED switch	Without LED	With LED	With LED	With LED	With LED
Front connector module 6ES7921-5AB20-0AA0 6ES7921-5AH20-0AA0	DI 16 x 24 VDC HF 6ES7521-1BH00-0AB0	X	X		X	X	X	X		X	X		
	DI 16 x 24 VDC SRC BA 6ES7521-1BH50-0AB0	X			X								
	DI 32 x 24 VDC HF 6ES7521-1BL00-0AB0	X	X		X	X	X	X		X	X		
	DQ 16 x 24 VDC/0.5A ST 6ES7522-1BH00-0AB0	X	X		X	X	X	X				X	X
	DQ 32 x 24 VDC/0.5A ST 6ES7522-1BL00-0AB0	X	X		X	X	X	X				X	X

6.5 Technical specifications for front connector modules

Table 6- 1 Technical specifications front connector module for digital input and output modules

For digital input and output modules, for 16-pin connecting cable: 6ES7921-5AB20-0AA0 and 6ES7921-5AH20-0AA0	
Type of supply voltage	DC
Rated value	24 V
Lower limit of admissible range (DC)	20.4 V
Upper limit of admissible range (DC)	28.8 V
Max. permissible continuous current	
Per connector pin	1 A
Max. permissible total current per group	
At 40 °C (mounted horizontally)	3 A
At 60 °C (mounted horizontally)	2 A
At 40 °C (mounted vertically)	2 A
Permissible ambient temperature	0 to 60 °C

Table 6- 2 Technical specifications front connector module for digital output modules (2-ampere)

For digital output modules, for 16-pin connecting cable: 6ES7921-5AD00-0AA0 and 6ES7921-5AJ00-0AA0	
Type of supply voltage	DC
Rated value	24 V
Lower limit of admissible range (DC)	20.4 V
Upper limit of admissible range (DC)	28.8 V
Max. permissible continuous current	
Per connector pin	1 A
Max. permissible total current per group	
At 40 °C (mounted horizontally)	6 A
At 60 °C (mounted horizontally)	3 A
At 25 °C (mounted vertically)	6 A
At 40 °C (mounted vertically)	2.5 A
Permissible ambient temperature	0 to 60 °C

Front connector module 6ES7921-5AB20-0AA0

8-bit, for digital modules

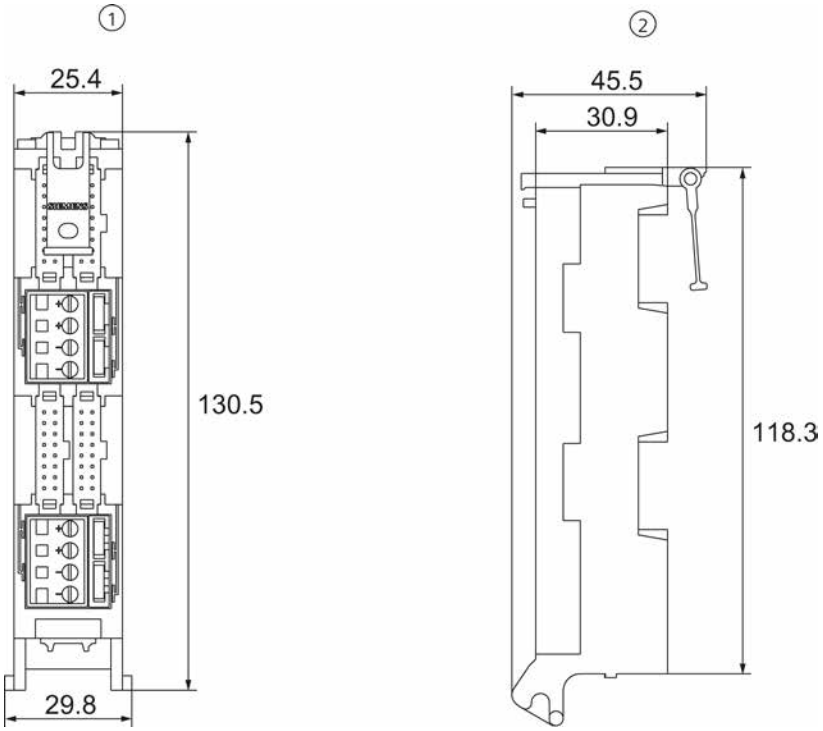


Figure A-1 6ES79215AB20-0AA0

Circuit diagrams

B

B.1 Circuit diagrams for front connector modules

Front connector modules 6ES7921-5AB20-0AA0 and 6ES7921-5AH20-0AA0

For digital I/O modules

Front connector module with potential supply

Connecting terminals in

Screw-type system: 6ES7921-5AB20-0AA0

Push-in system: 6ES7921-5AH20-0AA0

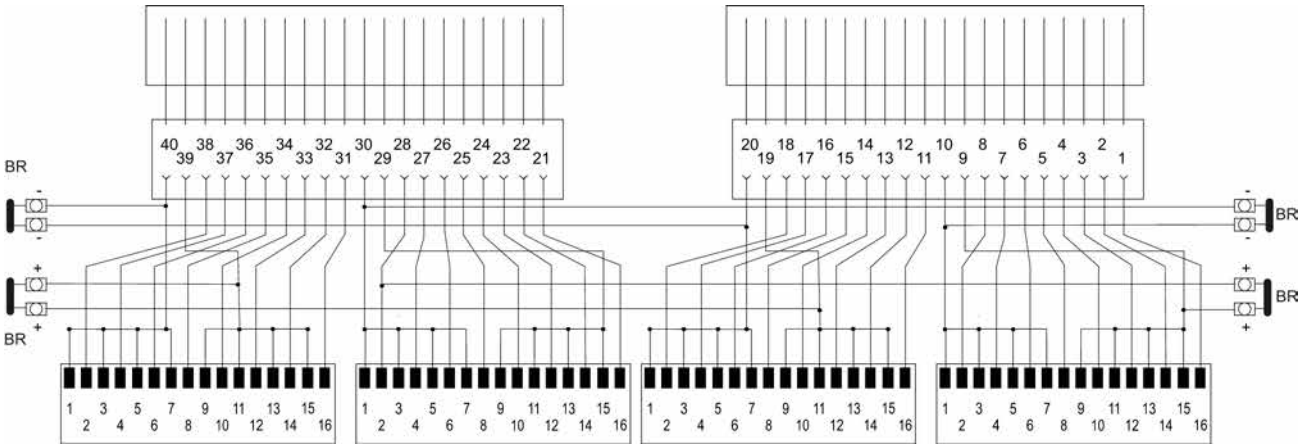


Figure B-1 6ES7921-5AB20-0AA0 and 6ES7921-5AH20-0AA0