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Front connector module

Overview

Modified front connectors, called front connector modules, are available for connecting to the I/O modules of the SIMATIC S7-1500 and ET 200MP. These are plugged into the I/O module to be wired instead of the front connector. The front connector modules are available in many different versions for digital modules and 2 A digital output. The connecting cables are plugged into these front connector modules.

Design

Up to 4 connecting cables can be connected to the front connector modules for digital 16-channel or 32-channel modules. These can also be connected with the terminal modules.

A connecting cable with a 2-ampère terminal module in each case is connected to the front connector modules for 2-ampère output modules.

The potential can be fed in at the terminal module or at the front connector module in the case of the 16/32 digital I/O modules:

Potential infeed via the front connector module with plugged-in jumper on the front connector module:

- max. current per double byte at 60 °Celsius: 4 ampères
- max. current per double byte at 40 °Celsius: 6 ampères

Potential infeed via the front connector module without plugged-in jumper:

- max. current per byte at 60 °Celsius: 2 ampères
- max. current per byte at 40 °Celsius: 3 ampères

If **full current load** is required, infeed must be implemented via the terminal modules. Potential infeed via the terminal modules without plugged-in jumper on the front connector module:

- max. current per byte at 60 °Celsius: 3 ampères
- max. current per byte at 40 °Celsius: 4 ampères

Integration

For connection to the SIMATIC S7-1500 and ET 200MP I/O modules, the front connector module is plugged into the I/O module instead of the SIMATIC S7-1500 front connector. It has 4-pin plugs for the connection of the connecting cables and 4 connections for potential infeed. For 16 and 32-channel I/O modules (24 V DC), a special version of the front connector module (digital 4 x 1 byte) is used. For the digital output module (24 V DC/2 ampères), a special front connector module (2 ampère version) is used.

Use in the case of SIMATIC S7-1500 and ET 200MP components

- The front connector modules replace the SIMATIC S7-1500 standard connectors: 6ES7 592-1AM00-0XB0

Technical specifications

Rated operating voltage	24 V DC
Max. permissible operating voltage	60 V DC
Max. permissible continuous current	1 A
• per connector pin	
Max. permissible total current	4 A/byte
Permissible ambient temperature	0 to + 60 °C
Test voltage	0.5 kV, 50 Hz, 60 s
Air gaps and creepage distances	IEC 664 (1980), IEC 664 A (1981), in accordance with DIN VDE 0110 (01.89), overvoltage class II, pollution degree 2

Wiring rules for the front connector modules

SIMATIC TOP connect front connector module, connection for potential infeed		
	Push-in	Screw terminals
	Modules up to 4 connections	
Connectable cable cross-sections		
• Solid conductors	No	
• Flexible cables with/without wire end ferrule	0.25 to 1.5 mm ²	
Number of conductors per connection	1 or a combination of 2 wires up to 1.5 mm ² (total) in a common wire end ferrule	
Max. diameter of the cable insulation	3.1 mm	
Stripping length of the wires		
• Without insulating collar	6 mm	
• with insulating collar	-	
Wire end ferrules according to DIN 46228		
• Without insulating collar	Form A; 5 to 7 mm long	
• with insulating collar 0.25 to 1.0 mm ²	-	
• with insulating collar 1.5 mm ²	-	
Blade width of the screwdriver	3.5 mm (cylindrical design)	
Tightening torque for connecting the cables	-	0.4 to 0.7 Nm

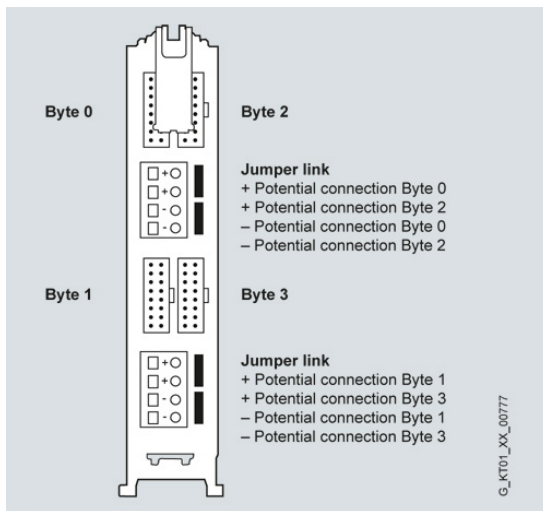
Dimensional drawings

Terminal assignments for the wiring of the 32-channel front connector module for digital modules

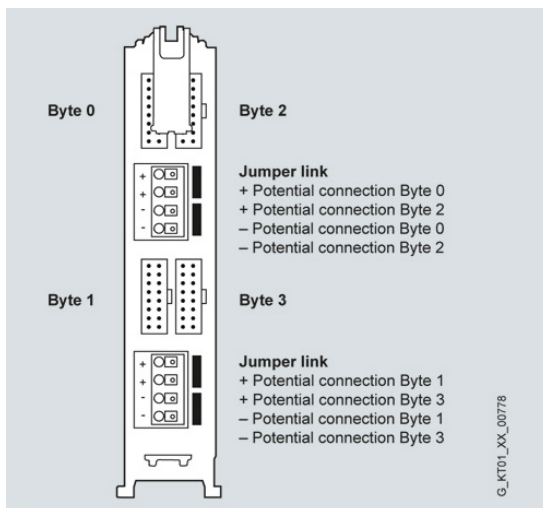
Refers to the following order numbers:

- 6ES7921-5AH20-0AA0
- 6ES7921-5AB20-0AA0

6ES7921-5AB20-0AA0
Potential infeed terminal: Screw



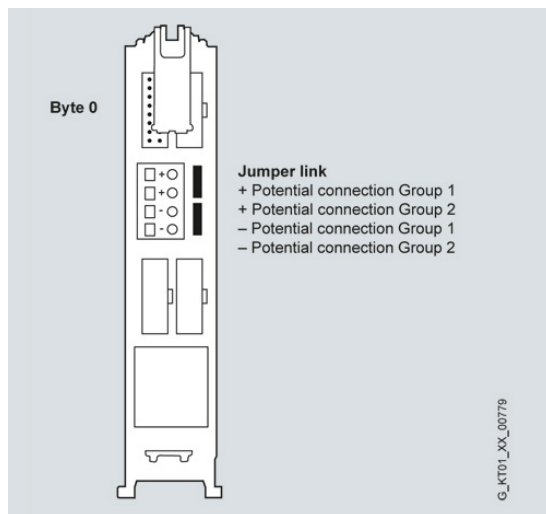
6ES7921-5AH20-0AA0
Potential infeed terminal: Push-in



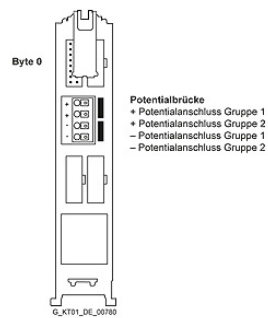
Front view of the front connector module for 32-channel digital modules

Terminal assignments for wiring of the front connector module for digital 2-ampère output modules

6ES7921-5AD00-0AA0
Potential infeed terminal: Screw



6ES7921-5AJ00-0AA0
Potential infeed terminal: Push-in



Front view of the front connector module for digital 2-ampere output modules