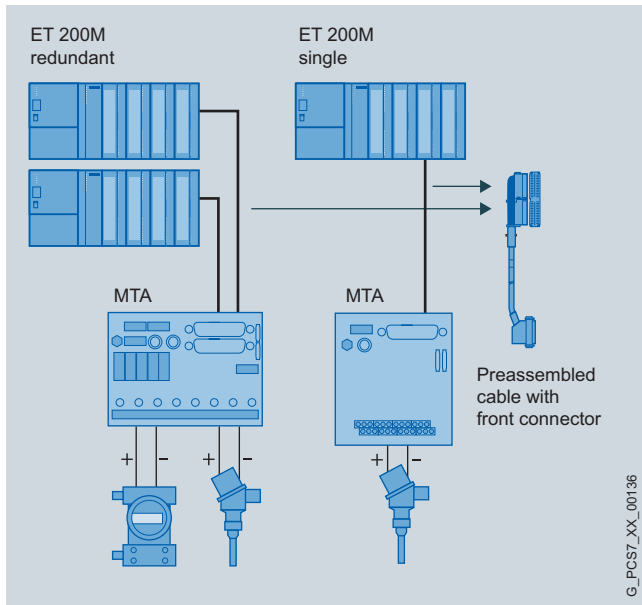


# Process I/O

## Terminal modules

### MTA terminal modules

#### Overview



MTA terminal modules (Marshaled Termination Assemblies) can be used to connect field devices, sensors and actuators to the I/O modules of the ET 200M remote I/O stations simply, rapidly and reliably. They can be used to significantly reduce the costs and required work for cabling and commissioning, and prevent wiring errors.

The individual MTA terminal modules are each tailored to specific I/O modules from the ET 200M range (see design for assignment table). MTA versions are available for standard I/O modules as well as for redundant and safety-related I/O modules.

The MTA terminal modules are connected to the I/O modules using 3 m or 8 m long preassembled cables.

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#### Design

- MTA terminal modules in versions for standard, redundant and safety-related I/O modules of the ET 200M distributed I/O system
- Redundant 24 V DC supply
- Power Monitor Board for diagnostics of the redundant power supply (partially integrated or can be ordered as option)
- 3 or 8 m long preassembled cables for connecting MTA terminal module and ET 200M module, in each case with:
  - 50/25-contact Sub-D socket or 25-contact Sub-D plug, for connection to MTA terminal
  - 40/20-pole Siemens front connector, female version, for connection to ET 200M module
- Screw terminals for the 1:1 connection of field devices, sensors and actuators
- Protection of channels frequently by fuse or electronic current limitation, partially with LED display
- Test and release as SIMATIC PCS 7 system component with corresponding approvals (FM, UL, CE, ATEX, TÜV)

#### Design (continued)

#### Product overview with information on combinable ET 200M modules and connection cables

MTA type	Input/output area	Order no. of MTA and accessories	Order No. of ET 200M module	Order No. of connecting cable	I/O redundancy
8 channels, AI	1 ... 5 V; $\pm 5$ V; $\pm 10$ V; 0 ... 20 mA; 4 ... 20 mA; $\pm 20$ mA	6ES7 650-1AA51-2XX0	6ES7 331-7NF00-0AB0 (from product version 5)	6ES7 922-3BD00-0AS0 (3 m) 6ES7 922-3BJ00-0AS0 (8 m)	yes
8 channels, AI	1 ... 5 V; $\pm 5$ V; $\pm 10$ V; 0 ... 20 mA; 4 ... 20 mA; $\pm 20$ mA	6ES7 650-1AA52-2XX0	6ES7 331-7NF00-0AB0 (from product version 5)	6ES7 922-3BD00-0BA0 (3 m) 6ES7 922-3BJ00-0BA0 (8 m)	yes
8 channels, AI	1 ... 5 V; $\pm 5$ V; $\pm 10$ V; 0 ... 20 mA; 4 ... 20 mA; $\pm 20$ mA	6ES7 650-1AA52-2XX0	6ES7 331-7NF10-0AB0 (from product version 8)	6ES7 922-3BD00-0BB0 (3 m) 6ES7 922-3BJ00-0BB0 (8 m)	yes
8 channels, AO	0 ... 20 mA; 4 ... 20 mA	6ES7 650-1AB51-2XX0	6ES7 332-5HF00-0AB0 (from product version 3)	6ES7 922-3BD00-0AS0 (3 m) 6ES7 922-3BJ00-0AS0 (8 m)	yes
8 channels, AI HART	0 ... 20 mA (without use of HART) 4 ... 20 mA (with/without use of HART)	6ES7 650-1AA61-2XX0	6ES7 331-7TF01-0AB0	6ES7 922-3BD01-0AM0 (3 m) 6ES7 922-3BJ01-0AM0 (8 m)	yes
8 channels, AO HART	0 ... 20 mA (with/without use of HART) 4 ... 20 mA (with/without use of HART)	6ES7 650-1AB61-2XX0	6ES7 332-8TF01-0AB0	6ES7 922-3BD01-0AM0 (3 m) 6ES7 922-3BJ01-0AM0 (8 m)	yes
8 channels, AI TC	Thermocouple types B, C, N, E, R, S, J, L, T, K, U	6ES7 650-1AF51-2XX0	6ES7 331-7PF10-0AB0 (from product version 4) or 6ES7 331-7PF11-0AB0	6ES7 922-3BD00-0AS0 (3 m) 6ES7 922-3BJ00-0AS0 (8 m)	No
8 channels, AI RTD	Resistance thermometers Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni200, Ni500, Ni1000, Cu10	6ES7 650-1AG51-2XX0	6ES7 331-7PF00-0AB0 (from product version 8) or 6ES7 331-7PF01-0AB0	6ES7 922-3BD00-0AS0 (3 m) 6ES7 922-3BJ00-0AS0 (8 m)	No
16 channels, DO	24 V DC, 0.5 A	6ES7 650-1AD10-2XX0	6ES7 322-8BH01-0AB0	6ES7 922-3BD00-0AT0 (3 m) 6ES7 922-3BJ00-0AT0 (8 m)	yes
6 channels F-AI HART (safety-related)	0 ... 20 mA (standard mode); 4 ... 20 mA (standard and safety modes)	6ES7 650-1AH61-5XX0 and 2 x 6ES7 650-1BD51-0XX0	6ES7 336-1HE00-0AB0 (from product version 6)	6ES7 922-3BD00-0AS0 (3 m) 6ES7 922-3BJ00-0AS0 (8 m)	yes
	0 ... 20 mA (without use of HART); 4 ... 20 mA (with/without use of HART)	6ES7 650-1AH61-5XX0 6ES7 650-1AH62-5XX0	6ES7 336-4GE00-0AB0	6ES7 922-3BD00-0AU0 (3 m) 6ES7 922-3BJ00-0AU0 (8 m)	yes
16 channels, DI	24 V DC	6ES7 650-1AC11-3XX0	6ES7 321-7BH01-0AB0 (from product version 2)	6ES7 922-3BD01-0AM0 (3 m) 6ES7 922-3BJ01-0AM0 (8 m)	yes
24 channels F-DI (safety-related)	24 V DC	6ES7 650-1AK11-7XX0	6ES7 326-1BK00-0AB0, 6ES7 326-1BK01-0AB0 or 6ES7 326-1BK02-0AB0	6ES7 922-3BD00-0AS0 (3 m) 6ES7 922-3BJ00-0AS0 (8 m)	yes
10 channels F-DO (safety-related)	24 V DC, 2 A	6ES7 650-1AL11-6XX0	6ES7 326-2BF01-0AB0 (from product version 2) or 6ES7 326-2BF10-0AB0	6ES7 922-3BD00-0AN0 (3 m) 6ES7 922-3BJ00-0AN0 (8 m)	yes
16 channels DO relay	120 ... 230 V AC, 5 A; 24 V DC, 5 A	6ES7 650-1AM30-3XX0	6ES7 322-8BH01-0AB0	6ES7 922-3BD00-0AS0 (3 m) 6ES7 922-3BJ00-0AS0 (8 m)	yes
10 channels F DO relays (safety-related)	120 ... 230 V AC, 5 A; 24 V DC, 5 A	6ES7 650-1AM31-6XX0	6ES7 326-2BF01-0AB0 (from product version 2) or 6ES7 326-2BF10-0AB0	6ES7 922-3BD00-0AS0 (3 m) 6ES7 922-3BJ00-0AS0 (8 m)	yes

Ordering data	Order No.	Order No.
<b>MTA F-DI terminal module, 24-channel</b> Terminal module for connection of field devices/sensors to a single or two redundant safety-related ET 200M digital input modules 6ES7 326-1BK00-0AB0, 6ES7 326-1BK01-0AB0 or 6ES7 326-1BK02-0AB0 Input range: 24 V DC	<b>6ES7 650-1AK11-7XX0</b>	<b>Preassembled cable for connection of ET 200 module and MTA terminal module</b>  <b>Connecting cable with 40-contact front plug for ET 200M and 50-contact Sub-D socket for MTA</b> Lengths: <ul style="list-style-type: none"> <li>• 3 m</li> <li>• 8 m</li> </ul>
<b>MTA F-DO terminal module, 10-channel</b> Terminal module for connection of field devices/actuators to a single or two redundant safety-related ET 200M digital output modules 6ES7 326-2BF01-0AB0 or 6ES7 326-2BF10-0AB0 Output range: 24 V DC, 2A	<b>6ES7 650-1AL11-6XX0</b>	<b>Connecting cable with 40-pin front plug for ET 200M and 25-pin Sub-D socket for MTA</b> Lengths: <ul style="list-style-type: none"> <li>• 3 m</li> <li>• 8 m</li> </ul>
<b>MTA DO Relay terminal module, 16-channel</b> Terminal module for connection of field devices/actuators to a single or two redundant ET 200M the digital output modules 6ES7 322-8BH01-0AB0 Output range: 120 ... 230 V AC, 5 A; 24 V DC, 5 A	<b>6ES7 650-1AM30-3XX0</b>	<b>Connecting cable with 40-pin front plug for ET 200M and 25-pin Sub-D socket for MTA</b> Lengths: <ul style="list-style-type: none"> <li>• 3 m</li> <li>• 8 m</li> </ul>
<b>MTA F-DO Relay terminal module, 10-channel</b> Terminal module for connection of field devices/actuators to a single or two redundant safety-related ET 200M digital output modules 6ES7 326-2BF01-0AB0 or 6ES7 326-2BF10-0AB0 Output range: 120 ... 230 V AC, 5 A; 24 V DC, 5 A	<b>6ES7 650-1AM31-6XX0</b>	<b>Connecting cable with 40-pole front connector for ET 200M and 25-pole Sub-D connector for MTA</b> Lengths: <ul style="list-style-type: none"> <li>• 3 m</li> <li>• 8 m</li> </ul>
		<b>Connecting cable with 40-contact front plug for ET 200M and 25-contact Sub-D socket for MTA</b> Lengths: <ul style="list-style-type: none"> <li>• 3 m</li> <li>• 8 m</li> </ul>
		<b>Connecting cable with 20-contact front plug for ET 200M and 25-contact Sub-D socket for MTA</b> Lengths: <ul style="list-style-type: none"> <li>• 3 m</li> <li>• 8 m</li> </ul>
		<b>Connecting cable with 20-contact front plug for ET 200M and 50-contact Sub-D socket for MTA</b> Lengths: <ul style="list-style-type: none"> <li>• 3 m</li> <li>• 8 m</li> </ul>
		<b>Accessories</b>  <b>Power monitor board (PMB)</b> for display of status of redundant MTA power supply
		<b>Spare parts components for MTA F-AI HART, 6-channel (6ES7 650-1AH61-5XX0)</b> <ul style="list-style-type: none"> <li>• 5.6 V Zener diode board</li> <li>• 6.2 V Zener diode board</li> </ul>

I: Subject to export regulations AL: N and ECCN: EAR99H