

SIMATIC S7-1500 Advanced Controllers

I/O modules

Fail-safe I/O modules

Digital F-input modules

Overview



Fail-safe digital input module: F-DI 16x24VDC PROFISAFE

Important properties:

- 16-channel fail-safe digital input module for ET 200MP/S7-1500
- For fail-safe reading of sensor information (1 or 2 channels)
- Provides integral discrepancy evaluation for 2-out-of-2 signals
- 4 internal sensor supplies (incl. test function) onboard
- Certified up to SIL 3 (IEC 61508), PL e (ISO 13849)
- LED display for error, operation, supply voltage and status
- Clear module labeling
 - Plain text identification of the module type
 - Complete Article No.
 - 2D matrix code (order and serial number)
 - Connection diagram
 - Hardware and firmware version
- Optional labeling accessories
 - Labeling sheets, yellow
- The modules support PROFIsafe in both PROFIBUS and PROFINET configurations. Can be used with all fail-safe SIMATIC S7-1500 F-CPU's in the central configuration, as well as ET 200MP distributed I/O with all other SIMATIC S7 F-CPU's.

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Ordering data

Article No.

F-digital input module	
16 inputs, 24 V DC, PROFISAFE	6ES7526-1BH00-0AB0
Accessories	
Coding elements	6ES7592-6EF00-1AA0
E-coding element type F for ET 200MP module F-DI/F-DQ; 5 units, spare part	
Front connector	
Incl. four potential bridges, cable ties and individual labeling strips, 40-pin	
<ul style="list-style-type: none"> • Screw terminals • Push-in 	6ES7592-1AM00-0XB0 6ES7592-1BM00-0XB0
DIN A4 labeling sheets	6ES7592-2CX00-0AA0
For 35-mm F-modules; 10 sheets with 10 labeling strips each for I/O modules; perforated, yellow	
U connector	6ES7590-0AA00-0AA0
5 units; spare part	
Front door for F-I/O modules	6ES7528-0AA10-7AA0
5 front doors; with 5 labeling strips (front) and 5 cabling diagrams per front door; spare part	

Article No.

STEP 7 Safety Advanced V17

Task:
Engineering tool for configuring and programming fail-safe user programs for SIMATIC S7-1200 FC, S7-1500F, S7-1500F Software Controller, S7-300F, S7-400F, WinAC RTX F, ET 200SP F Controller and the fail-safe I/O ET 200SP, ET 200MP, ET 200S, ET 200M, ET 200iSP, ET 200pro and ET 200eco

Requirement:
STEP 7 Professional V17

Note:

As of TIA Portal V16, the SIMATIC STEP 7 Safety software is an integral component of the SIMATIC STEP 7 product setup. The functionality of SIMATIC STEP 7 Safety is activated by means of the license key supplied in each case.

Floating license for 1 user; license key on USB flash drive

Floating license for 1 user; license key for download¹⁾; Email address required for delivery

6ES7833-1FA17-0YA5

6ES7833-1FA17-0YH5

¹⁾ For up-to-date information and download availability, see: <http://www.siemens.com/tia-online-software-delivery>

Ordering data	Article No.
S7 Distributed Safety V5.4 SP5 Update 2 programming tool Task: Configuration software for configuring fail-safe user programs for SIMATIC S7-300F, S7-400F, WinAC RTX F, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco, ET 200SP Requirement: Windows 7 SP1 (64-bit), Windows 10 Professional/Enterprise (64-bit), Windows Server 2008 R2 SP1 (64-bit), Windows Server 2012 R2 (64-bit), Windows Server 2016 (64-bit); STEP 7 as of V5.5 SP1; Please also consider the operating systems that have been released for the used STEP 7 version Floating license for 1 user; software and documentation on DVD; license key on USB flash drive Floating license for 1 user; software, documentation and license key for download ¹⁾ ; Email address required for delivery ¹⁾ For up-to-date information and download availability, see: http://www.siemens.com/tia-online-software-delivery	6ES7833-1FC02-0YA5 6ES7833-1FC02-0YH5

Technical specifications	
Article number	6ES7526-1BH00-0AB0 ET 200MP, F-DI 16X24VDC
General information	
Product type designation	F-DI 16x24VDC
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V13 SP1 with HSP 0086
Operating mode	
• DI	Yes
Supply voltage	
Rated value (DC)	24 V
Reverse polarity protection	Yes
Encoder supply	
Number of outputs	4
Short-circuit protection	Yes; Electronic (response threshold 0.7 A to 1.8 A)
24 V encoder supply	
• 24 V	Yes; min. L+ (-1.5 V)
• Short-circuit protection	Yes
• Output current, max.	300 mA; Max. 100 mA when mounted vertically
Digital inputs	
Number of digital inputs	16
Source/sink input	Yes; P-reading
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Input voltage	
• Rated value (DC)	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+15 to +30 V
Input current	
• for signal "1", typ.	3.7 mA
Input delay (for rated value of input voltage)	
for standard inputs	
- parameterizable	Yes

Article number	6ES7526-1BH00-0AB0 ET 200MP, F-DI 16X24VDC
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
• Hardware interrupt	No
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire-break	No
• Short-circuit	Yes
• Group error	Yes
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• Channel status display	Yes; green LED
• for channel diagnostics	Yes; red LED
• for module diagnostics	Yes; red LED
Potential separation	
Potential separation channels	
• between the channels and backplane bus	Yes
Standards, approvals, certificates	
Suitable for safety functions	Yes
Highest safety class achievable in safety mode	
• Performance level according to ISO 13849-1	PLe
• SIL acc. to IEC 61508	SIL 3
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	0 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	0 °C
• vertical installation, max.	40 °C
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	280 g

SIMATIC S7-1500 Advanced Controllers

I/O modules

Fail-safe I/O modules

Digital F-output modules

Overview



Digital fail-safe output module:
F-DQ 8x24VDC 2A PPM PROFISAFE

Important features:

- 8-channel digital fail-safe output module for ET 200MP/S7-1500
- Fail-safe 2-channel activation (parameterizable PM/PP switching) of actuators
- Actuators can be controlled up to 2 A
- Certified up to SIL 3 (IEC 61508), PL e (ISO 13849)
- LED display for error, operation, supply voltage and status
- Clear module labeling
 - Plain text identification of the module type
 - Complete Article No.
 - 2D matrix code (order and serial number)
 - Connection diagram
 - Hardware and firmware version
- Optional labeling accessories
 - Labeling sheets, yellow
- The module supports PROFIsafe in both PROFIBUS and PROFINET configurations.
- Can be used with all fail-safe SIMATIC S7-1500 F-CPU's in the central configuration, as well as ET 200MP distributed I/O with all other SIMATIC S7 F-CPU's.

Ordering data

Article No.

F-digital output module 8 outputs, 24 V DC, 2 A, PROFISAFE, switching to P/M potential	6ES7526-2BF00-0AB0
Accessories	
Coding elements E-coding element type F for ET 200MP module F-DI/F-DQ; 5 units, spare part	6ES7592-6EF00-1AA0
Front connector Incl. four potential bridges, cable ties and individual labeling strips, 40-pin <ul style="list-style-type: none"> • Screw terminals • Push-in 	6ES7592-1AM00-0XB0 6ES7592-1BM00-0XB0
DIN A4 labeling sheets For 35-mm F-modules; 10 sheets with 10 labeling strips each for I/O modules; perforated, yellow	6ES7592-2CX00-0AA0
U connector 5 units; spare part	6ES7590-0AA00-0AA0
Front door for F-I/O modules 5 front doors; with 5 labeling strips (front) and 5 cabling diagrams per front door; spare part	6ES7528-0AA10-7AA0

Article No.

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