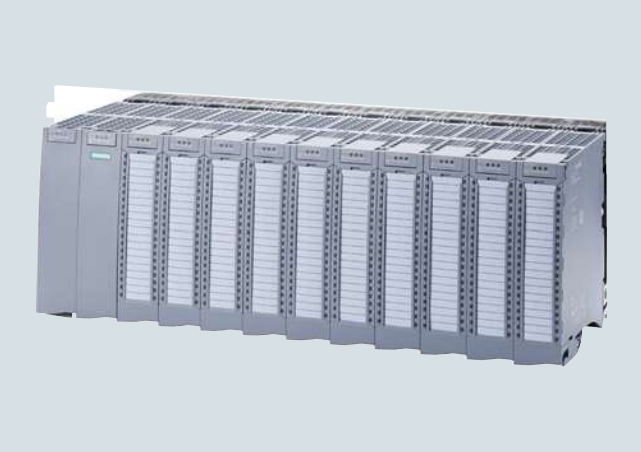
Overview



The SIMATIC ET 200MP is a modular and scalable I/O system with IP20 degree of protection for universal use, and offers the same system advantages as the S7-1500. The SIMATIC ET 200MP permits extremely short bus cycles and very fast response times, even with large quantity structures.

SIMATIC ET 200MP consists of the following components:

- Interface module for connecting S7-1500 I/O modules to PROFINET; up to 30 modules can be connected to one interface module
- Interface module for connecting S7-1500 I/O modules to PROFIBUS; up to 12 modules can be connected to one interface module

The SIMATIC ET 200MP distributed I/O system is particularly easy to install, wire, and commission.

Highlights:

- Modular I/O system with IP20 degree of protection for PROFINET or alternatively for PROFIBUS
- Compact dimensions and high channel density
- High degree of user-friendliness due to the following design features:
  - Uniform 40-pin front connector simplifies ordering, logistics, and warehousing
  - Uniform pin assignment per module type simplifies wiring and helps avoid errors
  - Integrated potential bridges simplify wiring and allow flexible subsequent modification
  - The cable storage space grows along with the requirements and allows a uniform appearance even with insulated conductors with a large cross-section and/or thick insulation
  - The pre-wiring position for the front connector allows convenient wiring both when commissioning and making changes during operation
  - The top hat rail integrated in the S7-1500 standard rail allows snapping-on of many standard components such as additional terminals, miniature circuit breakers or small relays
  - The 1:1 allocation of channel status and diagnostics LED, terminal and inscription allows fast location and elimination of errors. Assistance is provided by the wiring diagram printed on the inside of the front panels
  - The integrated shielding concept for analog and technology modules allows reliable and rugged operation, in particular with high-speed applications. Installation does not require any tools
  - Particularly space-saving and simple design with slim 25 mm modules;
    the maximum possible station configuration with power supply (PS), interface module (IM) and 30 I/O modules can be accommodated on a 830 mm-wide S7-1500 standard rail
- Comprehensive product portfolio comprising digital and analog input or output modules, technology modules, and communication modules for point-to-point communication; further modules, e.g. F-modules, will be available soon.
  - Integrated technological functions in selected modules, such as counting, pulse width modulation (PWM) or integrated switching cycle counters, make cost-effective and convenient solutions possible.
  - Selected digital output modules enable safety-related load group shutdown in accordance with SILCL 2 via an external safety relay.
- Extensive system functions
  - Integrated system diagnostics when operated with an S7-1500 and the TIA Portal
  - Increased communication availability by using Media Redundancy Protocol (MRP) on the PROFINET;
    in addition, the IM 155-5 PN HF High Feature interface module can be operated on an S7-400H. Configuration is carried out with STEP 7 V5.5 SP3 and a GSDML file. The IM 155-5 PN HF also supports operation on an S7-400H CPU (system redundancy)
  - Consistent use of identification and maintenance data IM0 to IM3 for fast electronic and unambiguous identification of individual modules (Article No., serial number, etc.)
  - Uniform firmware update for the interface module and all I/O modules for subsequent expansion of functions (investment security)
  - Bus cycle time ≥ 250 µs and coupling to the isochronous task permit implementation of applications with high performance requirements with PROFINET
  - Up to 30 I/O modules (PROFINET) or 12 I/O modules (PROFIBUS) within a station save on interface modules and installation time
  - MMC not required with PROFINET; automatic address assignment via LLDP or manually via TIA Portal or PST tool
  - Shared device on up to two (IM 155-5 PN BA and IM 155-5 PN ST) or four (IM 155-5 PN HF) IO Controllers
  - Module shared input/module shared output as system function for all S7-1500 I/O modules

Overview

- Interface modules for linking the ET 200MP to PROFINET
- These handle data exchange with the PROFINET IO controller in the PLC
- Integrated 2-port switch for line topology

IM 155-5 PN BA

- Max. 30 I/O modules
- Shortest bus cycle time 1 ms
- Media redundancy (MRP)
- Shared device on up to 2 IO controllers
- Omission of SIMATIC Memory Card (SMC); IM replacement without PG using LLDP

IM 155-5 PN ST, IM 155-5 PN HF

- Interface modules for linking the ET 200MP to PROFINET
- These handle data exchange with the PROFINET IO controller in the PLC
- Integrated 2-port switch for line topology
- Max. 30 I/O modules
- Shortest bus cycle 250 µs
- Linking to the isochronous task of the CPU
- Prioritized fast startup (FSU) with max. 12 I/O modules
- Media Redundancy Protocol (MRP)
- Shared device on up to two IO controllers (when configuring using GSD file; depends on the respective configuration tool)
- Omission of SIMATIC Memory Card (SMC); IM replacement without PG using LLDP
- Operation of F-modules and PROFIsafe

Starting from FW version V2.0.0, the IM155-5 PN ST interface module supports the following new functions:

- Submodule-granular shared device with up to two IO controllers
- Configuration control (option handling)
- Module shared input and module shared output (MSI/MSO), i.e. the inputs or outputs of a module can be made available simultaneously to up to two IO controllers

The IM155-5 PN HF interface module has the following additional functions:

- Shared device on up to 4 IO controllers
- Module shared input and module shared output (MSI/MSO) on up to four IO controllers
- Operation on a highly available SIMATIC S7-400H
- Support for the MRPD function (media redundancy with planned duplication)

Overview (continued)

	IM 155-5 PN BA	IM 155-5 PN ST	IM 155-5 PN HF
Article No.	6ES7155-5AA00-0AA0	6ES7155-5AA01-0AB0	6ES7155-5AA00-0AC0
Specifications			
IO modules	All except PROFIsafe	All	All
Max. number IO modules / IM	12	30	30
Max. number of bytes / slot	64 inputs 64 outputs	256 inputs 256 outputs	256 inputs 256 outputs
Max. number bytes / station	64 inputs 64 outputs	512 inputs 512 outputs	512 inputs 512 outputs
Update time	1 ms	250 µs	250 µs
Configuration			
GSDML	Yes	Yes	Yes
STEP 7	GSDML	GSDML	GSDML
TIA Portal	Yes	Yes	Yes
PCS 7	No	No	No
General functions			
Reset to factory settings	TIA Portal	TIA Portal	TIA Portal
Device replacement: without PG	LLDP	LLDP	LLDP
Configuration management (option handling)	No	Yes	Yes
I&M data	IM 0 … 3	IM 0 … 3	IM 0 … 3
Isochronous mode	No	Yes	Yes
PROFIsafe	No	Yes	Yes
PROFINET functions			
RT	Yes	Yes	Yes
IRT	No	Yes	Yes
MRP	Yes	Yes	Yes
MRPD	No	No	No
S2 redundancy	No	No	Yes
Fast startup	No	Yes	Yes
Shared device	Yes; up to 2 ctrl.	Yes; up to 2 ctrl.	Yes; up to 4 ctrl.
MSI / MSO	Yes	Yes	Yes
Submodules	Yes	Yes	Yes

Technical specifications

Article number	**6ES7155-5AA00-0AA0** ET 200MP, IM 155-5 PN BA	**6ES7155-5AA00-0AC0** ET 200MP, IM 155-5 PN HF	**6ES7155-5AA01-0AB0** ET 200MP, IM 155-5 PN ST
General information			
Product type designation	IM 155-5 PN BA	IM 155-5 PN HF	IM 155-5 PN ST
Product function			
• I&M data	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3
Engineering with			
• STEP 7 TIA Portal configurable/ integrated as of version	V14 with HSP 0187	V13 / V13	V14 or higher with HSP 0223 / integrated with V15 or higher
• STEP 7 configurable/integrated as of version	V5.5 SP3 / -	V5.5 SP3 / -	GSDML V2.32
• PROFINET as of GSD version/ GSD revision	V2.3 / -	V2.3 / -	V2.3 / -
Supply voltage			
Rated value (DC)	24 V	24 V	24 V
Reverse polarity protection	Yes	Yes	Yes
Short-circuit protection	Yes	Yes	Yes
Input current			
Current consumption (rated value)	1 A	0.2 A	0.2 A
Power loss			
Power loss, typ.	3 W	4.5 W	4.5 W
Address area			
Address space per station			
• Address space per station, max.	64 byte; per input / output	512 byte; per input / output	512 byte; per input / output
Hardware configuration			
Integrated power supply	Yes	Yes	Yes
Rack			
• Modules per rack, max.	12; I/O modules	30; I/O modules	30; I/O modules
Submodules			
• Number of submodules per station, max.	108; 9 submodules / I/O modules	256	
Interfaces			
Number of PROFINET interfaces	1; 2 ports (switch) RJ45	1	1
1. Interface			
Interface types			
• Number of ports	2	2	2
• integrated switch	Yes	Yes	Yes
• RJ 45 (Ethernet)	Yes	Yes	Yes
• BusAdapter (PROFINET)	No		
Protocols			
• PROFINET IO Device	Yes	Yes	Yes
• Media redundancy	Yes	Yes	Yes; PROFINET MRP
Interface types			
RJ 45 (Ethernet)			
• Transmission procedure	PROFINET with 100 Mbit/s full duplex (100BASE-TX)	PROFINET with 100 Mbit/s full duplex (100BASE-TX)	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
• 100 Mbps	Yes	Yes	Yes
• Autonegotiation	Yes	Yes	Yes
• Autocrossing	Yes	Yes	Yes
Protocols			
PROFINET IO Device			
Services			
- Isochronous mode	No	Yes	Yes
- Open IE communication	Yes		
- IRT	No	Yes	Yes
- PROFIenergy	No	No	No
- Prioritized startup	No	Yes	Yes
- Shared device	Yes	Yes	Yes
- Number of IO Controllers with shared device, max.	2	4	2

Technical specifications (continued)

Article number	6ES7155-5AA00-0AA0	6ES7155-5AA00-0AC0	6ES7155-5AA01-0AB0
	ET 200MP, IM 155-5 PN BA	ET 200MP, IM 155-5 PN HF	ET 200MP, IM 155-5 PN ST
Redundancy mode			
• MRP	Yes	Yes	Yes
• MRPD	No	Yes	No
• PROFINET system redundancy (S2)	No	Yes	No
- on S7-1500R/H		Yes	
- on S7-400H		Yes; With GSDML file as of STEP 7 V5.5 SP3	
• Redundant PROFINET configuration (R1)		No	
• H-Sync forwarding		Yes	
Open IE communication			
• TCP/IP	Yes	Yes	Yes
• SNMP	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes
Isochronous mode			
Isochronous operation (application synchronized up to terminal)	No	Yes	Yes
Equidistance	No	Yes	Yes
shortest clock pulse		250 µs	250 µs
max. cycle		4 ms	4 ms
Interrupts/diagnostics/status information			
Status indicator	Yes	Yes	Yes
Alarms	Yes	Yes	Yes
Diagnostics function	Yes	Yes	Yes
Diagnostics indication LED			
• RUN LED	Yes; Green LED	Yes; Green LED	Yes; Green LED
• ERROR LED	Yes; Red LED	Yes; Red LED	Yes; Red LED
• MAINT LED	Yes; yellow LED	Yes; yellow LED	Yes; yellow LED
• Connection display LINK TX/RX	Yes; 2x green-yellow LEDs	Yes; yellow LED	Yes; 2x green-yellow LEDs
Standards, approvals, certificates			
Network loading class	2		
Ambient conditions			
Ambient temperature during operation			
• horizontal installation, min.	0 °C	0 °C	0 °C
• horizontal installation, max.	60 °C	60 °C	60 °C
• vertical installation, min.	0 °C	0 °C	0 °C
• vertical installation, max.	40 °C	40 °C	40 °C
Altitude during operation relating to sea level			
• Installation altitude above sea level, max.		2 000 mm	
Dimensions			
Width	35 mm	35 mm	35 mm
Height	147 mm	147 mm	147 mm
Depth	129 mm	129 mm	129 mm
Weights			
Weight, approx.	236 g	350 g	

Ordering data	Article No.
IM 155-5 PN interface module	
IP 20 degree of protection, module width 35 mm, installation on S7-1500 standard rail	
IM 155-5 PN BA, Basic version	**6ES7155-5AA00-0AA0**
IM 155-5 PN ST, Standard version	**6ES7155-5AA01-0AB0**
IM 155-5 PN HF, High Feature version with additional functions	**6ES7155-5AA00-0AC0**
Accessories	
Front flap for IM 155-5 PN (spare part), 5 units	**6ES7528-0AA70-7AA0**
SIMATIC S7-1500 mounting rail	
Fixed lengths, with grounding elements	
• 160 mm	**6ES7590-1AB60-0AA0**
• 245 mm	**6ES7590-1AC40-0AA0**
• 482 mm	**6ES7590-1AE80-0AA0**
• 530 mm	**6ES7590-1AF30-0AA0**
• 830 mm	**6ES7590-1AJ30-0AA0**
For cutting to length by customer, without drill holes; grounding elements must be ordered separately	
• 2000 mm	**6ES7590-1BC00-0AA0**
PE connection element for mounting rail 2000 mm	**6ES7590-5AA00-0AA0**
20 units	
Power supply	
For supplying the backplane bus of the S7-1500	
24 V DC input voltage, power 25 W	**6ES7505-0KA00-0AB0**
24/48/60 V DC input voltage, power 60 W	**6ES7505-0RA00-0AB0**
24/48/60 V DC input voltage, power 60 W, buffering functionality	**6ES7505-0RB00-0AB0**
120/230 V AC input voltage, power 60 W	**6ES7507-0RA00-0AB0**
Power connector	**6ES7590-8AA00-0AA0**
With coding element for power supply module; spare part, 10 units	
Load power supply	
24 V DC/3 A	**6EP1332-4BA00**
24 V DC/8 A	**6EP1333-4BA00**

	Article No.
Power supply connector	
Spare part; for connecting the 24 V DC supply voltage	
• With push-in terminals	**6ES7193-4JB00-0AA0**
IE FC RJ45 plugs	
RJ45 plug connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables	
IE FC RJ45 plug 180	
180° cable outlet	
1 unit	**6GK1901-1BB10-2AA0**
10 units	**6GK1901-1BB10-2AB0**
50 units	**6GK1901-1BB10-2AE0**
IE FC TP standard cable GP 2x2	**6XV1840-2AH10**
4-wire, shielded TP installation cable for connection to IE FC RJ45 outlet/ IE FC RJ45 plug; PROFINET-compatible; with UL approval;	
Sold by the meter; max. delivery unit 1000 m; minimum order quantity 20 m	
IE FC TP trailing cable 2 x 2 (Type C)	**6XV1840-3AH10**
4-wire, shielded TP installation cable for connection to IE FC RJ45 outlet/ IE FC RJ45 plug 180/90 for trailing cable use; PROFINET-compatible; with UL approval;	
Sold by the meter; max. delivery unit 1000 m; minimum order quantity 20 m	
IE FC TP marine cable 2 x 2 (Type B)	**6XV1840-4AH10**
4-wire, shielded TP installation cable for connection to IE FC RJ45 outlet/ IE FC RJ45 plug 180/90 marine certified;	
Sold by the meter; max. delivery unit 1000 m; minimum order quantity 20 m	
IE FC stripping tool	**6GK1901-1GA00**
Preadjusted stripping tool for fast stripping of Industrial Ethernet FC cables	

Overview

- Interface module for linking the ET 200MP to PROFIBUS
- Handles data exchange with the PROFIBUS master in the PLC
- Max. 12 I/O modules
- Automatic detection of baud rate 9.6 kBd ... 12 MBd
- PROFIBUS addresses 1 ... 125; adjustable using DIP switches
- Identification and maintenance data IM0 ... IM3

Technical specifications

Article number	**6ES7155-5BA00-0AB0** ET 200MP, IM155-5 DP ST
General information	
Product type designation	IM 155-5 DP ST
Product function	
• I&M data	Yes; I&M0 to I&M3
Engineering with	
• STEP 7 TIA Portal configurable/ integrated as of version	V13 / V13
• STEP 7 configurable/integrated as of version	V5.5 SP3 / -
• PROFIBUS as of GSD version/ GSD revision	V1.0 / V5.1
Supply voltage	
Rated value (DC)	24 V
Reverse polarity protection	Yes
Short-circuit protection	Yes
Input current	
Current consumption (rated value)	0.2 A; at 24 V DC and without load
Power loss	
Power loss, typ.	4 W
Address area	
Address space per station	
• Address space per station, max.	244 byte; per input / output
Hardware configuration	
Integrated power supply	Yes
Rack	
• Modules per rack, max.	12; I/O modules
Interfaces	
Number of PROFIBUS interfaces	1

Article number	**6ES7155-5BA00-0AB0** ET 200MP, IM155-5 DP ST
1. Interface	
Interface types	
• RS 485	Yes
Protocols	
• PROFIBUS DP slave	Yes
RS 485	
• Transmission rate, max.	12 Mbit/s
PROFIBUS DP	
Services	
- SYNC capability	Yes
- FREEZE capability	Yes
- DPV1	Yes
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	No
Interrupts/diagnostics/ status information	
Status indicator	Yes
Alarms	Yes
Diagnostics function	Yes
Diagnostics indication LED	
• RUN LED	Yes; Green LED
• ERROR LED	Yes; Red LED
• MAINT LED	Yes; yellow LED
• Connection display DP	Yes; Green LED
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.	360 g

Ordering data	Article No.
IM 155-5 DP ST interface module IP 20 degree of protection, module width 35 mm, installation on S7-1500 mounting rail	**6ES7155-5BA00-0AB0**
Accessories	
Front flap for IM 155-5 PN (spare part), 5 units	**6ES7528-0AA70-7AA0**
SIMATIC S7-1500 standard rail Fixed lengths, with grounding elements	
• 160 mm	**6ES7590-1AB60-0AA0**
• 245 mm	**6ES7590-1AC40-0AA0**
• 482 mm	**6ES7590-1AE80-0AA0**
• 530 mm	**6ES7590-1AF30-0AA0**
• 830 mm	**6ES7590-1AJ30-0AA0**
For cutting to length by customer, without drill holes; grounding elements must be ordered separately	
• 2000 mm	**6ES7590-1BC00-0AA0**
PE connection element for standard rail 2000 mm 20 units	**6ES7590-5AA00-0AA0**
Load power supply	
24 V DC/3 A	**6EP1332-4BA00**
24 V DC/8 A	**6EP1333-4BA00**
Power supply connector Spare part; for connecting the 24 V DC supply voltage	
• With push-in terminals	**6ES7193-4JB00-0AA0**
PROFIBUS connector	
• Connector for PROFIBUS, up to 12 Mbps, 90° cable outlet, insulation displacement system, without PG socket	**6ES7972-0BA70-0XA0**
• Connector for PROFIBUS, up to 12 Mbps, 90° cable outlet, insulation displacement system, with PG socket	**6ES7972-0BB70-0XA0**
PROFIBUS stripping tool Stripping tool for fast stripping of the PROFIBUS	**6GK1905-6AA00**
PROFIBUS FastConnect bus cable	
• Standard type with special design for quick mounting, 2-wire, shielded, sold by the meter, max. delivery unit 1000 m, minimum order quantity 20 m	**6XV1830-0EH10**
• 20 m	**6XV1830-0EN20**
• 50 m	**6XV1830-0EN50**
• 100 m	**6XV1830-0ET10**
• 200 m	**6XV1830-0ET20**
• 500 m	**6XV1830-0ET50**
• 1000 m	**6XV1830-0EU10**

	Article No.
FC robust cable Bus cable with PUR sheath for use under conditions of extreme mechanical stress or aggressive chemicals, 2-wire, shielded, sold by the meter, max. delivery unit 1 000 m, minimum order quantity 20 m	**6XV1830-0JH10**
FC flexible cable PROFIBUS bus cable, flexible, with special design for quick mounting, 2-wire, shielded, sold by the meter, max. delivery unit 1000 m, minimum order quantity 20 m	**6XV1831-2K**
FC trailing cable PROFIBUS trailing cable, at least 3 million bending cycles, min. bending radius approx. 120 mm, 2-wire, shielded, sold by the meter, max. delivery unit 1000 m, minimum order quantity 20 m	**6XV1830-3EH10**
FC bus cable PROFIBUS Food bus cable with PE sheath for use in the food and beverages industry, 2-wire, shielded, sold by the meter, max. delivery unit 1 000 m, minimum order quantity 20 m	**6XV1830-0GH10**
FC underground cable PROFIBUS underground cable, 2-wire, shielded, sold by the meter, max. delivery unit 1 000 m, minimum order quantity 20 m	**6XV1830-3FH10**
FC FRNC cable PROFIBUS bus cable, flame-retardant and halogen-free, with copolymer sheath FRNC, sold by the meter, max. delivery unit 1000 m, minimum order quantity 20 m	**6XV1830-0LH10**
FC trailing cable PROFIBUS trailing cable, at least 3 million bending cycles, min. bending radius approx. 120 mm, 2-wire, shielded, sold by the meter, max. delivery unit 1000 m, minimum order quantity 20 m	**6XV1831-2L**
IE FC stripping tool Preadjusted stripping tool for fast stripping of Industrial Ethernet FC cables	**6GK1901-1GA00**

Overview

- Interface module for linking the ET 200MP to PROFINET
- Handles data exchange with the PROFINET I/O controller in the PLC
- Integrated 2-port switch for line topology
- Max. 30 I/O modules
- Shortest bus cycle 250 µs
- Linking to the isochronous task of the CPU
- Prioritized fast startup (FSU) with 500 ms (max. 12 I/O modules)
- Media Redundancy Protocol (MRP)
- Shared device on up to two I/O controllers (when configuring using GSD file; depends on the respective configuration tool)
- Omission of SIMATIC memory card (SMC); IM replacement without PG using LLDP

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme specific information was added.

Ordering data

	Article No.
SIPLUS IM 155-5 PN interface module (Extended temperature range and exposure to environmental substances) IP 20 degree of protection, module width 35 mm, installation on S7-1500 mounting rail	**6AG1155-5AA01-7AB0**
Accessories	See SIMATIC ET 200MP, IM 155-5 PN interface module, page 9/216

Technical specifications

Article number	**6AG1155-5AA01-7AB0**
Based on	**6ES7155-5AA01-0AB0** SIPLUS ET 200MP IM 155-5 PN ST
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-40 °C; = Tmin (incl. condensation/ frost)
• horizontal installation, max.	70 °C; = Tmax; at > +60 °C no module permissible left of the IM
• vertical installation, min.	-40 °C; = Tmin
• vertical installation, max.	40 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 080 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax - 20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m); from 2 000 m max. 132 V AC
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
Resistance	
Coolants and lubricants	
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
Remark	
- Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high availability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A

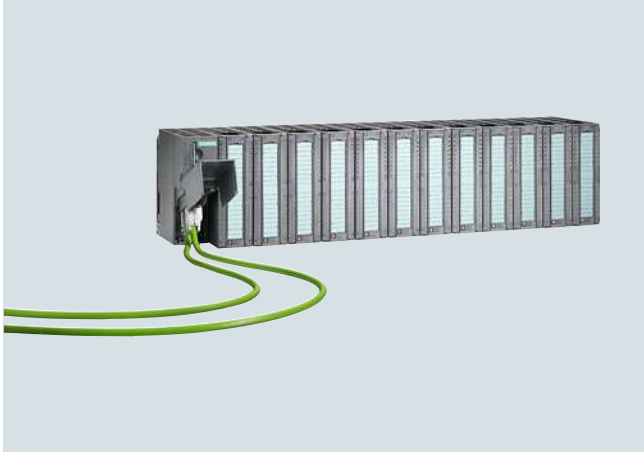
Overview

I/O modules constitute the interface of the SIMATIC ET 200MP to the process:

- Digital and analog modules provide exactly the inputs/outputs required for each task
- Technology modules for SIMATIC S7-1500 and ET 200MP
  - With integrated functions for high-speed counting and position detection
  - With integrated inputs and outputs for tasks at the process level and short response times
- Communication modules for SIMATIC S7-1500 and ET 200MP
  - For data exchange using point-to-point coupling
  - For connecting to PROFIBUS
  - For connecting to Industrial Ethernet
- Connection system for user-friendly, low-overhead wiring of the S7-1500 and ET 200MP modules

You can find additional information under SIMATIC S7-1500, catalog section 4.

Overview



- Modular I/O system with IP20 degree of protection, particularly suitable for user-specific and complex automation tasks
- Consists of a PROFIBUS DP or PROFINET interface module IM 153, up to 8 or 12 I/O modules of the S7-300 automation system (structure with bus connection or with active bus modules), and a power supply if applicable
- Can be expanded with S7-300 automation system signal, communication and function modules
- Applicable Ex analog input or output modules with HART optimize the ET 200M for use in process engineering
- Can be used in redundant systems (S7-400H, S7-400F/FH)
- Modules can be replaced during operation (hot swapping) with the bus modules active
- Transmission rates up to 12 Mbps
- Ex approval to Cat. 3 for Zone 2 acc. to ATEX 100 a
- Fail-safe digital in/outputs as well as analog inputs for safety-oriented signal processing in accordance with PROFIsafe
- Supports modules with expanded user data, e.g. HART modules with HART minor variables

Availability

As part of our established product portfolio, the SIMATIC S7-300 / ET 200M system families will generally be available until 2023. Following the product phase-out declaration, products will be available as spare parts for another ten years.

Technical specifications

General technical data ET 200M	
Cables and connections	Screw and spring-loaded connections in permanent wiring
Degree of protection	IP20
Ambient temperature on vertical wall (preferred mounting position)	
• with horizontal assembly	0 to +60 °C
• with other assembly	0 to +40 °C
Relative humidity	5 to 95% (RH stress level 2 according to IEC 1131-2)
Atmospheric pressure	795 to 1080 hPa
Mechanical stress	
• Vibrations	IEC 68, parts 2 – 6: 10 - 57 Hz (const.amplitude 0.075 mm) 57 - 150 Hz (constant acceleration 1 g)
• Shock	IEC 68, parts 2 – 27 half-sine, 15 g, 11 ms

Overview

The ET 200M system with various interface modules is available for the distributed use of S7-300 I/O modules. Depending on the application purpose, the best suited IM in terms of costs and functions can be selected:

IM153-1 Standard

The IM153-1 is one reasonably priced variant that is excellently suited for most applications in the manufacturing environment. It permits the use of up to 8 S7-300 I/O modules.

IM153-2 High Feature

For higher requirements in manufacturing technology, such as the use of F technology or the highest performance in conjunction with clock synchronization, the IM153-2 High Feature is available. This IM is also designed for use with the PCS7 in the field of process-oriented applications. This IM can be redundantly used and supports typical functions as they are required in the control field. These include, for example, clock synchronization or time stamping with an accuracy of up to 1 ms.

Technical specifications

Article number	**6ES7153-1AA03-0XB0** ET200M, Interface Module IM153-1	**6ES7153-2BA10-0XB0** ET200M, Interface Module IM153-2 HF	**6ES7153-2BA70-0XB0** ET200M, INTERFACE MODULE IM153-2 HF OUTDOOR
General information			
Product type designation	IM 153-1 DP ST	IM 153-2 DP HF	IM 153-2 HF
Supply voltage			
Rated value (DC)	24 V	24 V	
• 24 V DC	Yes	Yes	Yes
external protection for power supply lines (recommendation)	not necessary	2,5 A	2,5 A
Input current			
Current consumption, max.	350 mA; at 24 V DC	650 mA; with 24 V DC supply	650 mA
Output voltage			
Rated value (DC)	5 V		
Output current			
for backplane bus (5 V DC), max.	1 A	1.5 A	1.5 A
Power loss			
Power loss, typ.	3 W	5.5 W	5.5 W
Address area			
Addressing volume			
• Inputs	128 byte	244 byte	244 byte
• Outputs	128 byte	244 byte	244 byte
Hardware configuration			
Number of modules per DP slave interface, max.	8	12	12
Time stamping			
Accuracy		1 ms; 1ms at up to 8 modules; 10ms at up to 12 modules	1 ms; 1ms at up to 8 modules; 10ms at up to 12 modules
Number of message buffers		15	15
Messages per message buffer		20	20
Number of stampable digital inputs, max.		128; Max. 128 signals/station; max. 32 signals/slot	128; Max. 128 signals/station; max. 32 signals/slot
Time format		RFC 1119	RFC 1119
Time resolution		0.466 ns	0.466 ns
Time interval for transmitting the message buffer if a message is present		1 000 ms	1 000 ms
Time stamp on signal change		rising / falling edge as signal entering or exiting	rising / falling edge as signal entering or exiting

Technical specifications (continued)

Article number	6ES7153-1AA03-0XB0 ET200M, Interface Module IM153-1	6ES7153-2BA10-0XB0 ET200M, Interface Module IM153-2 HF	6ES7153-2BA70-0XB0 ET200M, INTERFACE MODULE IM153-2 HF OUTDOOR
Interfaces			
Transmission procedure	RS 485	RS 485	RS 485
PROFIBUS DP			
• Node addresses	1 to 125 permitted	1 to 125 permitted	1 to 125 permitted
• automatic detection of transmission rate	Yes	Yes	Yes
• Output current, max.	90 mA	70 mA	70 mA
• Transmission rate, max.	12 Mbit/s	12 Mbit/s	12 Mbit/s
• SYNC capability	Yes	Yes	Yes
• FREEZE capability	Yes	Yes	Yes
• Direct data exchange (slave-to-slave communication)	Yes; Sender	Yes; as publisher with all IO, as subscriber with F-IO only	Yes; as publisher with all IO, as subscriber with F-IO only
• Design of electrical connection of PROFIBUS interface	9-pin sub D socket	9-pin sub D	9-pin sub D
1. Interface			
PROFIBUS DP slave			
• GSD file	(for DPV1) SIEM801D.GSD; SI01801D.GSG	SI05801E.GSG	SI05801E.GSG
• automatic baud rate search	Yes	Yes	Yes
Protocols			
Bus protocol/transmission protocol	PROFIBUS DP to EN 50170	PROFIBUS DP to EN 50170	PROFIBUS DP to EN 50170
Protocols (Ethernet)			
• TCP/IP	No	No	
Potential separation			
Potential separation exists	Yes	Yes	Yes
Isolation			
Isolation tested with	Isolation voltage 500 V	Isolation voltage 500 V	Isolation voltage 500 V
Degree and class of protection			
IP degree of protection	IP20	IP20	IP20
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	
• max.	60 °C	60 °C	
Altitude during operation relating to sea level			
• Installation altitude above sea level, max.	3 000 m	3 000 m	3 000 m
Configuration			
Configuration software			
• STEP 7	STEP 7 / COM PROFIBUS / non-Siemens tools via GSD file	Yes; STEP 7 / COM PROFIBUS / non-Siemens tools via GSD file	Yes; STEP 7 / COM PROFIBUS / non-Siemens tools via GSD file
Dimensions			
Width	40 mm	40 mm	40 mm
Height	125 mm	125 mm	125 mm
Depth	117 mm	117 mm	117 mm
Weights			
Weight, approx.	360 g	360 g	360 g

Article number	6ES7195-7HD10-0XA0 ET200M, Bus Unit f. 2 IM 153-2 red.
Dimensions	
Width	97 mm
Height	92 mm
Depth	30 mm
Weights	
Weight, approx.	133 g

Technical specifications (continued)

Article number	6ES7195-7HA00-0XA0 ET200M, Bus Module f. PS and IM 153	6ES7195-7HB00-0XA0 ET200M, Bus Module f. 2 40mm I/O Modules	6ES7195-7HC00-0XA0 ET200M, Bus Module f. 1 80mm I/O Module
Dimensions			
Width	97 mm	97 mm; 80 mm when installed	97 mm; 80 mm when installed
Height	92 mm	92 mm	92 mm
Depth	30 mm	30 mm	30 mm
Weights			
Weight, approx.	111 g	140 g	127 g

Ordering data

	Article No.
IM 153-1 interface module	
Slave interface for connecting an ET 200M to PROFIBUS DP	
• Standard temperature range	**6ES7153-1AA03-0XB0**
IM 153-2 interface module	
Slave interface for connecting an ET 200M to PROFIBUS DP; also for use in redundant systems	
• High Feature	**6ES7153-2BA10-0XB0**
• High Feature with extended temperature range	**6ES7153-2BA70-0XB0**
Active IM 153/IM 153 bus module	**6ES7195-7HD10-0XA0**
For two IM 153-2 High Feature modules for designing redundant systems	
Bus module for ET 200M	
• For accommodating a power supply and an IM 153 module for the hot-swapping function during RUN, incl. bus module cover	**6ES7195-7HA00-0XA0**
• For accommodating two 40 mm-wide I/O modules for the hot-swapping function	**6ES7195-7HB00-0XA0**
• For accommodating one 80 mm-wide I/O module for the hot-swapping function	**6ES7195-7HC00-0XA0**
ET 200M redundancy bundle	**6ES7153-2AR04-0XA0**
Comprising two IM 153-2 High Feature modules and one IM 153/IM 153 bus module	

	Article No.
Accessories	
PROFIBUS bus connector	
90° outgoing cable, terminating resistor with disconnecting function, up to 12 Mbps, FastConnect	
Without PG interface	
• 1 unit	**6ES7972-0BA52-0XA0**
• 100 units	**6ES7972-0BA52-0XB0**
With PG interface	
• 1 unit	**6ES7972-0BB52-0XA0**
• 100 units	**6ES7972-0BB52-0XB0**
SIMATIC DP standard rail for ET 200M	
Accommodates up to 5 bus modules; for hot-swapping function	
• Length: 483 mm (19")	**6ES7195-1GA00-0XA0**
• Length: 530 mm	**6ES7195-1GF30-0XA0**
• Length: 620 mm	**6ES7195-1GG30-0XA0**
• Length: 2000 mm	**6ES7195-1GC00-0XA0**
SIMATIC S7-300 standard rail	
• Length: 160 mm	**6ES7390-1AB60-0AA0**
• Length: 480 mm (19")	**6ES7390-1AE80-0AA0**
• Length: 530 mm	**6ES7390-1AF30-0AA0**
• Length: 830 mm	**6ES7390-1AJ30-0AA0**
• Length: 2000 mm	**6ES7390-1BC00-0AA0**
S7 Manual Collection	**6ES7998-8XC01-8YE0**
Electronic manuals on DVD, multi-language: S7-200, TD 200, S7-300, M7-300, C7, S7-400, M7-400, STEP 7, Engineering Tools, Runtime Software, SIMATIC DP (Distributed I/O), SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication)	
S7 Manual Collection update service for 1 year	**6ES7998-8XC01-8YE2**
Scope of supply: Current DVD "S7 Manual Collection" and the three subsequent updates	

Overview

- For connecting ET 200M to PROFINET IO (via copper line, RJ45) as an IO device
- 2 versions:
  - IM 153-4 PN Standard
  - IM 153-4 PN High Feature:
    supports, in contrast to the Standard version, the operation of PROFIsafe F and HART modules. The operation of an S7-400H (system redundancy) is likewise possible.
- Integrated 2-port switch
- 12 modules per station
- Usable I/O capacity: 192 bytes each
- Active bus backplane to hot-swap modules available as an option
- Baud rate 10 Mbps / 100 Mbps (autonegotiation / full duplex)
- I&M functions according to PNO Guideline Order No. 3.502, Version V1.1

Note:

Micro Memory Card with at least 64 KB required if not all the stations in the network support LLDP (Link Layer Discovery Protocol; proximity detection).

Technical specifications

Article number	**6ES7153-4AA01-0XB0**	**6ES7153-4BA00-0XB0**
	IM153-4 PN IO for 12 Modules S7-300	IM153-4 PN IO HF for 12 Modules S7-300
General information		
Product type designation	IM 153-4 PN ST	IM 153-4 PN HF
Supply voltage		
Rated value (DC)	24 V	24 V
• 24 V DC	Yes	Yes
external protection for power supply lines (recommendation)	In a construction with grounded reference potential, a fuse is necessary for redundant interface modules (Recommendation: 2.5 A)	In a construction with grounded reference potential, a fuse is necessary for redundant interface modules (Recommendation: 2.5 A)
Input current		
Current consumption, max.	600 mA; with 24 V DC supply	600 mA; with 24 V DC supply
Output voltage		
Rated value (DC)	5 V	5 V
Output current		
for backplane bus (5 V DC), max.	1.5 A	1.5 A
Power loss		
Power loss, typ.	6 W	6 W
Address area		
Addressing volume		
• Inputs	192 byte	672 byte; Extended HART user data
• Outputs	192 byte	192 byte
Hardware configuration		
Number of modules per DP slave interface, max.	12	12

Technical specifications (continued)

Article number	**6ES7153-4AA01-0XB0** IM153-4 PN IO for 12 Modules S7-300	**6ES7153-4BA00-0XB0** IM153-4 PN IO HF for 12 Modules S7-300
Protocols		
Bus protocol/transmission protocol	PROFINET IO	PROFINET IO
Protocols (Ethernet)		
• TCP/IP	No	Yes
• SNMP		Yes
• LLDP		Yes
• ping		Yes
• ARP		Yes
PROFINET IO Device		
Services		
- Isochronous mode		Yes
- IRT		Yes
- PROFIenergy		No
- Prioritized startup		Yes
- Shared device		Yes
- Number of IO Controllers with shared device, max.		2
Redundancy mode		
• MRP	Yes	Yes
• PROFINET system redundancy (S2)	No	Yes
Interrupts/diagnostics/ status information		
Diagnostics indication LED		
• for module diagnostics	Yes	Yes
• Connection to network LINK (green)	Yes	Yes
• Transmit/receive RX/TX (yellow)	Yes	Yes
Potential separation		
Potential separation exists	Yes	Yes; Only direction PROFINET, RWB is not separated
Isolation		
Isolation tested with	500 V DC	Between PROFINET and 24 V supply: 1 500 V AC, between functional grounding and 24 V supply: 500 V DC
Degree and class of protection		
IP degree of protection	IP20	IP20
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	60 °C	60 °C
Altitude during operation relating to sea level		
• Installation altitude above sea level, max.	2 000 m	2 000 m
Dimensions		
Width	40 mm	40 mm
Height	125 mm	125 mm
Depth	118 mm	118 mm
Weights		
Weight, approx.	215 g	215 g

Ordering data	Article No.
IM 153-4 PN interface module	
I/O device to connect an ET 200M to PROFINET	
Standard	**6ES7153-4AA01-0XB0**
High Feature	**6ES7153-4BA00-0XB0**
Accessories	
Bus modules for ET 200M	
• For accommodating a power supply and an IM 153 module for the hot-swapping function during RUN, incl. bus module cover	**6ES7195-7HA00-0XA0**
• For accommodating two 40 mm-wide I/O modules for the hot-swapping function	**6ES7195-7HB00-0XA0**
• For accommodating one 80 mm-wide I/O module for the hot-swapping function	**6ES7195-7HC00-0XA0**
SIMATIC Micro Memory Card	
64 KB[1]	**6ES7953-8LF31-0AA0**
SIMATIC DP standard rail for ET 200M	
Accommodates bus modules; for hot-swapping function	
• Length: 483 mm (19")	**6ES7195-1GA00-0XA0**
• Length: 530 mm	**6ES7195-1GF30-0XA0**
• Length: 620 mm	**6ES7195-1GG30-0XA0**
• Length: 2 000 mm	**6ES7195-1GC00-0XA0**
SIMATIC S7-300 mounting rail	
Length: 160 mm	**6ES7390-1AB60-0AA0**
Length: 480 mm (19")	**6ES7390-1AE80-0AA0**
Length: 530 mm	**6ES7390-1AF30-0AA0**
Length: 830 mm	**6ES7390-1AJ30-0AA0**
Length: 2000 mm	**6ES7390-1BC00-0AA0**
Power supply connector	
For connection of the 24 V DC power supply; spare part, 1 pack containing 10 units	
Spring-loaded connections	**6ES7193-4JB00-0AA0**
Screw terminal connections	**6ES7193-4JB50-0AA0**

	Article No.
S7 Manual Collection	**6ES7998-8XC01-8YE0**
Electronic manuals on DVD, multi-language: S7-200, TD 200, S7-300, M7-300, C7, S7-400, M7-400, STEP 7, Engineering Tools, Runtime Software, SIMATIC DP (Distributed I/O), SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication)	
S7 Manual Collection update service for 1 year	**6ES7998-8XC01-8YE2**
Scope of supply: Current DVD "S7 Manual Collection" and the three subsequent updates	
Industrial Ethernet FC RJ45 plug 180	
RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet	
1 unit	**6GK1901-1BB10-2AA0**
10 units	**6GK1901-1BB10-2AB0**
50 units	**6GK1901-1BB10-2AE0**
Industrial Ethernet FastConnect installation cables	
• FastConnect standard cable	**6XV1840-2AH10**
• FastConnect trailing cable	**6XV1840-3AH10**
• FastConnect marine cable	**6XV1840-4AH10**
Industrial Ethernet FastConnect	
Stripping tool	**6GK1901-1GA00**

[1] To operate the IM153-4, an MMC is required with at least 64 KB memory. Cards with higher memory capacity may also be used.

9

Overview

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme specific information was added.

For technical documentation on SIPLUS, see:

http://www.siemens.com/siplus-extreme

Technical specifications

Article number	**6AG1153-1AA03-2XB0**	**6AG1153-2BA10-2XY0**	**6AG1153-2BA10-7XB0**
Based on	**6ES7153-1AA03-0XB0**	**6ES7153-2BA10-0XY0**	**6ES7153-2BA10-0XB0**
	SIPLUS IM153-1	SIPLUS ET200M IM153-2 EN50155	SIPLUS ET200M IM153-2 HF
Ambient conditions			
Ambient temperature during operation			
• min.	-40 °C; = Tmin	-25 °C; = Tmin	-40 °C; = Tmin; Startup @ -25 °C
• max.	70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use	60 °C; = Tmax; the rated temperature range of -25 ... +55 °C (T1) applies for the use on railway vehicles according to EN50155	70 °C; = Tmax
• At cold restart, min.	-25 °C	-25 °C	-25 °C
Ambient temperature during storage/transportation			
• min.	-40 °C	-40 °C	-40 °C
• max.	70 °C	70 °C	70 °C
Altitude during operation relating to sea level			
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)

Technical specifications (continued)

Article number	6AG1153-1AA03-2XB0	6AG1153-2BA10-2XY0	6AG1153-2BA10-7XB0
Based on	6ES7153-1AA03-0XB0	6ES7153-2BA10-0XY0	6ES7153-2BA10-0XB0
	SIPLUS IM153-1	SIPLUS ET200M IM153-2 EN50155	SIPLUS ET200M IM153-2 HF
Resistance			
Use in stationary industrial systems			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
Use on land craft, rail vehicles and special-purpose vehicles			
- to biologically active substances according to EN 60721-3-5		Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request	
- to chemically active substances according to EN 60721-3-5		Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *	
- to mechanically active substances according to EN 60721-3-5		Yes; Class 5S3 incl. sand, dust; *	
Use on ships/at sea			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request		Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *		Yes; Class 6S3 incl. sand, dust; *
Remark			
- Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!

Article number	6AG1195-7HA00-2XA0	6AG1195-7HB00-7XA0	6AG1195-7HC00-2XA0	6AG1195-7HD10-2XA0
Based on	6ES7195-7HA00-0XA0	6ES7195-7HB00-0XA0	6ES7195-7HC00-0XA0	6ES7195-7HD10-0XA0
	SIPLUS ET200M DP bus module	SIPLUS DP bus module ET200M 2X40	SIPLUS ET200M bus module	SIPLUS ET 200M DP bus module
Ambient conditions				
Ambient temperature during operation				
• min.	-40 °C; = Tmin	-40 °C; = Tmin	-40 °C; = Tmin	-40 °C; = Tmin
• max.	70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use	70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use	70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use	70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use
Ambient temperature during storage/transportation				
• min.	-40 °C	-40 °C	-40 °C	-40 °C
• max.	70 °C	70 °C	70 °C	70 °C
Altitude during operation relating to sea level				
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity				
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)

Technical specifications (continued)

Article number	6AG1195-7HA00-2XA0	6AG1195-7HB00-7XA0	6AG1195-7HC00-2XA0	6AG1195-7HD10-2XA0
Based on	6ES7195-7HA00-0XA0	6ES7195-7HB00-0XA0	6ES7195-7HC00-0XA0	6ES7195-7HD10-0XA0
	SIPLUS ET200M DP bus module	SIPLUS DP bus module ET200M 2X40	SIPLUS ET200M bus module	SIPLUS ET 200M DP bus module
Resistance				
Use in stationary industrial systems				
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea				
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
Remark				
- Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!

Ordering data

	Article No.
SIPLUS ET 200M IM 153-1	
Slave interface for connecting an ET 200M to PROFIBUS DP for a maximum of 8 S7-300 modules	
• Extended temperature range and exposure to media	**6AG1153-1AA03-2XB0**
SIPLUS ET 200M IM 153-2 High Feature	
Slave interface for connecting an ET 200M to PROFIBUS DP for a maximum of 12 S7-300 modules; also for use in redundant systems	
• Extended temperature range and exposure to media	**6AG1153-2BA10-7XB0**
• Conforms to EN 50155	**6AG1153-2BA10-2XY0**

	Article No.
Bus module for SIPLUS ET 200M	
Bus module for accommodating a power supply and an IM 153 module for the hot-swapping function during RUN, incl. bus module cover	
• Extended temperature range and exposure to media	**6AG1195-7HA00-2XA0**
Bus module for accommodating two 40 mm-wide I/O modules for the hot-swapping function	
• Extended temperature range and exposure to media	**6AG1195-7HB00-7XA0**
Bus module for accommodating one 80 mm-wide I/O module for the hot-swapping function	
• Extended temperature range and exposure to media	**6AG1195-7HC00-2XA0**
Bus module for accommodating two IM 153 modules for the hot-swapping function; for setting up redundant systems	
• Extended temperature range and exposure to media	**6AG1195-7HD10-2XA0**
RS 485 bus connector with 90° cable outlet	
Max. transfer rate 12 Mbps	
Extended temperature range and exposure to media	
• without PG interface	**6AG1972-0BA12-2XA0**
• with PG interface	**6AG1972-0BB12-2XA0**
Additional accessories	see SIMATIC ET 200M IM 153-1/153-2, page 9/224

Overview

- For connection of ET 200M as IO Device to PROFINET IO (copper, RJ45)
- 2 versions:
  - IM 153-4 PN STANDARD
  - IM 153-4 PN HIGH FEATURE: additionally to the STANDARD version, operation of PROFIsafe F and HART modules
- Integrated 2-port switch
- 12 modules per station
- Usable I/O quantity structure: 192 bytes each
- Active backplane bus for hot swapping of modules optionally available
- Baud rate 10 Mbps / 100 Mbps (Autonegotiation/Full Duplex)
- I&M functions according to PNO-Guideline Order-No. 3.502, Version V1.1

Notes:

Micro Memory Card with min. 64 KB required if not all participants in the network support LLDP (Link Layer Discovery Protocol; neighbor detection).

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme specific information was added.

For technical documentation on SIPLUS, see:
http://www.siemens.com/siplus-extreme

Technical specifications

Article number	**6AG1153-4AA01-7XB0**
Based on	**6ES7153-4AA01-0XB0**
	SIPLUS ET200M IM 153-4 PN IO
Ambient conditions	
Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Use in stationary industrial systems	
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
Remark	
- Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!

Ordering data

	Article No.
SIPLUS ET 200M IM 153-4 PN	
Slave interface for connecting an ET 200M to PROFINET for a maximum of 12 S7-300 modules	
• Extended temperature range and exposure to media	**6AG1153-4AA01-7XB0**
Accessories	
IE FC RJ45 plug 180	**6AG1901-1BB10-7AA0**
180° cable outlet; 1 unit	
Additional accessories	See SIMATIC ET 200M IM 153-4 PN interface module, page 9/227

Overview Digital modules

- Digital inputs and outputs
- For flexible adaptation of the controller to the respective task
- For connecting digital sensors and actuators

For further information, see SIMATIC S7-300, chapter 5.

Overview Analog modules

- Analog inputs and outputs
- For solving even complex tasks with analog process signals
- For connecting analog actuators and sensors without additional measuring amplifiers

HART modules

- For the use of HART (**H**ighway **A**ddressable **R**emote **T**ransducer) devices in the SIMATIC S7 and PCS 7 automation systems
- All transducers or HART sensors/actuators which are certified for communication using the HART protocol can be connected
- In addition, conventional transducers with 4 to 20 mA technology without HART protocol can also be connected
- Can only be plugged into ET 200M with IM153-2

Overview

- Can only be plugged into ET 200M with IM 153-2 and IM 153-2 FO
- 8 AI HART
- Redundancy switching
- Firmware update
- HART minor variables

Technical specifications

Article number	**6ES7331-7TF01-0AB0**
	SM331, 8AI, 0/4-20MA HART
Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	20 mA
from backplane bus 5 V DC, max.	120 mA
Output voltage	
Power supply to the transmitters	
• present	Yes
• Rated value (DC)	24 V
• short-circuit proof	Yes
• Supply current, max.	60 mA
Analog inputs	
Number of analog inputs	8
permissible input current for current input (destruction limit), max.	40 mA
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
Cable length	
• shielded, max.	800 m
Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/ resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
• Integration time, parameterizable	Yes
• Integration time (ms)	20 ms at 50 Hz; 16.6 ms at 60 Hz; 100 ms at 100 Hz
• Basic conversion time, including integration time (ms)	55 ms @ 60 Hz, 65 ms @ 50 Hz, 305 ms @ 100 Hz
• Interference voltage suppression for interference frequency f1 in Hz	10 / 50 / 60 Hz
Smoothing of measured values	
• parameterizable	Yes

Article number	**6ES7331-7TF01-0AB0**
	SM331, 8AI, 0/4-20MA HART
Encoder	
Connection of signal encoders	
• for current measurement as 2-wire transducer	Yes
• for current measurement as 4-wire transducer	Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.001 %/K
Crosstalk between the inputs, min.	70 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.1 %
Operational error limit in overall temperature range	
• Current, relative to input range, (+/-)	0.15 %
Basic error limit (operational limit at 25 °C)	
• Current, relative to input range, (+/-)	0.1 %
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min.	40 dB
• Common mode interference, min.	100 dB
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	No

Technical specifications (continued)

Article number	**6ES7331-7TF01-0AB0** SM331, 8AI, 0/4-20MA HART
Interrupts/diagnostics/ status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	Yes
Diagnostic messages	
• Diagnostic information readable	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
• Channel fault indicator F (red)	Yes
Potential separation	
Potential separation analog inputs	
• between the channels	No
• between the channels and backplane bus	Yes
Degree and class of protection	
IP degree of protection	IP20
Connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	117 mm
Weights	
Weight, approx.	205 g

Ordering data

	Article No.
SM 331 HART analog input module 8 inputs, 0/4 – 20 mA, HART for ET 200M with IM 153-2 interface module	**6ES7331-7TF01-0AB0**
Accessories	
Front connectors	
• 20-pin, with screw contacts	
- 1 unit	**6ES7392-1AJ00-0AA0**
- 100 units	**6ES7392-1AJ00-1AB0**
• 20-pin, with spring-loaded contacts	
- 1 unit	**6ES7392-1BJ00-0AA0**
- 100 units	**6ES7392-1BJ00-1AB0**
LK 393 cable guide Mandatory for operation in hazardous areas	**6ES7393-4AA00-0AA0**
SIMATIC DP mounting rail for ET 200M For mounting of up to 5 bus modules for	
• Length: 483 mm (19")	**6ES7195-1GA00-0XA0**
• Length: 530 mm	**6ES7195-1GF30-0XA0**
SIMATIC S7-300 mounting rail	
• Length: 160 mm	**6ES7390-1AB60-0AA0**
• Length: 480 mm (19")	**6ES7390-1AE80-0AA0**
• Length: 530 mm	**6ES7390-1AF30-0AA0**
• Length: 830 mm	**6ES7390-1AJ30-0AA0**
• Length: 2000 mm	**6ES7390-1BC00-0AA0**
Label cover (10 units, spare part) for signal modules (not 32-channel modules), function modules and CPU 312 IFM	**6ES7392-2XY00-0AA0**
Labeling strips (10 units, spare part) for signal modules (not 32-channel modules), function modules and CPU 312 IFM	**6ES7392-2XX00-0AA0**
Labeling sheets for machine printing For modules with 20-pin front connector, DIN A4, for printing with laser printer; 10 units	
Petrol	**6ES7392-2AX00-0AA0**
Light beige	**6ES7392-2BX00-0AA0**
Yellow	**6ES7392-2CX00-0AA0**
Red	**6ES7392-2DX00-0AA0**

Overview

- For plugging into ET 200M exclusively with IM 153-2 and IM 153-2 FO
- 8 AO HART
- Redundancy switching
- Firmware update
- HART minor variables

Technical specifications

Article number	**6ES7332-8TF01-0AB0**
	SM332, 8AO, 0/4 - 20MA HART
Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	350 mA
from backplane bus 5 V DC, max.	110 mA
Analog outputs	
Number of analog outputs	8
Current output, no-load voltage, max.	24 V
Output ranges, current	
• 0 to 20 mA	Yes
• -20 mA to +20 mA	No
• 4 mA to 20 mA	Yes
Connection of actuators	
• for current output two-wire connection	Yes
Load impedance (in rated range of output)	
• with current outputs, max.	750 Ω
• with current outputs, inductive load, max.	10 mH
Destruction limits against externally applied voltages and currents	
• Voltages at the outputs towards MANA	+60/-0.5 V
Cable length	
• shielded, max.	800 m

Article number	**6ES7332-8TF01-0AB0**
	SM332, 8AO, 0/4 - 20MA HART
Analog value generation for the outputs	
Integration and conversion time/ resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
• Basic execution time of the module (all channels released)	10 ms; 10 ms in AO mode 50 ms in HART-AO mode
Settling time	
• for resistive load	0.1 ms
• for inductive load	0.5 ms
Errors/accuracies	
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.02 %
Linearity error (relative to output range), (+/-)	0.01 %
Temperature error (relative to output range), (+/-)	0.002 %/K
Crosstalk between the outputs, min.	70 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Current, relative to output range, (+/-)	0.2 %
Basic error limit (operational limit at 25 °C)	
• Current, relative to output range, (+/-)	0.1 %

Technical specifications (continued)

Article number	6ES7332-8TF01-0AB0 SM332, 8AO, 0/4 - 20MA HART
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	No
Interrupts/diagnostics/ status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnostic messages	
• Diagnostic information readable	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
Potential separation	
Potential separation analog outputs	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
Degree and class of protection	
IP degree of protection	IP20
Connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	117 mm
Weights	
Weight, approx.	220 g

Ordering data

	Article No.
SM 332 HART analog output module HART analog output, 8 outputs, 0/4 – 20 mA, HART for ET 200M with IM 153-2	**6ES7332-8TF01-0AB0**
Accessories	
Front connector (1 unit) 20-pin, with screw contacts	**6ES7392-1AJ00-0AA0**
LK 393 cable guide Mandatory for operation in hazardous areas	**6ES7393-4AA00-0AA0**
SIMATIC DP standard rail for ET 200M For mounting of up to 5 bus modules for	
• Length: 483 mm (19")	**6ES7195-1GA00-0XA0**
• Length: 530 mm	**6ES7195-1GF30-0XA0**
SIMATIC S7-300 mounting rail	
• Length: 160 mm	**6ES7390-1AB60-0AA0**
• Length: 480 mm (19")	**6ES7390-1AE80-0AA0**
• Length: 530 mm	**6ES7390-1AF30-0AA0**
• Length: 830 mm	**6ES7390-1AJ30-0AA0**
• Length: 2000 mm	**6ES7390-1BC00-0AA0**
Label cover (10 units, spare part) for signal modules (not 32-channel modules), function modules and CPU 312 IFM	**6ES7392-2XY00-0AA0**
Labeling strips (10 units, spare part) for signal modules (not 32-channel modules), function modules and CPU 312 IFM	**6ES7392-2XX00-0AA0**
S7 Manual Collection Electronic manuals on DVD, multi-language: S7-200, TD 200, S7-300, M7-300, C7, S7-400, M7-400, STEP 7, Engineering Tools, Runtime Software, SIMATIC DP (Distributed I/O), SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication)	**6ES7998-8XC01-8YE0**
S7 Manual Collection update service for 1 year Scope of supply: Current DVD "S7 Manual Collection" and the three subsequent updates	**6ES7998-8XC01-8YE2**
Labeling sheets for machine printing For modules with 20-pin front connector, DIN A4, for printing with laser printer; 10 units	
Petrol	**6ES7392-2AX00-0AA0**
Light beige	**6ES7392-2BX00-0AA0**
Yellow	**6ES7392-2CX00-0AA0**
Red	**6ES7392-2DX00-0AA0**

Overview

- For connecting HART devices in hazardous areas.
- Can only be plugged into ET 200M
- 2 AI HART, Ex
- 2 inputs in 2 channel groups (single-channel isolation)
- Measurement type and range can be selected for each channel
- Diagnostics and diagnostic alarm parameterizable

Technical specifications

Article number	**6ES7331-7TB10-0AB0**
	SM331, 2AI, 0/4-20MA HART
Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	180 mA
from backplane bus 5 V DC, max.	100 mA
Output voltage	
Power supply to the transmitters	
• present	Yes
• Rated value (DC)	15 V; at 22 mA
• short-circuit proof	Yes; approx. 30 mA
• No-load voltage (DC)	29.6 V
Analog inputs	
Number of analog inputs	2
permissible input current for current input (destruction limit), max.	40 mA
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
• 4 mA to 20 mA	Yes
Cable length	
• shielded, max.	400 m
Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/ resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit; 10 bit to 15 bit + sign
• Integration time, parameterizable	Yes
• Integration time (ms)	2,5 / 16,67 / 20 / 100 ms
• Basic conversion time, including integration time (ms)	2.5 / 16.67 / 20 / 100 (1 channel enabled); 7.5 / 50 / 60 / 300 (2 channels enabled)
• Interference voltage suppression for interference frequency f1 in Hz	10 / 50 / 60 / 400 Hz

Article number	**6ES7331-7TB10-0AB0**
	SM331, 2AI, 0/4-20MA HART
Encoder	
Connection of signal encoders	
• for current measurement as 2-wire transducer	Yes
• for current measurement as 4-wire transducer	Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.01 %/K
Crosstalk between the inputs, min.	130 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Current, relative to input range, (+/-)	0.45 %; From 0/4 to 20 mA
Basic error limit (operational limit at 25 °C)	
• Current, relative to input range, (+/-)	0.1 %; From 0/4 to 20 mA
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min.	60 dB
• Common mode interference, min.	130 dB
Interrupts/diagnostics/ status information	
Diagnostics function	Yes; Parameterizable
Alarms	
• Diagnostic alarm	Yes; Parameterizable
• Limit value alarm	Yes; Parameterizable, channels 0 and 1
Diagnostic messages	
• Diagnostic information readable	Yes; possible
• Overrange	Yes; Red LED, signal
• Wire-break in signal transmitter cable	Yes; Red LED, signal
• Short-circuit of the signal encoder cable	Yes; Red LED, signal
• HART communication active	Yes; green LED (H)
Diagnostics indication LED	
• Group error SF (red)	Yes
• Channel fault indicator F (red)	Yes

Technical specifications (continued)

Article number	6ES7331-7TB10-0AB0 SM331, 2AI, 0/4-20MA HART
Ex(i) characteristics	
Module for Ex(i) protection	Yes
Maximum values of input circuits (per channel)	
• Co (permissible external capacity), max.	62 nF
• Io (short-circuit current), max.	96.1 mA
• Lo (permissible external inductivity), max.	3 mH
• Po (power of load), max.	511 mW
• Uo (output no-load voltage), max.	26 V
• Um (fault voltage), max.	250 V; DC
• Ta (permissible ambient temperature), max.	60 °C
Potential separation	
Potential separation analog inputs	
• between the channels	Yes
• between the channels and backplane bus	Yes
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
Use in hazardous areas	
• Type of protection acc. to FM	Class I, Division 2, Group A, B, C, D T4; Class I, Zone 2, Group IIC T4
• Type of protection acc. to KEMA	ATEX II 3 G (2) GD Ex nA [ib Gb] [ib IIIC Db] IIC T4 Gc
• Test number KEMA	DEKRA 14 ATEX 0052X
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	60 °C
Connection method	
required front connector	1x 20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	260 g

Ordering data

	Article No.
SM 331 HART analog input module	
2 inputs, 0/4 – 20 mA, HART for ET 200M with IM 153-2 interface module	
For HART protocol V5.0 and higher	**6ES7331-7TB10-0AB0**
Accessories	
Front connector[1]	
20-pin, with screw contacts	
• 1 unit	**6ES7392-1AJ00-0AA0**
• 100 units	**6ES7392-1AJ00-1AB0**
LK 393 cable guide	**6ES7393-4AA00-0AA0**
Mandatory for operation in hazardous areas	
SIMATIC DP mounting rail for ET 200M	
For mounting of up to 5 bus modules for	
• Length: 483 mm	**6ES7195-1GA00-0XA0**
• Length: 530 mm	**6ES7195-1GF30-0XA0**
SIMATIC S7-300 mounting rail	
• Length: 160 mm	**6ES7390-1AB60-0AA0**
• Length: 480 mm (19")	**6ES7390-1AE80-0AA0**
• Length: 530 mm	**6ES7390-1AF30-0AA0**
• Length: 830 mm	**6ES7390-1AJ30-0AA0**
• Length: 2000 mm	**6ES7390-1BC00-0AA0**
Label cover	**6ES7392-2XY00-0AA0**
(10 units, spare part) for signal modules (not 32-channel modules), function modules and CPU 312 IFM	
Labeling strips	**6ES7392-2XX00-0AA0**
(10 units, spare part) for signal modules (not 32-channel modules), function modules and CPU 312 IFM	
Labeling sheets for machine printing	
for modules with 20-pin front connector, DIN A4, for printing with laser printer; 10 units	
Petrol	**6ES7392-2AX00-0AA0**
Light beige	**6ES7392-2BX00-0AA0**
Yellow	**6ES7392-2CX00-0AA0**
Red	**6ES7392-2DX00-0AA0**

[1] A connector with spring-loaded terminals cannot be used if the cable guide is used.

Overview

- For using HART devices in hazardous areas
- Can only be plugged into ET 200M
- 2 AO HART, Ex
- 2 current outputs in 2 channel groups (single-channel isolation)
- Output type and range can be selected for each channel
- Diagnostics and diagnostic alarm parameterizable
- Read-back capability of the analog outputs

Technical specifications

Article number	**6ES7332-5TB10-0AB0**
	SM332, 2AO, 0/4 - 20MA HART
Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	150 mA
from backplane bus 5 V DC, max.	100 mA
Analog outputs	
Number of analog outputs	2
Current output, no-load voltage, max.	19 V
Cycle time (all channels) max.	5 ms
Output ranges, current	
• 0 to 20 mA	Yes
• -20 mA to +20 mA	No
• 4 mA to 20 mA	Yes
Connection of actuators	
• for current output two-wire connection	Yes
Load impedance (in rated range of output)	
• with current outputs, max.	650 Ω
• with current outputs, inductive load, max.	7.5 mH
Destruction limits against externally applied voltages and currents	
• Voltages at the outputs towards MANA	max. 17 V / -0.5 V
• Current, max.	60 mA / -1 A
Cable length	
• shielded, max.	400 m

Article number	**6ES7332-5TB10-0AB0**
	SM332, 2AO, 0/4 - 20MA HART
Analog value generation for the outputs	
Integration and conversion time/ resolution per channel	
• Resolution with overrange (bit including sign), max.	12 bit; + sign
• Conversion time (per channel)	40 ms
Settling time	
• for resistive load	2.5 ms
• for capacitive load	4 ms
• for inductive load	2.5 ms
Errors/accuracies	
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.02 %
Linearity error (relative to output range), (+/-)	0.03 %
Temperature error (relative to output range), (+/-)	0.01 %/K
Crosstalk between the outputs, min.	130 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.005 %
Operational error limit in overall temperature range	
• Current, relative to output range, (+/-)	0.55 %
Basic error limit (operational limit at 25 °C)	
• Current, relative to output range, (+/-)	0.15 %

Technical specifications (continued)

Article number	**6ES7332-5TB10-0AB0**
	SM332, 2AO, 0/4 - 20MA HART
Interrupts/diagnostics/ status information	
Diagnostics function	Yes; Parameterizable
Substitute values connectable	Yes; Parameterizable
Alarms	
• Diagnostic alarm	Yes; Parameterizable
Diagnostic messages	
• Diagnostic information readable	Yes; possible
• Overrange	Yes
• Wire-break	Yes; as of output value > 0.5 mA
• HART communication active	Yes; green LED (H)
Diagnostics indication LED	
• Group error SF (red)	Yes; Red LED
• Channel fault indicator F (red)	Yes; per channel
Ex(i) characteristics	
Module for Ex(i) protection	Yes
Maximum values of output circuits (per channel)	
• Co (permissible external capacity), max.	230 nF
• Io (short-circuit current), max.	66 mA
• Lo (permissible external inductivity), max.	7.5 mH
• Po (power of load), max.	506 mW
• Uo (output no-load voltage), max.	19 V
• Um (fault voltage), max.	60 V; DC
• Ta (permissible ambient temperature), max.	60 °C
Potential separation	
Potential separation analog outputs	
• between the channels	Yes
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
FM approval	Yes
Use in hazardous areas	
• Type of protection acc. to FM	Class I, Division 2, Group A, B, C, D T4; Class I, Zone 2, Group IIC T4
• Type of protection acc. to KEMA	ATEX II 3 G (2) GD Ex nA [ib Gb] [ib IIIC Db] IIC T4 Gc
• Test number KEMA	DEKRA 14 ATEX 0053X
Connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	290 g

Ordering data

	Article No.
SM 332 HART analog output module	
HART analog output, 8 outputs, 0/4 – 20 mA, HART for ET 200M with IM 153-2	
For HART protocol V5.0 and higher	**6ES7332-5TB10-0AB0**
Accessories	
Front connectors	
20-pin, with screw contacts	
• 1 unit	**6ES7392-1AJ00-0AA0**
• 100 units	**6ES7392-1AJ00-1AB0**
LK 393 cable guide	**6ES7393-4AA00-0AA0**
Mandatory for operation in hazardous areas	
SIMATIC DP mounting rail for ET 200M	
For mounting of up to 5 bus modules for	
• Length: 483 mm (19")	**6ES7195-1GA00-0XA0**
• Length: 530 mm	**6ES7195-1GF30-0XA0**
SIMATIC S7-300 mounting rail	
• Length: 160 mm	**6ES7390-1AB60-0AA0**
• Length: 480 mm (19")	**6ES7390-1AE80-0AA0**
• Length: 530 mm	**6ES7390-1AF30-0AA0**
• Length: 830 mm	**6ES7390-1AJ30-0AA0**
• Length: 2000 mm	**6ES7390-1BC00-0AA0**
Label cover	**6ES7392-2XY00-0AA0**
(10 units, spare part) for signal modules (not 32-channel modules), function modules and CPU 312 IFM	
Labeling strips	**6ES7392-2XX00-0AA0**
(10 units, spare part) for signal modules (not 32-channel modules), function modules and CPU 312 IFM	
Software for machine labeling of modules directly from the STEP 7 project	
Labeling sheets for machine printing	
for modules with 20-pin front connector, DIN A4, for printing with laser printer; 10 units	
Petrol	**6ES7392-2AX00-0AA0**
Light beige	**6ES7392-2BX00-0AA0**
Yellow	**6ES7392-2CX00-0AA0**
Red	**6ES7392-2DX00-0AA0**
S7 Manual Collection	**6ES7998-8XC01-8YE0**
Electronic manuals on DVD, multi-language: S7-200, TD 200, S7-300, M7-300, C7, S7-400, M7-400, STEP 7, Engineering Tools, Runtime Software, SIMATIC DP (Distributed I/O), SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication)	
S7 Manual Collection update service for 1 year	**6ES7998-8XC01-8YE2**
Scope of supply: Current DVD "S7 Manual Collection" and the three subsequent updates	

Overview

- Can only be plugged into ET 200M with IM 153-2 and IM 153-2 FO
- 8 AI HART
- Redundant connection
- Firmware update
- HART secondary variables

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme specific information was added.

For technical documentation on SIPLUS, see:

http://www.siemens.com/siplus-extreme

Technical specifications

Article number	**6AG1331-7TF01-7AB0**
Based on	**6ES7331-7TF01-0AB0**
	SIPLUS SM331 AI 8 x 0/4...20mA HART
Ambient conditions	
Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	70 °C; = Tmax; 60 °C @ UL/cUL use
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m

• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at
	1 140 hPa ... 795 hPa
	(-1 000 m ... +2 000 m) //
	Tmin ... (Tmax - 10 K) at
	795 hPa ... 658 hPa
	(+2 000 m ... +3 500 m) //
	Tmin ... (Tmax -20 K) at
	658 hPa ... 540 hPa
	(+3 500 m ... +5 000 m)

Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Use in stationary industrial systems	
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
Remark	
- Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!

Ordering data

	Article No.
SIPLUS SM 331 analog input module with HART	
8 inputs, 0/4 – 20 mA, HART for ET 200M with IM 153-2 interface module	
Extended temperature range and exposure to media	**6AG1331-7TF01-7AB0**
Accessories	See SIMATIC ET 200M analog input module with HART, page 9/234

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Overview

- Can only be plugged onto ET 200M with IM 153-2 and IM 153-2 FO
- 8 AO HART
- Redundant connection
- Firmware update
- HART secondary variables

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme specific information was added.

For technical documentation on SIPLUS, see:

http://www.siemens.com/siplus-extreme

Technical specifications

Article number	**6AG1332-8TF01-2AB0**
Based on	**6ES7332-8TF01-0AB0**
	SIPLUS SM332 8AO HART
Ambient conditions	
Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	60 °C; = Tmax
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Use in stationary industrial systems	
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
Remark	
- Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!

Ordering data

	Article No.
SIPLUS SM 332 analog output module with HART	
8 outputs, 0/4 ... 20 mA HART, for ET 200M with IM 153-2 interface module	
Extended temperature range and exposure to media	**6AG1332-8TF01-2AB0**
Accessories	See SIMATIC SM 332 analog output module with HART, page 9/236

Overview

- For connecting HART devices in hazardous areas.
- Can only be plugged into ET 200M
- 2 AI HART, Ex
- 2 inputs in 2 channel groups (single-channel isolation)
- Measurement type and range can be selected for each channel
- Programmable diagnostics and diagnostic interrupt

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme specific information was added.

For technical documentation on SIPLUS, see:

http://www.siemens.com/siplus-extreme

Technical specifications

Article number	**6AG1331-7TB00-7AB0**
Based on	**6ES7331-7TB00-0AB0**
	SIPLUS S7-300 SM331 2AI HART
Ambient conditions	
Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Use in stationary industrial systems	
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
Remark	
- Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!

Ordering data

	Article No.
SIPLUS SM 331 Ex analog input module with HART	
2 inputs, 0/4 ... 20 mA, HART for ET 200M with IM 153-2 interface module	
Extended temperature range and exposure to media	**6AG1331-7TB00-7AB0**
Accessories	See SIMATIC ET 200M Ex-analog input module with HART, page 9/238

Overview F digital/analog modules

The fail-safe SIMATIC S7 CPUs and the fail-safe signal modules of SIMATIC ET 200S, ET 200pro, ET 200eco and ET 200M have been specially developed for distributed, safety-related applications in production engineering. Thanks to the discreetly modular structure of the fail-safe I/Os, safety technology only has to be applied where actually required. The new system replaces conventional electromechanical components, such as:

- Freely programmable, safe linking of sensors to actuators
- Selective safe shutdown of actuators
- Mixed configuration of F-modules and standard modules in a station
- Single-bus concept;
  fail-safe signals and standard signals are transferred over a single bus medium (PROFIBUS DP, PROFINET)

Totally Integrated Automation (TIA)

Safety technology (Safety Integrated) is a component of Totally Integrated Automation which provides total integration of safety automation and standard automation (SIMATIC S7).

Whereas standard automation (classical PLCs) and safety automation (electromechanics) are still separate today, these two worlds are growing together into a uniform, integrated overall system.

Siemens can therefore present itself as a complete supplier for automation technology in which safety engineering is part of standard automation and system-wide integration exists.

For further information, see SIMATIC S7-300, chapter 5.

Overview Ex modules

- Input/output modules for applications in chemical plants with explosion hazards
- For connecting sensors and actuators from zones 1 and 2 of plants with explosion hazards
- Associated electrical equipment Ex [ib] [ibD] IIC
- For separating the non-intrinsically-safe electrical circuits of the automation system and the intrinsically-safe electrical circuits of the process

For further information, see SIMATIC S7-300, chapter 5.

Overview

Function modules unburden the CPU of work-intensive tasks such as counting, positioning and controlling

Module spectrum

- Counter modules
- Positioning modules for rapid traverse and creep speed drives
- Positioning modules for stepper motors
- Positioning modules for servo motors
- Positioning and continuous path modules
- SSI position detection modules
- Electronic cam controllers
- High-speed Boolean processor
- Controller modules

Function modules	
Counting	FM 350-1 counter module
	FM 350-2 counter module
Positioning • of rapid traverse and creep speed drives	FM 351 positioning module
Position and path control	FM 357-2 path and position control module[1)]
SSI position detection	SM 338 POS input modules
Electronic cam control	FM 352 electronic cam controller
High speed logic operation	FM 352-5 high-speed Boolean processor
Controlling	FM 355 controller module
	FM 355-2 temperature controller module
Weighing and proportioning electronics	SIWAREX

1) Not for ET 200M

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Overview (continued)

Applicability with ET 200M distributed I/O device

Almost all function modules can be used in the ET 200M distributed I/O device. In doing so, the following details must be observed:

		For plugging in behind IM 153-1 (6ES7153-1AA03-0XB0)		For plugging in behind IM 153-2 (6ES7153-2BA02-0XB0)		For plugging in behind IM 153-2 FO (6ES7153-2BB00-0XB0)		For plugging in behind IM 153-4 PN (6ES7153-4AA00-0XB0)
		configurable with						
Module	**Article No.**	**STEP 7[1]**	**GSD[2]**	**STEP 7[1]**	**GSD[2]**	**STEP 7[1]**	**GSD[2]**	**STEP 7[1]**
FM 350-1 counter module	6ES7350-1AH03-0AE0	❑	--	❑	--	❑	--	❑
FM 350-2 counter module	6ES7350-2AH01-0AE0	❑	--	❑	--	❑	--	❑
FM 351 positioning module	6ES7351-1AH01-0AE0	❑	--	❑	--	❑	--	❑
FM 352 cam controller	6ES7352-1AH02-0AE0	❑	--	❑	--	❑	--	❑
FM 352-5 high-speed Boolean processor	6ES7352-5AH00-0AE0	❑[3]	❑	❑[3]	❑	❑[3]	❑	❑
FM 352-5 high-speed Boolean processor	6ES7352-5AH10-0AE0	❑[3]	❑	❑[3]	❑	❑[3]	❑	❑
FM 355 C controller module	6ES7355-0VH10-0AE0	--	--	❑	--	❑	--	❑
FM 355 S controller module	6ES7355-1VH10-0AE0	--	--	❑	--	❑	--	❑
FM 355-2 C temperature controller module	6ES7355-2CH00-0AE0	❑	--	❑	--	❑	--	❑
FM 355-2 S temperature controller module	6ES7355-2SH00-0AE0	❑	--	❑	--	❑	--	❑
SM 338 POS input module	6ES7338-4BC01-0AB0	❑	❑	❑	❑	❑	❑	❑

❑ configurable
--: not configurable

1) Configuration using the meta-knowledge integrated into STEP 7 (in Hardware Catalog under PROFIBUS DP > ET 200M > IM 153-1 / IM 153-2 or PROFINET IO > I/O > ET 200M > IM153-4 PN).

2) Configuration using GSD file
(after installation of the GSD file configurable from the Hardware Catalog under PROFIBUS DP > Additional field devices > I/O > ET200M).
During configuration on the CP 342-5 as DP master, S5 (IM 308C) as DP master or external masters, the GSD file must be configured.

3) Visible and configurable only with the corresponding configuration package in STEP 7.

Note:

Position measurement systems and pre-assembled connecting cables for counter and positioning function are offered under SIMODRIVE Sensor and Motion Connect 500.

http://www.siemens.com/simatic-technology

For further information, see SIMATIC S7-300, chapter 5.

Overview Special modules

The special modules provide the user with functions for diagnostics and commissioning.

For further information, see SIMATIC S7-300, chapter 5.

Overview Communication

- Communication boards for data exchange using point-to-point coupling
- Communication board for the connection of identification systems

For further information, see SIMATIC S7-300, chapter 5.

Overview Power supplies

- Load current supplies for S7-300/ET 200M
- For converting the line voltage to the required operating voltage (24 V DC)
- Output current 2 A, 5 A or 10 A

For further information, see SIMATIC S7-300, chapter 5.