

SIMATIC S7-300

F digital / analog modules

SM 336 F analog input module - Safety Integrated

Overview



- Analog inputs for the fail-safe SIMATIC S7 systems
- Applicable in the ET 200M distributed I/O device with IM 153-2 HF as well as centrally with SIMATIC S7-31xF-2 DP
- Properties of the SM 336; F-AI 6 x 0/4 - 20 mA HART:
 - 6 analog inputs with galvanic isolation between channels and backplane bus
 - Input ranges: 0 to 20 mA, 4 to 20 mA
 - Short-circuit proof power supply from 2 or 4-wire transducer via the module
 - External encoder supply possible
 - Applicable in safety mode
 - HART communication
 - Firmware update using HW Config
 - Identification data

Technical specifications

6ES7 336-4GE00-0AB0	
Product type designation	SM 336 F-AI 6x0/4 to 20 mA HART
Supply voltages	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Current consumption	
from backplane bus 5 V DC, max.	90 mA
from supply voltage L+, max.	150 mA; Typical
Power losses	
Power loss, typ.	4.5 W
Connection method	
required front connector	20-pin
Analog inputs	
Number of analog inputs	6
Cable length, shielded, max.	1 000 m
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
• 4 to 20 mA	Yes
Current input	
• permissible input current for current input (destruction limit), max.	40 mA
Analog value creation	
Integrations and conversion time/ resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit; 15 bits + sign
• Integration time, ms	20 at 50 Hz 16.7 at 60 Hz
• Interference voltage suppression for interference frequency f1 in Hz	f=n x (f1+-0.5%)
Encoder	
Connection of signal encoders	
• for current measurement as 2-wire transducer	Yes
• for current measurement as 4-wire transducer	Yes

6ES7 336-4GE00-0AB0	
Errors/accuracies	
Operational limit in overall temperature range	
• Current, relative to input area	+/- 0,2 %; 40µA
Basic error limit (operational limit at 25 °C)	
• Current, relative to input area	+/- 0,1 %
Alarms/diagnostics/status information	
Alarms	
• Diagnostic alarm	Yes
Diagnostics	
• Diagnostic information readable	Yes
Isolation	
Isolation checked with	370 V for 1 min
Galvanic isolation	
Galvanic isolation analog inputs	
• between the channels	Yes
• between the channels and the backplane bus	Yes
• between the channels and the power supply of the electronics	Yes
Standards, approvals, certificates	
Highest safety class achievable in safety mode	
• acc. to DIN V 19250	old
• acc. to EN 954	Cat. 4
• acc. to IEC 61508	SIL 3
Dimensions and weight	
Dimensions	
• Width	40 mm
• Height	125 mm
• Depth	120 mm
Weight	
• Weight, approx.	350 g

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Ordering Data	Order No.	Order No.
F analog input module SM 336 6 inputs, 15 bit, 0/4 - 20 mA HART	6ES7 336-4GE00-0AB0	SITOP power supply module for ET 200M; 120/230 V AC, 24 V DC, 5 A; Type PS 307-1E 6ES7 307-1EA01-0AA0
Distributed Safety V5.4 programming tool Task: Software for configuring fail-safe user programs for SIMATIC S7-300F, S7-400F, ET 200S Requirements: STEP 7 V5.3 SP3 and higher Floating License Software Update Service	6ES7 833-1FC02-0YA5 6ES7 833-1FC00-0YX2	Front connectors 20-pin, with screw contacts • 1 unit • 100 units 20-pin, with spring-loaded contacts • 1 unit • 100 units 20-pin, with FastConnect • 1 unit Labeling strips For fail-safe modules (spare part), 10 units Label cover For fail-safe modules (spare part), 10 units
Distributed Safety Upgrade From V5.x to V5.4; Floating license for 1 user	6ES7 833-1FC02-0YE5	6ES7 392-1AJ00-0AA0 6ES7 392-1AJ00-1AB0 6ES7 392-1BJ00-0AA0 6ES7 392-1BJ00-1AB0 6ES7 392-1CJ00-0AA0 6ES7 392-2XX20-0AA0
Labeling sheet with strips for 10 electronic blocks • For 16-channel electronic blocks incl. add-on terminals • For 32-channel electronic blocks incl. add-on terminals	6ES7 193-1BH00-0XA0 6ES7 193-1BL00-0XA0	6ES7 392-2XY20-0AA0
Connecting cable for PROFIBUS 12 Mbit/s, for connecting PG to PROFIBUS DP, pre-assembled with 2 x 9-pin Sub-D connector, 3 m	6ES7 901-4BD00-0XA0	S7 SmartLabel V3.0 Software for automatic labeling of modules direct from the STEP 7 project Single license J 2XV9 450-1SL03-0YX0 Upgrade single license J 2XV9 450-1SL03-0YX4
PROFIBUS bus connector • 90° cable outlet, terminating resistor with isolating function, without PG socket, up to 12 Mbit/s • 90° cable outlet, terminating resistor with isolating function, without PG socket, up to 12 Mbit/s • 90° cable outlet, FastConnect terminating resistor with isolating function, without PG socket, up to 12 Mbit/s; 1 unit - 1 unit - 100 units • 90° cable outlet, FastConnect terminating resistor with isolating function, with PG socket, up to 12 Mbit/s; 1 unit - 1 unit - 100 units	6ES7 972-0BA12-0XA0 6ES7 972-0BB12-0XA0 6ES7 972-0BA52-0XA0 6ES7 972-0BA52-0XB0 6ES7 972-0BB52-0XA0 6ES7 972-0BB52-0XB0	Labeling sheets for machine inscription For 32-channel signal modules, DIN A4, for printing with laser printer; 10 units petrol 6ES7 392-2AX10-0AA0 light-beige 6ES7 392-2BX10-0AA0 yellow 6ES7 392-2CX10-0AA0 red 6ES7 392-2DX10-0AA0
DIN rail for active bus modules for max. 5 active bus modules for hot swapping function • 483 mm long • 530 mm long • 620 mm long • 2000 mm long	6ES7 195-1GA00-0XA0 6ES7 195-1GF30-0XA0 6ES7 195-1GG30-0XA0 6ES7 195-1GC00-0XA0	LK 393 cable guide For F modules; L+ and M connections, 5 units S7-300 manual Design, CPU data, module data, instruction list German 6ES7 398-8FA10-8AA0 English 6ES7 398-8FA10-8BA0
Active bus module BM 2x40 Bus module for accepting 2 IO modules each 40 mm wide	6ES7 195-7HB00-0XA0	SIMATIC manual collection J 6ES7 998-8XC01-8YE0 Electronic manuals on DVD, multilingual: LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC Based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC SIMATIC manual collection update service for 1 year D 6ES7 998-8XC01-8YE2 Current "Manual Collection" DVD and the three subsequent updates

D: Subject to export regulations AL: N and ECCN: 5D992

J: Subject to export regulations AL: N and ECCN: EAR99S

SIMATIC S7-300

SIPLUS F digital/analog modules

SIPLUS SM 336 F analog input module - Safety Integrated

Overview



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Note:

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

SIPLUS SM 336 F analog input module

Order number	6AG1 336-4GE00-4AB0
Order No. based on	6ES7 336-4GE00-0AB0
Ambient temperature range	0 ... +60 °C
Conformal coating	Coating of the printed circuit boards and the electronic components
Technical data	The technical data of the standard product applies except for the ambient conditions.

Ambient conditions

Relative humidity	5 ... 100%, condensation allowed
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The technical documentation on SIPLUS can be found here:
www.siemens.com/siplus-extreme

Ordering data

Order No.

SIPLUS SM 336 F analog input module

(medial exposure)

6 inputs, 15 bit, 0/4 - 20 mA HART

6AG1 336-4GE00-4AB0

Accessories

See SIMATIC SM 336 F analog input module, page 5/159