



SIMATIC S7-300, Analog module SM 334, Non-isolated 4 AI/2 AO, 1x 20-pole, Removing and inserting possible with active backplane bus

Figure similar

General information	
Product function	
Protection function	
Engineering with	
Integrated drive control	
Operating mode	
Operator control and monitoring	
Process images	
User administration	
Alarms	
Recipes/user archives	
Display	
Line display	
Resolution (pixels)	
Control elements	
Input device	
Keyboard fonts	
Touch operation	
Connection type	
Special operator controls	
Frame size/design	
Ergonomics	
Supply voltage	
Line frequency	
Mains filter	
Mains buffering	
Load voltage L+	
<ul style="list-style-type: none"> Rated value (DC) 	24 V
Load voltage 1L+	
Load voltage 2L+	
Load voltage L1	
Auxiliary voltage 1L+, load voltage 2L+	
Input voltage	
Input voltage acc. to VDE	
Input voltage acc. to UL	
Line frequency	

Input current	
from supply and load voltage L+ (without load), max.	110 mA
from backplane bus 5 V DC, max.	55 mA
Output current	
horizontal installation	
vertical installation	
Encoder supply	
Output current	
5 V encoder supply	
24 V encoder supply	
Additional 24 V encoder supply	
Power loss	
Power loss, typ.	3 W
Memory	
Work memory	
Working memory for additional functions	
Battery	
Design	
CPU-blocks	
DB	
FB	
FC	
Counters, timers and their retentivity	
S7 counter	
IEC counter	
S7 times	
Data areas and their retentivity	
Flag	
Address area	
I/O address area	
of which distributed	
per integrated IO subsystem	
Process image	
Subprocess images	
Digital channels	
Analog channels	
Addressing volume	
Hardware configuration	
Formation of potential groups	
Module exchange	
Interface modules	
Number of DP masters	
Number of IO Controllers	
Number of operable FMs and CPs (recommended)	
Expansion modules	
Rack	
Submodules	
Selection of BaseUnit for connection variants	
PtP CM	
Time of day	
Clock	
Operating hours counter	
Time switching clocks	
Digital inputs	
Number of simultaneously controllable inputs	
all mounting positions	

horizontal installation
Digital input functions, parameterizable
Input voltage
Input current
for 10 k switched contact
Internal preparation time
Input delay (for rated value of input voltage)
for standard inputs
for interrupt inputs
Encoder connection
Connection method
Digital outputs
Digital output functions, parameterizable
Control supply voltage
Switching capacity of the outputs
Load resistance range
Trend key points E
Output voltage
Output current
Output delay with resistive load
Parallel switching of two outputs
Switching frequency
Total current of the outputs
horizontal installation
Total current of the outputs (per group)
all mounting positions
horizontal installation
vertical installation
Total current of the outputs (per module)
all mounting positions
horizontal installation
Pulse output (passive)
Frequency output
Relay outputs
Integrated high-speed cams
Analog inputs
Number of analog inputs
• For voltage measurement
4
4
permissible input voltage for voltage input (destruction limit), max.
20 V
permissible input current for current input (destruction limit), max.
40 mA
Cycle time (all channels) max.
5 ms
Input ranges
• Voltage
Yes
• Current
Yes
• Thermocouple
No
• Resistance thermometer
No
• Resistance
No
Measuring range
Input ranges (rated values), voltages
• 0 to +10 V
Yes
— Input resistance (0 to 10 V)
100 k Ω
Input ranges (rated values), currents
• 0 to 20 mA
Yes
— Input resistance (0 to 20 mA)
50 Ω
Input ranges (rated values), thermocouples
Input ranges (rated values), strain gauges (full bridges)
Thermocouple (TC)

Connection method	
Cable length	
• shielded, max.	200 m
Analog outputs	
Number of analog outputs	2
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	11 mA
Current output, no-load voltage, max.	15 V
Output ranges, voltage	
• 0 to 10 V	Yes
Output ranges, current	
• 0 to 20 mA	Yes
Connection of actuators	
Load impedance (in rated range of output)	
• with voltage outputs, min.	5 kΩ
• with voltage outputs, capacitive load, max.	1 μF
• with current outputs, max.	300 Ω
• with current outputs, inductive load, max.	1 mH
Destruction limits against externally applied voltages and currents	
Cable length	
• shielded, max.	200 m
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	8 bit
• Integration time, parameterizable	No
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	8 bit
• Conversion time (per channel)	500 μs
Settling time	
• for resistive load	0.3 ms
• for capacitive load	3 ms
• for inductive load	0.3 ms
Encoder	
Connection of signal encoders	
• for voltage measurement	Yes
• for current measurement as 2-wire transducer	No
• for current measurement as 4-wire transducer	Yes
Connectable encoders	
Incremental encoder	
Encoder signals, incremental encoder (symmetrical)	
Encoder signals, incremental encoder (asymmetrical)	
Encoder signals, absolute encoder (SSI)	
Encoder signals, IEPE	
Drive axis	
EC motor	
Errors/accuracies	
Operational error limit in overall temperature range	
• Voltage, relative to input range, (+/-)	0.9 %
• Current, relative to input range, (+/-)	0.8 %
• Voltage, relative to output range, (+/-)	0.6 %
• Current, relative to output range, (+/-)	1 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.7 %
• Current, relative to input range, (+/-)	0.6 %
• Voltage, relative to output range, (+/-)	0.5 %
• Current, relative to output range, (+/-)	0.5 %

Power electronics
Control of heating elements
Load connection type
Setpoint input
Heating power
Interfaces
Video interfaces
Touch interfaces
MPI
PROFIBUS DP
PROFIBUS PA
Supports protocol for PROFINET IO
PROFINET functions
Industrial Ethernet
Point-to-point connection
Integrated protocol driver
Telegram length, max.
Transmission rate, 20 mA (TTY)
Transmission rate, RS 422/485
Transmission speed, RS 232
Signals
ET-Connection
EtherNet/IP
AS-Interface
WLAN
1. Interface
Interface types
Protocols
MPI
PROFIBUS DP master
Services
PROFIBUS DP slave
PROFINET IO Controller
Services
Update time for IRT
PROFINET IO Device
Services
PROFINET CBA
Open IE communication
CAN
BACnet
2. Interface
Interface types
Protocols
PROFIBUS DP master
Services
PROFIBUS DP slave
PROFINET IO Controller
Services
Update time for IRT
PROFINET IO Device
Services
PROFINET CBA
3. Interface
Interface types
Protocols
PROFIBUS DP master
Services

PROFIBUS DP slave	
PROFINET IO Controller	
PROFINET IO Device	
Services	
PROFINET CBA	
4. Interface	
Interface types	
Protocols	
PROFIBUS DP master	
PROFINET IO Controller	
Interface types	
RJ 45 (Ethernet)	
RS 232	
RS 485	
RS 422	
USB port	
Protocols	
Protocols (USB)	
Protocols (Ethernet)	
WEB characteristics	
Protocols (terminal link)	
Number of connections	
PROFINET IO Device	
Redundancy mode	
SIMATIC communication	
EtherNet/IP	
Services	
Updating times	
Redundancy mode	
Open IE communication	
Web server	
PROFIBUS DP	
PROFIdrive	
DALI	
Integrated protocols	
Freeport	
3964 (R)	
OPC UA	
Communication functions	
Global data communication	
S7 basic communication	
S7 communication	
LOGO! communication	
S5 compatible communication	
Standard communication (FMS)	
PROFINET CBA (at set setpoint communication load)	
Remote interconnections with acyclic transmission	
Remote interconnections with cyclic transmission	
iPAR server	
Number of connections	
Test commissioning functions	
Status/control	
Forcing	
Diagnostic buffer	
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No

Alarms	
Integrated Functions	
Monitoring functions	
Safety monitoring functions	
Counting functions	
Load cell	
Position detection	
Control technology	
Step-by-step controllers	
Pulse generator	
Measuring functions	
Operating mode for measured value acquisition	
Measuring range	
Accuracy	
Measuring inputs for voltage	
Measuring inputs for current	
Measuring inputs for current (Rog. or I/U converter)	
Error limits	
Counter	
Counting mode	
External gate counters	
Counter input 5 V	
Counter input 24 V	
Drive interface	
Signal Input	
Potential separation	
Potential separation digital inputs	
Potential separation digital outputs	
Potential separation analog inputs	
• between the channels and backplane bus	No
Potential separation analog outputs	
• between the channels	No
• between the channels and backplane bus	No
• between the channels and the power supply of the electronics	Yes
Potential separation channels	
Potential separation valve outputs	
Potential separation counter	
Potential separation controller	
Isolation	
Isolation tested with	500 V DC
EMC	
Interference immunity against discharge of static electricity	
Interference immunity against high-frequency electromagnetic fields	
Interference immunity to cable-borne interference	
Interference immunity against voltage surge	
Interference immunity against conducted variable disturbance induced by high-frequency fields	
Interference immunity to magnetic fields	
Emission of radio interference acc. to EN 55 011	
Emission of radio interference acc. to EN 55 022	
Standards, approvals, certificates	
Highest safety class achievable in safety mode	
Highest safety class achievable for safety-related tripping of standard modules	
Highest safety class achievable for deactivated dark test	
Use in hazardous areas	
Ambient conditions	
Free fall	

Ambient temperature during operation
Operation (vertical installation)
Air pressure acc. to IEC 60068-2-13
Vibrations
Shock testing
Resistance
Coolants and lubricants
Use on land craft, rail vehicles and special-purpose vehicles
Fire resistance
Pollutant concentrations
Hardware requirement
Processor
Graphic
Operating systems
pre-installed operating system
Runs under operating system
Software
Preinstalled
Software functions
Multi-user system
Runtime software
Runtime
Block
Adjustable parameters
Configuration
Configuration
Configuration software
Script languages (Runtime)
Programming
Programming language
Configuration examples
Software libraries
Know-how protection
Access protection
Languages
Online languages
Functionality under WinCC (TIA Portal)
Multiproject
Message system
Recipe management
Variables
Images
Image objects
Complex image objects
Attributes for dynamic objects
Lists
Archiving
Filters
Security
Data carrier support
Logging through printer
Character sets
Transfer (upload/download)
Process coupling
Functions
Functionality under WinCC Unified
Parameter set management (recipes)

Image objects	
Connection method	
required front connector	20-pin
ET-Connection	
Terminals	
Connection I/O signals	
Conductor cross-section in mm ²	
Conductor cross-section acc. to AWG	
Dimensions	
Width	40 mm
Height	125 mm
Depth	117 mm
Weights	
Weight, approx.	285 g
Other	
Data for selecting a voltage transformer	

last modified:

1/17/2021 