SIEMENS

Data sheet   **6ES7336-1HE00-0AB0**

Spare part SIMATIC S7, Analog input SM 336, 6 AI; 14 bit; 40-pole, fail-safe analog inputs for SIMATIC S7F systems with diagnostic alarm

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	
Rated value (DC)	24 V
Reverse polarity protection	Yes
Line frequency	
Mains filter	
Mains buffering	
Load voltage L+	
● Rated value (DC)	24 V
● Reverse polarity protection	Yes
Load voltage 1L+	
Load voltage 2L+	
Load voltage L1	
Auxiliary voltage 1L+, load voltage 2L+	
Input voltage	

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Input voltage acc. to VDE	
Input voltage acc. to UL	
Line frequency	
Input current	
From power supply L+, typ.	160 mA
from backplane bus 5 V DC, max.	90 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.	4.25 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	

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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	6
● For voltage measurement	4
permissible input voltage for voltage input (destruction limit), max.	30 V
permissible input current for current input (destruction limit), max.	40 mA
Input ranges	
● Voltage	Yes
● Current	Yes
Measuring range	
Input ranges (rated values), voltages	
● 0 to +10 V	Yes
— Input resistance (0 to 10 V)	59 kΩ
Input ranges (rated values), currents	
● 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	107 Ω
● 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	107 Ω
Input ranges (rated values), thermocouples	

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Input ranges (rated values), resistance thermometer	
Input ranges (rated values), resistors	
Input ranges (rated values), strain gauges (full bridges)	
Thermocouple (TC)	
Characteristic linearization	
Connection method	
Cable length	
● shielded, max.	200 m

Analog outputs	
Output ranges, voltage	
Output ranges, current	
Connection of actuators	
Load impedance (in rated range of output)	

Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
● Resolution with overrange (bit including sign), max.	14 bit
● Integration time (ms)	20 ms (at 50 Hz); 16.66 ms (at 60 Hz)

Analog value generation for the outputs	
Integration and conversion time/resolution per channel	

Encoder	
Connection of signal encoders	
● for current measurement as 2-wire transducer	Yes
● 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, (+/-)	0.48 %
● Current, relative to input range, (+/-)	0.48 %
Basic error limit (operational limit at 25 °C)	
● Voltage, relative to input range, (+/-)	0.4 %
● Current, relative to input range, (+/-)	0.4 %

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)	

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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

Diagnostics function	Yes
Alarms	
● Diagnostic alarm	Yes; Parameterizable
Diagnoses	
● Diagnostic information readable	Yes
Diagnostics indication LED	
● Fail-safe operation	Yes
● Group error SF (red)	Yes
● Encoder supply Vs (green)	Yes

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	No
● between the channels and backplane bus	Yes
● between the channels and the power supply of the electronics	Yes; only if sensors are externally supplied
Potential separation analog outputs	
Potential separation channels	
Potential separation valve outputs	
Potential separation counter	
Potential separation controller	

Isolation

Isolation tested with	500 V DC/350 V AC

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	
● Requirement class according to DIN V 19250	AK 6
● acc. to EN 954	Cat. 4
● Performance level according to ISO 13849-1	e
● SIL acc. to IEC 61508	SIL 3
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	40-pin
ET-Connection	
Terminals	
Connection I/O signals	
Conductor cross-section in mm²	
Conductor cross-section acc. to AWG	
Dimensions	
Width	80 mm

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Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	480 g
Other	
Data for selecting a voltage transformer	

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