SIEMENS

Data sheet 6ES7327-1BH00-0AB0

SIMATIC S7-300, Digital module SM 327, isolated, 8DI and 8DX, 24 V DC, 0.5 A 1x 20-pole; 8DX by individual channels Can be parameterized as DI or DO

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+	
● Rated value (DC)	24 V
● permissible range, lower limit (DC)	20.4 V
● permissible range, upper limit (DC)	28.8 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 load voltage L+ (without load), max.	20 mA
from backplane bus 5 V DC, max.	60 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 digital inputs	8; 8 hard-wired, 8 others individually parameterizable

Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
all mounting positions	
horizontal installation	
— up to 60 °C, max.	16
vertical installation	
— up to 40 °C, max.	16
Digital input functions, parameterizable	
Input voltage	
● Type of input voltage	DC
● Rated value (DC)	24 V
● for signal "0"	-30 to +5 V
● for signal "1"	+15 to +30 V
Input current	
● for signal "1", typ.	6 mA
Internal preparation time	
Input delay (for rated value of input voltage)	
for standard inputs	
— at "0" to "1", min.	1.2 ms
— at "0" to "1", max.	4.8 ms
— at "1" to "0", min.	1.2 ms
— at "1" to "0", max.	4.8 ms
for interrupt inputs	
Encoder connection	
Connection method	
Cable length	
● shielded, max.	1 000 m
● unshielded, max.	600 m
Digital outputs	
Number of digital outputs	8; can also be parameterized individually as DI
Short-circuit protection	Yes
● Response threshold, typ.	1 A
Limitation of inductive shutdown voltage to	L+ (-54 V)
Controlling a digital input	Yes
Digital output functions, parameterizable	
Control supply voltage	
Switching capacity of the outputs	
● on lamp load, max.	5 W
Load resistance range	
● lower limit	48 Ω
● upper limit	4 kΩ
Trend key points E	
Output voltage	
● for signal "1", min.	L+ (-1.5 V)
Output current	
● for signal "1" rated value	0.5 A
● for signal "1" permissible range, min.	5 mA
● for signal "1" permissible range, max.	0.6 A
● for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
● "0" to "1", max.	350 µs
● "1" to "0", max.	500 µs
Parallel switching of two outputs	
● for uprating	No
● for redundant control of a load	Yes; only outputs of the same group
Switching frequency	
● with resistive load, max.	100 Hz

● with inductive load, max.	0.5 Hz
● with inductive load (acc. to IEC 60947-5-1, DC13), max.	0.5 Hz
● on lamp load, max.	10 Hz
Total current of the outputs	
horizontal installation	
Total current of the outputs (per group)	
all mounting positions	
horizontal installation	
— up to 40 °C, max.	4 A
— up to 60 °C, max.	3 A
vertical installation	
— up to 40 °C, max.	2 A
Total current of the outputs (per module)	
all mounting positions	
horizontal installation	
Pulse output (passive)	
Frequency output	
Relay outputs	
Integrated high-speed cams	
Connection method	
Cable length	
● shielded, max.	1 000 m
● unshielded, max.	600 m
Analog inputs	
Input ranges	
Measuring range	
Input ranges (rated values), voltages	
Input ranges (rated values), currents	
Input ranges (rated values), thermocouples	
Input ranges (rated values), resistance thermometer	
Input ranges (rated values), resistors	
Input ranges (rated values), strain gauges (full bridges)	
Thermocouple (TC)	
Characteristic linearization	
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	
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
Encoder	
Connection of signal encoders	
Connectable encoders	
● 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
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
Basic error limit (operational limit at 25 °C)
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	
Diagnoses	
Diagnostics indication LED	
● Status indicator digital input (green)	Yes
● Status indicator digital output (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	
● between the channels	No
● between the channels and backplane bus	Yes; Optocoupler
Potential separation digital outputs	
● between the channels	No
● between the channels and backplane bus	Yes; Optocoupler
Potential separation analog inputs	
Potential separation analog outputs	
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
Marine approval
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
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 mm²	
Conductor cross-section acc. to AWG	
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	200 g
Other	
Data for selecting a voltage transformer	

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