SIEMENS

Data sheet **6ES7322-5SD00-0AB0**

SIMATIC S7, digital output SM 322, isolated, 4 DO, 24 V DC, 10 mA, 1 x 20-pole, for signals from the hazardous area, diagnostics-capable, PTB tested

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+	
● 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	
Input voltage acc. to VDE	
Input voltage acc. to UL	

Line frequency	
Input current	
from load voltage L+ (without load), max.	160 mA
from backplane bus 5 V DC, max.	85 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	

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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	
Number of digital outputs	4
Short-circuit protection	Yes; Electronic
● Response threshold, typ.	Output current with short-circuit protection, min. 10 mA + 10 %
Digital output functions, parameterizable	
Control supply voltage	
Switching capacity of the outputs	
Load resistance range	
● upper limit	390 Ω; Two-wire connection
Trend key points E	
Output voltage	
● Rated value (DC)	24 V
Output current	
● for signal "1" permissible range for 0 to 60 °C, max.	10 mA
Output delay with resistive load	
Parallel switching of two outputs	
Switching frequency	
● with resistive load, max.	100 Hz
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	
Connection method	
Cable length	
● unshielded, max.	200 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	

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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	
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

Diagnostics function	Yes
Alarms	
Diagnoses	
● Diagnostic information readable	Yes
● Short-circuit	Yes
Diagnostics indication LED	
● Group error SF (red)	Yes
● Status indicator digital output (green)	Yes
● Channel fault indicator F (red)	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	

Ex(i) characteristics

Module for Ex(i) protection	Yes
maximum values for connecting terminals for gas group IIC	
● Uo (no-load voltage), max.	25.2 V
● Io (short-circuit current), max.	70 mA

● Po (power output), max.	440 mW
● Co (permissible external capacity), max.	90 nF
● Lo (permissible external inductivity), max.	6.7 mH

Potential separation	
Potential separation digital inputs	
Potential separation digital outputs	
● between the channels	Yes; 60 V DC/30 V AC when used in the hazardous area; 400 V DC/250 V AC when used in NON-hazardous area
● between the channels, in groups of	1
● between the channels and backplane bus	Yes; 60 V DC/30 V AC when used in the hazardous area; 400 V DC/250 V AC when used in NON-hazardous area
● Between the channels and load voltage L+	Yes; 60 V DC/30 V AC when used in the hazardous area; 400 V DC/250 V AC when used in NON-hazardous area
Potential separation analog inputs	
Potential separation analog outputs	
Potential separation channels	
Potential separation valve outputs	
Potential separation counter	
Potential separation controller	

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	
● Type of protection acc. to EN 50020 (CENELEC)	[EEx ib] IIC
● Type of protection acc. to FM	Class I, Division 2, Group A, B, C, D T4
● Test number PTB	Ex-96.D.2093X

Ambient conditions	
Free fall	
Ambient temperature during operation	
● max.	60 °C
Operation (vertical installation)	
Ambient temperature during storage/transportation	
Air pressure acc. to IEC 60068-2-13	
Altitude during operation relating to sea level	
Relative humidity	
Vibrations	
Shock testing	
Resistance	
Coolants and lubricants	
Use in stationary industrial systems	
Use on land craft, rail vehicles and special-purpose vehicles	
Use on ships/at sea	
Fire resistance	

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.	230 g
Other	

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