



Figure similar

SIMATIC S7-300, Digital output SM 322, isolated, 8 DO (relay), 1x 40-pole, 24 V DC, 120-230 V AC, 5 A with RC filter overvoltage protection

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	
Load voltage L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	24 V
• permissible range, upper limit (DC)	120 V
Load voltage 1L+	
Load voltage 2L+	
Load voltage L1	
• Rated value (AC)	230 V
Auxiliary voltage 1L+, load voltage 2L+	
Input voltage	
Input voltage acc. to VDE	

Input voltage acc. to UL	
Line frequency	
Input current	
from supply voltage L+, max.	160 mA
from backplane bus 5 V DC, max.	100 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.	3.5 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	
Number of digital outputs	8; Relays
Short-circuit protection	No; to be provided externally
Controlling a digital input	Yes
Digital output functions, parameterizable	
Control supply voltage	
Switching capacity of the outputs	
• on lamp load, max.	1 500 W; 230 V AC
• Low energy/fluorescent lamps with electronic control gear	10x 58 W
• Fluorescent tubes, conventionally compensated	1x 58 W
• Fluorescent tubes, uncompensated	10x 58 W
Trend key points E	
Output current	
• for signal "1" rated value	5 A
• for signal "1" minimum load current	10 mA
Parallel switching of two outputs	
• for uprating	No
• for redundant control of a load	Yes
Switching frequency	
• with resistive load, max.	2 Hz
• with inductive load, max.	0.5 Hz
• With inductive load (to IEC 60947-5-1, DC13/AC15), max.	0.5 Hz
• on lamp load, max.	2 Hz
• mechanical, max.	10 Hz
Total current of the outputs	
horizontal installation	
Total current of the outputs (per group)	
all mounting positions	
horizontal installation	
— up to 60 °C, max.	5 A
vertical installation	
— up to 40 °C, max.	5 A
Total current of the outputs (per module)	
all mounting positions	
horizontal installation	
Pulse output (passive)	
Frequency output	
Relay outputs	
• Contact connection (internal)	Yes; 330 Ohm, 0.1uF
• Number of operating cycles, max.	100 000; 100 000 (24 V DC, at 5 A), 100 000 (230 V AC, at 5 A)
Switching capacity of contacts	
— with inductive load, max.	5 A; 5 A (230 V DC), 5 A (24 V AC)
— with resistive load, max.	5 A; 5 A (230 V DC), 5 A (24 V AC)
— Thermal continuous current, max.	5 A

Integrated high-speed cams	
Connection method	
Cable length	
- shielded, max. - unshielded, max.	1 000 m 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	
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
Diagnostics function
Alarms
• Diagnostic alarm
Diagnoses
• Diagnostic information readable
Diagnostics indication LED
• Group error SF (red)
• Status indicator digital output (green)
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	
• between the channels • between the channels, in groups of • between the channels and backplane bus • Between the channels and the power supply of the relays	Yes 1 Yes; Optocoupler Yes
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	1 500 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	
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	40-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	120 mm
Weights	

Weight, approx.

320 g

Other

Data for selecting a voltage transformer

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