



SIMATIC S7-300, Digital output SM 322, isolated, 8 DO, 24 V DC, 2A, 1x 20-pole

Figure similar

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	28.8 V
Input current	
from load voltage L+ (without load), max.	60 mA
from backplane bus 5 V DC, max.	40 mA
Power loss	
Power loss, typ.	6.8 W
Digital outputs	
Number of digital outputs	8
Short-circuit protection	Yes; Electronic
• Response threshold, typ.	3 A
Limitation of inductive shutdown voltage to	L+ (-48 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
• on lamp load, max.	10 W
Load resistance range	
• lower limit	12 Ω
• upper limit	4 kΩ
Output voltage	
• for signal "1", min.	L+ (-0.8 V)
Output current	
• for signal "1" rated value	2 A
• for signal "1" permissible range for 0 to 40 °C, min.	5 mA
• for signal "1" permissible range for 0 to 40 °C, max.	2.4 A
• for signal "1" permissible range for 40 to 60 °C, min.	5 mA
• for signal "1" permissible range for 40 to 60 °C, max.	2.4 A
• for signal "1" minimum load current	5 mA
• for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
• "0" to "1", max.	100 μs
• "1" to "0", max.	500 μs
Parallel switching of two outputs	
• for uprating	No
• for redundant control of a load	Yes
Switching frequency	
• with resistive load, max.	100 Hz

<ul style="list-style-type: none"> • with inductive load, max. 	0.5 Hz
<ul style="list-style-type: none"> • with inductive load (acc. to IEC 60947-5-1, DC13), max. 	0.5 Hz
<ul style="list-style-type: none"> • on lamp load, max. 	10 Hz
Total current of the outputs (per group)	
horizontal installation	
— up to 40 °C, max.	4 A
— up to 60 °C, max.	4 A
vertical installation	
— up to 40 °C, max.	4 A
Cable length	
<ul style="list-style-type: none"> • shielded, max. 	1 000 m
<ul style="list-style-type: none"> • unshielded, max. 	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm 	No
Diagnoses	
<ul style="list-style-type: none"> • Wire-break 	No
<ul style="list-style-type: none"> • Short-circuit 	No
<ul style="list-style-type: none"> • Fuse blown 	No
<ul style="list-style-type: none"> • missing load voltage 	No
Diagnostics indication LED	
<ul style="list-style-type: none"> • Rated load voltage PWR (green) 	No
<ul style="list-style-type: none"> • Fuse OK FSG (green) 	No
<ul style="list-style-type: none"> • Status indicator digital output (green) 	Yes; per channel
Potential separation	
Potential separation digital outputs	
<ul style="list-style-type: none"> • between the channels 	Yes
<ul style="list-style-type: none"> • between the channels, in groups of 	4
<ul style="list-style-type: none"> • between the channels and backplane bus 	Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	190 g

last modified: 8/16/2023 



Figure similar

SIMATIC S7-300, Digital output SM 322, isolated, 16 DO, 24 V DC, 0.5A, 1x 20-pole, Total current 4 A/group (8 A/module)

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	28.8 V
Input current	
from load voltage L+ (without load), max.	80 mA
from backplane bus 5 V DC, max.	80 mA
Power loss	
Power loss, typ.	4.9 W
Digital outputs	
Number of digital outputs	16
Short-circuit protection	Yes; Electronic
• Response threshold, typ.	1 A
Limitation of inductive shutdown voltage to	L+ (-53 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
• on lamp load, max.	5 W
Load resistance range	
• lower limit	48 Ω
• upper limit	4 kΩ
Output voltage	
• for signal "1", min.	L+ (-0.8 V)
Output current	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range for 0 to 40 °C, min.	5 mA
• for signal "1" permissible range for 0 to 40 °C, max.	0.6 A
• for signal "1" permissible range for 40 to 60 °C, min.	5 mA
• for signal "1" permissible range for 40 to 60 °C, max.	0.6 A
• for signal "1" minimum load current	5 mA
• for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
• "0" to "1", max.	100 μs
• "1" to "0", max.	500 μs
Parallel switching of two outputs	
• for uprating	No
• for redundant control of a load	Yes
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 (per group)	
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
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Alarms	
• Diagnostic alarm	No
Diagnoses	
• Wire-break	No
• Short-circuit	No
• Fuse blown	No
• missing load voltage	No
Diagnostics indication LED	
• Rated load voltage PWR (green)	No
• Fuse OK FSG (green)	No
• Status indicator digital output (green)	Yes
Potential separation	
Potential separation digital outputs	
• between the channels	Yes
• between the channels, in groups of	8
• between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	190 g

last modified: 8/16/2023 



SIMATIC S7-300, Digital output SM 322 High Speed, isolated, 16 DO, 24 V DC, 0.5A, 1x 20-pole

Figure similar

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	28.8 V
Input current	
from load voltage L+ (without load), max.	110 mA
from backplane bus 5 V DC, max.	70 mA
Power loss	
Power loss, typ.	5 W
Digital outputs	
Number of digital outputs	16
Short-circuit protection	Yes; Electronic
• Response threshold, typ.	1 A
Limitation of inductive shutdown voltage to	L+ (-53 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
• on lamp load, max.	5 W
Load resistance range	
• lower limit	48 Ω
• upper limit	4 kΩ
Output voltage	
• for signal "1", min.	L+ (-0.8 V)
Output current	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range for 0 to 40 °C, min.	5 mA
• for signal "1" permissible range for 0 to 40 °C, max.	0.6 A
• for signal "1" permissible range for 40 to 60 °C, min.	5 mA
• for signal "1" permissible range for 40 to 60 °C, max.	0.6 A
• for signal "1" minimum load current	5 mA
• for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
• "0" to "1", max.	100 μs
• "1" to "0", max.	200 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.	1 000 Hz

<ul style="list-style-type: none"> • with inductive load, max. 	0.5 Hz
<ul style="list-style-type: none"> • with inductive load (acc. to IEC 60947-5-1, DC13), max. 	0.5 Hz
<ul style="list-style-type: none"> • on lamp load, max. 	10 Hz
Total current of the outputs (per group)	
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
Cable length	
<ul style="list-style-type: none"> • shielded, max. 	1 000 m
<ul style="list-style-type: none"> • unshielded, max. 	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm 	No
Diagnoses	
<ul style="list-style-type: none"> • Wire-break 	No
<ul style="list-style-type: none"> • Short-circuit 	No
<ul style="list-style-type: none"> • Fuse blown 	No
<ul style="list-style-type: none"> • missing load voltage 	No
Diagnostics indication LED	
<ul style="list-style-type: none"> • Rated load voltage PWR (green) 	No
<ul style="list-style-type: none"> • Fuse OK FSG (green) 	No
<ul style="list-style-type: none"> • Status indicator digital output (green) 	Yes; per channel
Potential separation	
Potential separation digital outputs	
<ul style="list-style-type: none"> • between the channels 	Yes
<ul style="list-style-type: none"> • between the channels, in groups of 	8
<ul style="list-style-type: none"> • between the channels and backplane bus 	Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	200 g

last modified: 8/16/2023 



SIMATIC S7-300, Digital output SM 322, isolated, 32 DO, 24 V DC, 0.5A, 1x 40-pole, Total current 4 A/group (16 A/module)

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	28.8 V
Input current	
from load voltage L+ (without load), max.	160 mA
from backplane bus 5 V DC, max.	110 mA
Power loss	
Power loss, typ.	6.6 W
Digital outputs	
Number of digital outputs	32
Short-circuit protection	Yes; Electronic
• Response threshold, typ.	1 A
Limitation of inductive shutdown voltage to	L+ (-53 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
• on lamp load, max.	5 W
Load resistance range	
• lower limit	48 Ω
• upper limit	4 kΩ
Output voltage	
• for signal "1", min.	L+ (-0.8 V)
Output current	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range for 0 to 40 °C, min.	5 mA
• for signal "1" permissible range for 0 to 40 °C, max.	0.6 A
• for signal "1" permissible range for 40 to 60 °C, min.	5 mA
• for signal "1" permissible range for 40 to 60 °C, max.	0.6 A
• for signal "1" minimum load current	5 mA
• for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
• "0" to "1", max.	100 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


<ul style="list-style-type: none"> with inductive load (acc. to IEC 60947-5-1, DC13), max. on lamp load, max. 	0.5 Hz 10 Hz
Total current of the outputs (per group)	
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
Cable length	
<ul style="list-style-type: none"> shielded, max. unshielded, max. 	1 000 m 600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	No
Diagnoses	
<ul style="list-style-type: none"> Diagnostic information readable Wire-break Short-circuit missing load voltage 	No No No No
Diagnostics indication LED	
<ul style="list-style-type: none"> Rated load voltage PWR (green) Fuse OK FSG (green) Group error SF (red) Status indicator digital output (green) Channel fault indicator F (red) 	No No No Yes; per channel No
Potential separation	
Potential separation digital outputs	
<ul style="list-style-type: none"> between the channels between the channels, in groups of between the channels and backplane bus 	Yes 8 Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
connection method	
required front connector	40-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	260 g

last modified: 8/16/2023 

SIMATIC S7-300 digital output SM 322, Isolated in groups of 16, 64DO, 24 V DC, 0.3A sink output Total current 2 A/group, 8 A/module Terminal blocks 6ES7392-1.N00-0AA0 and cable 6ES7392-4...0-0AA0 required

Supply voltage	
Load voltage L+	
<ul style="list-style-type: none"> Rated value (DC) 	24 V
<ul style="list-style-type: none"> permissible range, lower limit (DC) 	20.4 V
<ul style="list-style-type: none"> permissible range, upper limit (DC) 	28.8 V
Input current	
from load voltage L+ (without load), max.	75 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	6 W
Digital outputs	
Number of digital outputs	64
Short-circuit protection	Yes; Electronic
<ul style="list-style-type: none"> Response threshold, typ. 	0.7 to 1.9 A
Limitation of inductive shutdown voltage to	L+ (-53 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
<ul style="list-style-type: none"> on lamp load, max. 	5 W
Load resistance range	
<ul style="list-style-type: none"> lower limit 	80 Ω
<ul style="list-style-type: none"> upper limit 	10 kΩ
Output voltage	
<ul style="list-style-type: none"> for signal "1", min. 	L+ (-0.5 V)
Output current	
<ul style="list-style-type: none"> for signal "1" rated value 	0.3 A
<ul style="list-style-type: none"> for signal "1" permissible range, min. 	2.4 mA
<ul style="list-style-type: none"> for signal "1" permissible range, max. 	0.36 A
<ul style="list-style-type: none"> for signal "0" residual current, max. 	0.1 mA
Output delay with resistive load	
<ul style="list-style-type: none"> "0" to "1", max. 	550 μs
<ul style="list-style-type: none"> "1" to "0", max. 	550 μs
Parallel switching of two outputs	
<ul style="list-style-type: none"> for uprating 	No
<ul style="list-style-type: none"> for redundant control of a load 	Yes
Switching frequency	
<ul style="list-style-type: none"> with resistive load, max. 	100 Hz
<ul style="list-style-type: none"> with inductive load, max. 	0.5 Hz
<ul style="list-style-type: none"> on lamp load, max. 	10 Hz
Total current of the outputs (per group)	
horizontal installation	
<ul style="list-style-type: none"> — up to 40 °C, max. 	1.6 A
<ul style="list-style-type: none"> — up to 60 °C, max. 	1.2 A
vertical installation	
<ul style="list-style-type: none"> — up to 40 °C, max. 	1.6 A
Cable length	
<ul style="list-style-type: none"> shielded, max. 	1 000 m
<ul style="list-style-type: none"> unshielded, max. 	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No

Alarms	
• Diagnostic alarm	No
Diagnoses	
• Diagnostic information readable	No
• Wire-break	No
• Short-circuit	No
• Fuse blown	No
• missing load voltage	No
Potential separation	
Potential separation digital outputs	
• between the channels	No
• between the channels, in groups of	16
• between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
connection method	
required front connector	Cable: 6ES7392-4Bxx0-0AA0 terminal blocks: 6ES7392-1xN00-0AA0
Dimensions	
Width	40 mm
Height	125 mm
Depth	112 mm
Weights	
Weight, approx.	230 g

last modified: 8/16/2023 

SIMATIC S7-300 digital output SM 322. Isolated in groups of 16, 64DO, 24 V DC, 0.3A sinking output Total current 2 A/group, 8 A/module Terminal blocks 6ES7392-1.N00-0AA0 and cable 6ES7392-4...0-0AA0 required

Supply voltage	
Load voltage L+	
<ul style="list-style-type: none"> Rated value (DC) 	24 V
<ul style="list-style-type: none"> permissible range, lower limit (DC) 	20.4 V
<ul style="list-style-type: none"> permissible range, upper limit (DC) 	28.8 V
Input current	
from load voltage L+ (without load), max.	75 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	6 W
Digital outputs	
Number of digital outputs	64
Short-circuit protection	Yes; Electronic
Limitation of inductive shutdown voltage to	M+ (45 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
<ul style="list-style-type: none"> on lamp load, max. 	5 W
Load resistance range	
<ul style="list-style-type: none"> lower limit 	80 Ω
<ul style="list-style-type: none"> upper limit 	10 kΩ
Output voltage	
<ul style="list-style-type: none"> for signal "1", min. 	M+ (0.5 V)
Output current	
<ul style="list-style-type: none"> for signal "1" rated value 	0.3 A
<ul style="list-style-type: none"> for signal "1" permissible range, min. 	2.4 mA
<ul style="list-style-type: none"> for signal "1" permissible range, max. 	0.36 A
Output delay with resistive load	
<ul style="list-style-type: none"> "0" to "1", max. 	450 μs
<ul style="list-style-type: none"> "1" to "0", max. 	450 μs
Parallel switching of two outputs	
<ul style="list-style-type: none"> for uprating 	No
<ul style="list-style-type: none"> for redundant control of a load 	Yes
Switching frequency	
<ul style="list-style-type: none"> with resistive load, max. 	100 Hz
<ul style="list-style-type: none"> with inductive load, max. 	0.5 Hz
<ul style="list-style-type: none"> on lamp load, max. 	10 Hz
Total current of the outputs (per group)	
horizontal installation	
<ul style="list-style-type: none"> — up to 40 °C, max. 	1.6 A
<ul style="list-style-type: none"> — up to 60 °C, max. 	1.2 A
vertical installation	
<ul style="list-style-type: none"> — up to 40 °C, max. 	1.6 A
Cable length	
<ul style="list-style-type: none"> shielded, max. 	1 000 m
<ul style="list-style-type: none"> unshielded, max. 	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	No

Diagnoses	
• Diagnostic information readable	No
• Wire-break	No
• Short-circuit	No
• Fuse blown	No
• missing load voltage	No
Diagnostics indication LED	
• Rated load voltage PWR (green)	No
• Fuse OK FSG (green)	No
• Group error SF (red)	No
• Status indicator digital output (green)	Yes
• Channel fault indicator F (red)	No
Potential separation	
Potential separation digital outputs	
• between the channels	No
• between the channels, in groups of	16
• between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
connection method	
required front connector	Cable: 6ES7392-4Bxx0-0AA0 terminal blocks: 6ES7392-1xN00-0AA0
Dimensions	
Width	40 mm
Height	125 mm
Depth	112 mm
Weights	
Weight, approx.	230 g

last modified: 8/16/2023 



Figure similar

SIMATIC S7-300, Digital output SM 322, isolated, 8 DO, 48-125 V DC, 1.5A, 1x 20-pole

Supply voltage	
Load voltage L+	
<ul style="list-style-type: none"> Rated value (DC) 	48 V; 48 V DC to 125 V DC
<ul style="list-style-type: none"> permissible range, lower limit (DC) 	40 V
<ul style="list-style-type: none"> permissible range, upper limit (DC) 	140 V
<ul style="list-style-type: none"> Reverse polarity protection 	Yes; through fuse
Input current	
from load voltage L+ (without load), max.	2 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	7.2 W
Digital outputs	
Number of digital outputs	8
Short-circuit protection	Yes; Electronic
<ul style="list-style-type: none"> Response threshold, typ. 	4.4 A
Limitation of inductive shutdown voltage to	M (-1 V)
Controlling a digital input	Yes
Spare fuses	6.3 A / 250 V, quick-response, 5x 20 mm
Switching capacity of the outputs	
<ul style="list-style-type: none"> on lamp load, max. 	15 W; 15 W (48 V) or 40 W (125 V)
Output voltage	
<ul style="list-style-type: none"> for signal "1", min. 	L+ (-1.2 V)
Output current	
<ul style="list-style-type: none"> for signal "1" rated value 	1.5 A
<ul style="list-style-type: none"> for signal "1" permissible range for 0 to 40 °C, min. 	10 mA
<ul style="list-style-type: none"> for signal "1" permissible range for 0 to 40 °C, max. 	1.5 A
<ul style="list-style-type: none"> for signal "1" permissible range for 40 to 60 °C, min. 	10 mA
<ul style="list-style-type: none"> for signal "1" permissible range for 40 to 60 °C, max. 	1.5 A
<ul style="list-style-type: none"> for signal "1" minimum load current 	10 mA
<ul style="list-style-type: none"> for signal "1" permissible surge current, max. 	3 A; for 10 ms
<ul style="list-style-type: none"> for signal "0" residual current, max. 	0.5 mA
Output delay with resistive load	
<ul style="list-style-type: none"> "0" to "1", max. 	2 ms
<ul style="list-style-type: none"> "1" to "0", max. 	15 ms
Parallel switching of two outputs	
<ul style="list-style-type: none"> for uprating 	No
<ul style="list-style-type: none"> for redundant control of a load 	Yes; only outputs of the same group
Switching frequency	
<ul style="list-style-type: none"> with resistive load, max. 	25 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 (per group)	
horizontal installation	
— up to 40 °C, max.	6 A
— up to 50 °C, max.	4 A
— up to 60 °C, max.	3 A
vertical installation	
— up to 40 °C, max.	4 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Alarms	
• Diagnostic alarm	No
Diagnoses	
• Wire-break	No
• Short-circuit	No
• Fuse blown	No
• missing load voltage	No
Diagnostics indication LED	
• Rated load voltage PWR (green)	No
• Fuse OK FSG (green)	No
• Group error SF (red)	Yes
• Status indicator digital output (green)	Yes
Potential separation	
Potential separation digital outputs	
• between the channels	Yes
• between the channels, in groups of	4
• between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	1 500 V AC
connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	250 g
last modified:	8/16/2023 



Figure similar

SIMATIC S7-300, Digital output SM 322, isolated, 8 DO, 120/230 V AC, 1 A, 1x 20-pole

Supply voltage	
Load voltage L1	
<ul style="list-style-type: none"> Rated value (AC) 	230 V; 120/230 V AC
<ul style="list-style-type: none"> permissible range, lower limit (AC) 	93 V
<ul style="list-style-type: none"> permissible range, upper limit (AC) 	264 V
<ul style="list-style-type: none"> permissible frequency range, lower limit 	47 Hz
<ul style="list-style-type: none"> permissible frequency range, upper limit 	63 Hz
Input current	
from load voltage L1 (without load), max.	2 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	8.6 W
Digital outputs	
Number of digital outputs	8
Short-circuit protection	Yes; Fuse 8 A, 250 V; per group
<ul style="list-style-type: none"> required current for fuse shutdown, min. 	40 A
<ul style="list-style-type: none"> Response time, max. 	300 ms
Controlling a digital input	Yes
Size of motor starters according to NEMA, max.	5 NEMA compliant
Spare fuses	8 A / quick response
Zero-crossing switch	Yes; Max. 60 V
Switching capacity of the outputs	
<ul style="list-style-type: none"> on lamp load, max. 	50 W
Output voltage	
<ul style="list-style-type: none"> for signal "1", min. 	L1 (-1.5 V)
<ul style="list-style-type: none"> for signal "1" (at max. current), min. 	L1 (-1.5 V)
<ul style="list-style-type: none"> for signal "1" (at min. current), min. 	L1 (-8.5 V)
Output current	
<ul style="list-style-type: none"> for signal "1" rated value 	2 A
<ul style="list-style-type: none"> for signal "1" permissible range for 0 to 40 °C, min. 	10 mA
<ul style="list-style-type: none"> for signal "1" permissible range for 0 to 40 °C, max. 	2 A
<ul style="list-style-type: none"> for signal "1" permissible range for 40 to 60 °C, min. 	10 mA
<ul style="list-style-type: none"> for signal "1" permissible range for 40 to 60 °C, max. 	1 A
<ul style="list-style-type: none"> for signal "1" minimum load current 	10 mA
<ul style="list-style-type: none"> for signal "1" permissible surge current, max. 	20 A; max. 1 AC cycle
<ul style="list-style-type: none"> for signal "0" residual current, max. 	2 mA
Output delay with resistive load	
<ul style="list-style-type: none"> "0" to "1", max. 	1 AC cycle
<ul style="list-style-type: none"> "1" to "0", max. 	1 AC cycle

Parallel switching of two outputs	
• for uprating	No
• for redundant control of a load	Yes
Switching frequency	
• with resistive load, max.	10 Hz
• with inductive load, max.	0.5 Hz
• with inductive load (acc. to IEC 60947-5-1, AC15), max.	0.5 Hz
• on lamp load, max.	1 Hz
Total current of the outputs (per group)	
horizontal installation	
— up to 40 °C, max.	4 A
— up to 60 °C, max.	2 A
vertical installation	
— up to 40 °C, max.	2 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	Yes; Fuse blown or load voltage missing
Alarms	
• Diagnostic alarm	No
Diagnoses	
• Wire-break	No
• Short-circuit	No
• Fuse blown	Yes
• missing load voltage	Yes
Diagnostics indication LED	
• Rated load voltage PWR (green)	Yes
• Fuse OK FSG (green)	Yes
• Group error SF (red)	Yes
• Status indicator digital output (green)	Yes
Potential separation	
Potential separation digital outputs	
• between the channels	Yes
• between the channels, in groups of	4
• between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	1 500 V AC
connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	275 g

last modified: 8/16/2023 



SIMATIC S7-300, Digital output SM 322, Isolated 16 DO, 120/230 V AC, 1 A, 1x 20-pole

Figure similar

Supply voltage	
Load voltage L1	
• Rated value (AC)	230 V; 120/230 V AC
• permissible range, lower limit (AC)	79 V
• permissible range, upper limit (AC)	264 V
Input current	
from load voltage L1 (without load), max.	2 mA
from backplane bus 5 V DC, max.	200 mA
Power loss	
Power loss, typ.	8.6 W
Digital outputs	
Number of digital outputs	16
Short-circuit protection	Yes; Fuse 8 A, 250 V; per group
• required current for fuse shutdown, min.	40 A
• Response time, max.	300 ms
Controlling a digital input	Yes
Size of motor starters according to NEMA, max.	4 NEMA compliant
Spare fuses	8 A / quick response
Switching capacity of the outputs	
• on lamp load, max.	50 W
Output voltage	
• for signal "1" (at max. current), min.	L1 (-1.5 V)
• for signal "1" (at min. current), min.	L1 (-8.5 V)
Output current	
• for signal "1" rated value	1 A
• for signal "1" permissible range for 0 to 40 °C, min.	10 mA
• for signal "1" permissible range for 0 to 40 °C, max.	1 A
• for signal "1" permissible range for 40 to 60 °C, min.	10 mA
• for signal "1" permissible range for 40 to 60 °C, max.	0.5 A
• for signal "1" minimum load current	10 mA
• for signal "1" permissible surge current, max.	20 A; with 2 half waves
• for signal "0" residual current, max.	2 mA
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.	10 Hz
• with inductive load, max.	0.5 Hz
• with inductive load (acc. to IEC 60947-5-1, AC15), max.	0.5 Hz

• on lamp load, max.	1 Hz
Total current of the outputs (per group)	
horizontal installation	
— up to 40 °C, max.	4 A
— up to 60 °C, max.	2 A
vertical installation	
— up to 40 °C, max.	2 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes; Fuse blown or load voltage missing
Alarms	
• Diagnostic alarm	No
Diagnoses	
• Wire-break	No
• Short-circuit	No
• Fuse blown	Yes
• missing load voltage	No
Diagnostics indication LED	
• Rated load voltage PWR (green)	No
• Fuse OK FSG (green)	Yes; Red LED for fuse
• Group error SF (red)	Yes
• Status indicator digital output (green)	Yes
Potential separation	
Potential separation digital outputs	
• between the channels, in groups of	8
• between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	4 000 V DC
connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	275 g

last modified: 8/16/2023 



Figure similar

SIMATIC S7-300, Digital output SM 322, isolated, 32 DO, 120 V/230 V AC, 1 A, double-width, 2x 20-pole

Supply voltage	
Load voltage L1	
• Rated value (AC)	120 V; 120/230 V AC
• permissible range, lower limit (AC)	79 V
• permissible range, upper limit (AC)	264 V
• permissible frequency range, lower limit	47 Hz
• permissible frequency range, upper limit	63 Hz
Input current	
from load voltage L1 (without load), max.	10 mA
from backplane bus 5 V DC, max.	190 mA
Power loss	
Power loss, typ.	25 W
Digital outputs	
Number of digital outputs	32
Short-circuit protection	No
Controlling a digital input	Yes
Size of motor starters according to NEMA, max.	Size 4 according to NEMA
Zero-crossing switch	Yes; Max. 60 V
Switching capacity of the outputs	
• on lamp load, max.	50 W
Output voltage	
• for signal "1", min.	L1 (-0.8 V)
Output current	
• for signal "1" rated value	1 A
• for signal "1" permissible range for 0 to 40 °C, min.	10 mA
• for signal "1" permissible range for 0 to 40 °C, max.	1 A
• for signal "1" permissible range for 40 to 60 °C, min.	10 mA
• for signal "1" permissible range for 40 to 60 °C, max.	1 A
• for signal "1" minimum load current	10 mA
• for signal "1" permissible surge current, max.	10 A; per group (for 2 AC cycles)
• for signal "0" residual current, max.	2 mA
Output delay with resistive load	
• "0" to "1", max.	1 AC cycle
• "1" to "0", max.	1 AC cycle
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.	10 Hz

<ul style="list-style-type: none"> • with inductive load, max. 	0.5 Hz
<ul style="list-style-type: none"> • with inductive load (acc. to IEC 60947-5-1, AC15), max. 	0.5 Hz
<ul style="list-style-type: none"> • on lamp load, max. 	1 Hz
Total current of the outputs (per group)	
horizontal installation	
— up to 40 °C, max.	4 A
— up to 60 °C, max.	3 A
vertical installation	
— up to 40 °C, max.	4 A
Cable length	
<ul style="list-style-type: none"> • shielded, max. 	1 000 m
<ul style="list-style-type: none"> • unshielded, max. 	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	Yes; Fuse blown or load voltage missing
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm 	No
Diagnostics indication LED	
<ul style="list-style-type: none"> • Group error SF (red) 	Yes
<ul style="list-style-type: none"> • Status indicator digital output (green) 	Yes; per channel
Potential separation	
Potential separation digital outputs	
<ul style="list-style-type: none"> • between the channels 	Yes
<ul style="list-style-type: none"> • between the channels, in groups of 	8
<ul style="list-style-type: none"> • between the channels and backplane bus 	Yes; Optocoupler
Isolation	
Isolation tested with	4 000 V DC
connection method	
required front connector	20-pin
Dimensions	
Width	80 mm
Height	125 mm
Depth	117 mm
Weights	
Weight, approx.	500 g

last modified:

8/16/2023 



SIMATIC S7-300, Digital output SM 322, isolated, 8 DO (relay), 1x 20-pole, 24 V DC, 2 A or 230 V AC, 2A

Figure similar

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
Input current	
from supply voltage L+, max.	160 mA
from backplane bus 5 V DC, max.	40 mA
Power loss	
Power loss, typ.	3.2 W
Digital outputs	
Number of digital outputs	8; Relays
Short-circuit protection	No
Controlling a digital input	Yes
Switching capacity of the outputs	
• on lamp load, max.	50 W
• Low energy/fluorescent lamps with electronic control gear	10x 58 W
• Fluorescent tubes, conventionally compensated	1x 58 W
• Fluorescent tubes, uncompensated	10x 58 W
Output current	
• for signal "1" rated value	2 A
• for signal "1" minimum load current	5 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
Relay outputs	
• Rated supply voltage of relay coil L+ (DC)	24 V; 110 mA
• Contact connection (internal)	Yes; SIOV-CU4032 K275G
• Number of operating cycles, max.	300 000; 230 V AC: 100 000; 120 V AC: 200 000; 24 V DC: 300 000 (at 2 A)
Switching capacity of contacts	
— with inductive load, max.	2 A; 2 A (230 V AC), 2 A (24 V DC)
— with resistive load, max.	2 A
— Thermal continuous current, max.	3 A
Cable length	
• shielded, max.	1 000 m



• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Alarms	
• Diagnostic alarm	No
Diagnoses	
• Wire-break	No
• Short-circuit	No
• Fuse blown	No
• missing load voltage	No
Diagnostics indication LED	
• Rated load voltage PWR (green)	No
• Fuse OK FSG (green)	No
• Status indicator digital output (green)	Yes
Potential separation	
Potential separation digital outputs	
• between the channels	Yes
• between the channels, in groups of	2
• between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	1 500 V AC
connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	190 g
last modified:	8/16/2023 



Figure similar

SIMATIC S7-300, Digital output SM 322, isolated, 8 DO (relay), 1x 40-pole, 24 V DC, 5 A or 230 V AC, 5 A, connectors with spring-loaded terminal can be used as of 6ES7392-1BM01-0AA0

Supply voltage	
Load voltage L+	
• Rated value (DC)	120 V
Load voltage L1	
• Rated value (AC)	230 V
Input current	
from supply voltage L+, max.	125 mA
from backplane bus 5 V DC, max.	40 mA
Power loss	
Power loss, typ.	3.2 W
Digital outputs	
Number of digital outputs	8; Relays
Short-circuit protection	No; to be provided externally
Controlling a digital input	Yes
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
Output current	
• for signal "1" rated value	5 A
• for signal "1" minimum load current	5 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 (per group)	
horizontal installation	
— up to 60 °C, max.	5 A
vertical installation	
— up to 40 °C, max.	5 A
Relay outputs	
• Rated supply voltage of relay coil L+ (DC)	24 V
• Contact connection (internal)	No

• Number of operating cycles, max.	300 000; 300 000 (24 V DC, at 2 A); 200 000 (120 V AC, at 3 A); 100 000 (230 V AC, at 3 A)
Switching capacity of contacts	
— with inductive load, max.	3 A; 3 A (230 V DC), 2 A (24 V AC)
— with resistive load, max.	8 A; 8 A (230 V DC), 5 A (24 V AC)
— Thermal continuous current, max.	8 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Alarms	
• Diagnostic alarm	No
Diagnoses	
• Wire-break	No
• Short-circuit	No
• Fuse blown	No
• missing load voltage	No
Diagnostics indication LED	
• Rated load voltage PWR (green)	No
• Fuse OK FSG (green)	No
• Status indicator digital output (green)	Yes
Potential separation	
Potential separation digital outputs	
• between the channels	Yes
• between the channels, in groups of	1
• between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	2 000 V AC
connection method	
required front connector	40-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	320 g
last modified:	8/16/2023 



SIMATIC S7-300, Digital output SM 322, Isolated 16 DO, relay contacts, 1x 20-pole

Figure similar

Supply voltage	
Load voltage L+	
• Rated value (DC)	120 V
Load voltage L1	
• Rated value (AC)	230 V
Input current	
from supply voltage L+, max.	250 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	4.5 W
Digital outputs	
Number of digital outputs	16; Relays
Short-circuit protection	No
Controlling a digital input	Yes
Size of motor starters according to NEMA, max.	Size 5 according to NEMA
Switching capacity of the outputs	
• on lamp load, max.	50 W; 230 V AC
Output current	
• for signal "1" rated value	2 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.	1 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.	1 Hz
• mechanical, max.	10 Hz
Total current of the outputs (per group)	
horizontal installation	
— up to 60 °C, max.	8 A
vertical installation	
— up to 40 °C, max.	8 A
Relay outputs	
• Rated supply voltage of relay coil L+ (DC)	24 V
• Contact connection (internal)	No
• Number of operating cycles, max.	100 000; 50 000 (24 V DC, at 2 A); 700 000 (120 V AC, at 2 A); 100 000 (230 V AC, at 2 A)

Switching capacity of contacts	
— with inductive load, max.	2 A; 2 A (230 V AC), 2 A (24 V DC)
— with resistive load, max.	2 A; 2 A (230 V AC), 2 A (24 V DC)
— Thermal continuous current, max.	2 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Alarms	
• Diagnostic alarm	No
Diagnoses	
• Wire-break	No
• Short-circuit	No
• Fuse blown	No
• missing load voltage	No
Diagnostics indication LED	
• Rated load voltage PWR (green)	No
• Fuse OK FSG (green)	No
• Status indicator digital output (green)	Yes
Potential separation	
Potential separation digital outputs	
• between the channels	Yes
• between the channels, in groups of	8
• between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	1 500 V AC
connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	250 g

last modified:

8/16/2023 



Figure similar

SIMATIC S7-300, Digital output SM 322, isolated, 8 DO, 120/230 V AC, 2A, with single rooting/channel and selectable failure mode, 1x 40-pole

Supply voltage	
Load voltage L1	
• Rated value (AC)	230 V; 120/230 V AC
• permissible range, lower limit (AC)	79 V
• permissible range, upper limit (AC)	264 V
Input current	
from load voltage L1 (without load), max.	2 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	8.6 W
Digital outputs	
Number of digital outputs	8
Short-circuit protection	Yes; to be provided externally; fuse 3.15 A / 250 V, quick response
Controlling a digital input	Yes
Size of motor starters according to NEMA, max.	Size 5 according to NEMA
Zero-crossing switch	Yes; 60 V
Switching capacity of the outputs	
• on lamp load, max.	50 W
Output voltage	
• for signal "1", min.	L1 (-8.5 V)
Output current	
• for signal "1" rated value	2 A
• for signal "1" permissible range for 0 to 40 °C, min.	10 mA
• for signal "1" permissible range for 0 to 40 °C, max.	2 A
• for signal "1" permissible range for 40 to 60 °C, min.	10 mA
• for signal "1" permissible range for 40 to 60 °C, max.	1 A
• for signal "1" minimum load current	10 mA
• for signal "1" permissible surge current, max.	20 A; with 2 half waves
• for signal "0" residual current, max.	2 mA
Parallel switching of two outputs	
• for uprating	No
• for redundant control of a load	Yes
Switching frequency	
• with resistive load, max.	10 Hz
• with inductive load, max.	0.5 Hz
• with inductive load (acc. to IEC 60947-5-1, AC15), max.	0.5 Hz
• on lamp load, max.	1 Hz
Total current of the outputs (per group)	
horizontal installation	


— up to 40 °C, max.	8 A
— up to 60 °C, max.	4 A
vertical installation	
— up to 40 °C, max.	4 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes; Parameterizable
Alarms	
• Diagnostic alarm	Yes; Parameterizable
Diagnostics indication LED	
• Group error SF (red)	Yes
• Status indicator digital output (green)	Yes
Potential separation	
Potential separation digital outputs	
• between the channels	Yes
• between the channels, in groups of	1
• between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	1 500 V AC
connection method	
required front connector	40-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	275 g
last modified:	8/16/2023 



Figure similar

SIMATIC S7-300, Digital output SM 322, isolated, 16 DO (solid-state relay), 24-48 V AC/DC; 0.5 A with single routing, 1x 40-pole

Supply voltage	
Mains buffering	
• Mains/voltage failure stored energy time	5 ms
Load voltage L+	
• Rated value (DC)	24 V; 24 / 48
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	57.6 V
• Reverse polarity protection	Yes
Input current	
from supply voltage L+, max.	200 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	2.8 W
Digital outputs	
Number of digital outputs	16
Short-circuit protection	No; to be provided externally
Controlling a digital input	Yes
Size of motor starters according to NEMA, max.	Size 5 according to NEMA
Switching capacity of the outputs	
• on lamp load, max.	2.5 W
Output voltage	
• for signal "1", min.	L+ (-0.25 V)
Output current	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range for 0 to 40 °C, max.	0.5 A
• for signal "1" permissible range for 40 to 60 °C, max.	0.5 A
• for signal "1" permissible surge current, max.	1.5 A; for 50 ms, 1 A 2 s one-time
• for signal "0" residual current, max.	10 µA
Output delay with resistive load	
• "0" to "1", max.	6 ms
• "1" to "0", max.	3 ms
Parallel switching of two outputs	
• for uprating	No
• for redundant control of a load	Yes
Switching frequency	
• with resistive load, max.	10 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.	0.5 Hz

Total current of the outputs (per group)	
horizontal installation	
— up to 40 °C, max.	0.5 A; 8 A per module
— up to 60 °C, max.	0.5 A; 8 A per module
vertical installation	
— up to 40 °C, max.	0.5 A; 8 A per module
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes; Parameterizable
Alarms	
• Diagnostic alarm	Yes; Parameterizable
Diagnoses	
• Diagnostic information readable	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
• Status indicator digital output (green)	Yes
Potential separation	
Potential separation digital outputs	
• between the channels	Yes
• between the channels, in groups of	1
• between the channels and backplane bus	Yes; Optocoupler
• between the channels and the power supply of the electronics	Yes
Isolation	
Isolation tested with	1 500 V AC
connection method	
required front connector	40-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	260 g

last modified: 8/16/2023 



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

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	24 V
• permissible range, upper limit (DC)	120 V
Load voltage L1	
• Rated value (AC)	230 V
Input current	
from supply voltage L+, max.	160 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	3.5 W
Digital outputs	
Number of digital outputs	8; Relays
Short-circuit protection	No; to be provided externally
Controlling a digital input	Yes
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
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 (per group)	
horizontal installation	
— up to 60 °C, max.	5 A
vertical installation	
— up to 40 °C, max.	5 A
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
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Alarms	Yes
Diagnostics function	Yes; Parameterizable
Alarms	
• Diagnostic alarm	Yes; Parameterizable
Diagnoses	
• Diagnostic information readable	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
• Status indicator digital output (green)	Yes
Potential separation	
Potential separation digital outputs	
• between the channels	Yes
• between the channels, in groups of	1
• between the channels and backplane bus	Yes; Optocoupler
• Between the channels and the power supply of the relays	Yes
Isolation	
Isolation tested with	1 500 V AC
connection method	
required front connector	40-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	320 g

last modified:

8/16/2023 



Figure similar

SIMATIC S7-300, Digital output SM 322, isolated, 8 DO, 24 V DC, 0.5A (1x 8 DO), Short-circuit protection diagnostics, 1x 20-pole

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	28.8 V
Input current	
from load voltage L+ (without load), max.	90 mA
from backplane bus 5 V DC, max.	70 mA
Power loss	
Power loss, typ.	5 W
Digital outputs	
Number of digital outputs	8
Short-circuit protection	Yes; Electronic
• Response threshold, typ.	0.75 to 1.5 A
Limitation of inductive shutdown voltage to	L+ (-45 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
• on lamp load, max.	5 W
Load resistance range	
• lower limit	48 Ω
• upper limit	3 kΩ
Output voltage	
• for signal "1", min.	L+ (-0.8 to -1.6 V)
Output current	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range for 0 to 40 °C, min.	10 mA
• for signal "1" permissible range for 0 to 40 °C, max.	0.6 A
• for signal "1" permissible range for 40 to 60 °C, min.	10 mA
• for signal "1" permissible range for 40 to 60 °C, max.	0.6 A
• for signal "1" minimum load current	10 mA
• for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
• "0" to "1", max.	180 μs
• "1" to "0", max.	245 μs
Parallel switching of two outputs	
• for uprating	No
• for redundant control of a load	Outputs with series diodes only
Switching frequency	
• with resistive load, max.	100 Hz

<ul style="list-style-type: none"> • with inductive load, max. 	2 Hz
<ul style="list-style-type: none"> • with inductive load (acc. to IEC 60947-5-1, DC13), max. 	2 Hz
<ul style="list-style-type: none"> • on lamp load, max. 	10 Hz
Total current of the outputs (per group)	
horizontal installation	
— up to 40 °C, max.	4 A
— up to 60 °C, max.	3 A
vertical installation	
— up to 40 °C, max.	4 A
Cable length	
<ul style="list-style-type: none"> • shielded, max. 	1 000 m
<ul style="list-style-type: none"> • unshielded, max. 	600 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes; Parameterizable
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm 	Yes; Parameterizable
Diagnoses	
<ul style="list-style-type: none"> • Diagnostic information readable 	Yes
<ul style="list-style-type: none"> • Wire-break 	Yes
<ul style="list-style-type: none"> • Short-circuit 	Yes
<ul style="list-style-type: none"> • Fuse blown 	No
<ul style="list-style-type: none"> • missing load voltage 	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> • Rated load voltage PWR (green) 	No
<ul style="list-style-type: none"> • Fuse OK FSG (green) 	No
<ul style="list-style-type: none"> • Group error SF (red) 	Yes
<ul style="list-style-type: none"> • Status indicator digital output (green) 	Yes; per channel
<ul style="list-style-type: none"> • Channel fault indicator F (red) 	Yes
Potential separation	
Potential separation digital outputs	
<ul style="list-style-type: none"> • between the channels, in groups of 	8
<ul style="list-style-type: none"> • between the channels and backplane bus 	Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	210 g
last modified:	8/16/2023 