

SIMATIC S7-1500, digital output module DQ 16x 230 V AC/2 A ST; 16 channels in groups of 2; 4 A per group; Diagnostics, substitute value: Front connector (screw terminals or push-in) to be ordered separately



General information	
Product type designation	DQ 16x 230 V AC/2 A ST (relay)
HW functional status	FS01
Firmware version	V1.0.0
<ul style="list-style-type: none"> FW update possible 	Yes
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> Isochronous mode 	No
<ul style="list-style-type: none"> Prioritized startup 	Yes
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated as of version 	V13 SP1 / -
<ul style="list-style-type: none"> STEP 7 configurable/integrated as of version 	V5.5 SP3 / -
<ul style="list-style-type: none"> PROFIBUS as of GSD version/GSD revision 	V1.0 / V5.1
<ul style="list-style-type: none"> PROFINET as of GSD version/GSD revision 	V2.3 / -
Operating mode	
<ul style="list-style-type: none"> DQ 	Yes
<ul style="list-style-type: none"> DQ with energy-saving function 	No
<ul style="list-style-type: none"> PWM 	No

- Oversampling
- MSO

No
Yes

Supply voltage

Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes

Input current

Current consumption, max.	150 mA
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Output voltage

Rated value (AC)	230 V; 24 V DC to 120 V DC / 24 V AC to 230 V AC
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Power

Power available from the backplane bus	0.8 W
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Power loss

Power loss, typ.	5 W
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Digital outputs

Type of digital output	Relays
Number of digital outputs	16
Current-sinking	Yes
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	No
Controlling a digital input	Yes
Size of motor starters according to NEMA, max.	5

Switching capacity of the outputs

- on lamp load, max. 50 W (230 V AC), 5 W (24 V DC)

Output current

- for signal "1" rated value 2 A
- for signal "1" permissible range, min. 10 mA; 10 V
- for signal "1" permissible range, max. 2 A; thermal continuous current
- for signal "0" residual current, max. 0 A

Parallel switching of two outputs

- for logic links Yes
- 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
- on lamp load, max. 1 Hz

Total current of the outputs

• Current per channel, max.	2 A; see additional description in the manual
• Current per group, max.	4 A; see additional description in the manual
• Current per module, max.	32 A; see additional description in the manual
Relay outputs	
• Number of relay outputs	16
• Rated supply voltage of relay coil L+ (DC)	24 V
• Current consumption of relays (coil current of all relays), typ.	150 mA
• external protection for relay outputs	Miniature circuit breaker B10 / B16
• Contact connection (internal)	No
• Number of operating cycles, max.	see additional description in the manual
• Relay approved acc. to UL 508	No
Switching capacity of contacts	
— with inductive load, max.	2 A; see additional description in the manual
— with resistive load, max.	2 A; see additional description in the manual
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
• Maintenance interrupt	No
Diagnostic messages	
• Monitoring the supply voltage	Yes
• Wire-break	No
• Short-circuit	No
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• Monitoring of the supply voltage (PWR-LED)	Yes; green LED
• Channel status display	Yes; green LED
• for channel diagnostics	No
• for module diagnostics	Yes; red LED
Potential separation	
Potential separation channels	
• between the channels	No
• between the channels, in groups of	2
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes

Permissible potential difference	
between different circuits	250 V AC between the channels and the supply voltage L+; 250 V AC between the channels and the backplane bus; 500 V AC between the channels

Isolation	
Isolation tested with	Between channels: 3 100 V DC; between channels backplane bus: 3 100 V DC; between L+ and backplane bus: 707 V DC (type test)

Standards, approvals, certificates	
Suitable for safety functions	No

Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. 	<ul style="list-style-type: none"> 0 °C 60 °C 0 °C 40 °C

Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm

Weights	
Weight, approx.	350 g
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