

SIMATIC S7-1500, DIGITAL OUTPUT MODULE DQ 16 X 230VAC / 2A ST; RELAY; 16 CHANNELS IN GROUPS OF 2, 4A PER GROUP; DIAGNOSIS; SUBSTITUTE VALUE



General information	
Product type designation	DQ 16x230VAC/2A ST (relay)
HW functional status	FS01
Firmware version	V1.0.0
Product function	
• I&M data	Yes; I&M0 to I&M3
Engineering with	
• STEP 7 TIA Portal configurable/integrated as of version	V13 SP1 / -
• STEP 7 configurable/integrated as of version	V5.5 SP3 / -
• PROFIBUS as of GSD version/GSD revision	V1.0 / V5.1
• PROFINET as of GSD version/GSD revision	V2.3 / -
Operating mode	
• MSO	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
<b>Input current</b>	
Current consumption, max.	150 mA
<b>Power</b>	
Power available from the backplane bus	0.8 W
<b>Power loss</b>	
Power loss, typ.	5 W
<b>Digital outputs</b>	
Number of digital outputs	16
Current-sinking	Yes
Current-sourcing	Yes
Short-circuit protection	No
Controlling a digital input	Yes
<b>Switching capacity of the outputs</b>	
• on lamp load, max.	50 W (230 V AC), 5 W (24 V DC)
<b>Output current</b>	
• 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
<b>Parallel switching of two outputs</b>	
• for logic links	Yes
• for uprating	No
• for redundant control of a load	Yes
<b>Switching frequency</b>	
• with resistive load, max.	1 Hz
• with inductive load, max.	0.5 Hz
• on lamp load, max.	1 Hz
<b>Total current of the outputs</b>	
• Current per channel, max.	2 A; see additional description in the manual
• Current per group, max.	2 A; see additional description in the manual
• Current per module, max.	32 A; see additional description in the manual
<b>Relay outputs</b>	
• Number of relay outputs	16
• Rated supply voltage of relay coil L+ (DC)	24 V
• Current consumption of relays (coil current of all relays), max.	150 mA
• external protection for relay outputs	Miniature circuit breaker B10 / B16
• Contact connection (internal)	No
• Size of motor starters according to NEMA, max.	5
• Number of operating cycles, max.	see additional description in the manual

• Relay approved acc. to UL 508	No
<b>Switching capacity of contacts</b>	
— with inductive load, max.	2 A; see additional description in the manual
— with resistive load, max.	2 A; see additional description in the manual
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	600 m
<b>Isochronous mode</b>	
Isochronous operation (application synchronized up to terminal)	No
<b>Interrupts/diagnostics/status information</b>	
Substitute values connectable	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
<b>Diagnostic messages</b>	
• Diagnostics	Yes
• Monitoring the supply voltage	Yes
• Wire-break	No
• Short-circuit	No
<b>Diagnostics indication LED</b>	
• 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
<b>Potential separation</b>	
<b>Potential separation channels</b>	
• 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
<b>Permissible potential difference</b>	
between different circuits	75 V DC/60 V AC (base isolation) between backplane bus and the supply voltage L+; 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
<b>Isolation</b>	
Isolation tested with	Between the channels: 2500 V DC; between the channels and backplane bus: 2500 V DC; between L+ backplane bus 707 V DC (type test)

Decentralized operation	
Prioritized startup	Yes
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	350 g
<b>last modified:</b>	13.01.2016