

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	
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"> 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
<ul style="list-style-type: none"> Oversampling 	No
<ul style="list-style-type: none"> 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
Input current	
Current consumption, max.	150 mA
Output voltage	
Rated value (AC)	230 V; 24 V DC to 120 V DC / 24 V AC to 230 V AC
Power	
Power available from the backplane bus	0.8 W
Power loss	
Power loss, typ.	5 W
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	
<ul style="list-style-type: none"> on lamp load, max. 	50 W (230 V AC), 5 W (24 V DC)
Output current	
<ul style="list-style-type: none"> for signal "1" rated value for signal "1" permissible range, min. for signal "1" permissible range, max. for signal "0" residual current, max. 	2 A 10 mA; 10 V 2 A; thermal continuous current 0 A
Parallel switching of two outputs	
<ul style="list-style-type: none"> for logic links for uprating for redundant control of a load 	Yes No Yes
Switching frequency	
<ul style="list-style-type: none"> with resistive load, max. with inductive load, max. on lamp load, max. 	1 Hz 0.5 Hz 1 Hz
Total current of the outputs	
<ul style="list-style-type: none"> Current per channel, max. Current per group, max. 	2 A; see additional description in the manual 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
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	No
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

- horizontal installation, min. 0 °C
- horizontal installation, max. 60 °C
- vertical installation, min. 0 °C
- vertical installation, max. 40 °C

Dimensions

Width	35 mm
Height	147 mm
Depth	129 mm

Weights

Weight, approx. 350 g

last modified: 01/03/2020