SIEMENS

Data sheet 6ES7522-5HH00-0AB0



Figure similar

SIMATIC S7-1500, digital output module DQ 16x 230V AC/2A ST; relay 16 channels in groups of 2; 4 A per group; switching cycle counter for integrated relay, diagnostics; substitute value: the module supports the safety-oriented shutdown of load groups up to SIL1 according to EN IEC 62061:2021 and Category 2 / PL c according to EN ISO 13849-1:2015. 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	V1.1.0
● FW update possible	Yes
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	No
● Prioritized startup	Yes
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V13 SP1 / -
● STEP 7 configurable/integrated from version	V5.5 SP3 / -
● PROFIBUS from GSD version/GSD revision	V1.0 / V5.1
● PROFINET from GSD version/GSD revision	V2.3 / -
Operating mode	
● DQ	Yes
● DQ with energy-saving function	No
● PWM	No
● Cam control (switching at comparison values)	No
● Oversampling	No
● MSO	Yes
● Integrated operating cycle counter	Yes; FW V1.1.0 or higher
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Input current	
Current consumption, max.	185 mA
Output voltage	
Rated value (AC)	230 V; 24 V DC to 120 V DC / 24 V AC to 230 V AC
Power	
Power consumption from the backplane bus	0.8 W
Power loss	
Power loss, typ.	5 W

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Address area	
Address space per module	
● Inputs	0 byte; typical, maximum 14 bytes, see manual for details
● Outputs	2 byte
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
Digital output functions, parameterizable	
● Switching tripped by comparison values	No
● Freely usable digital output	No
● PWM output	No
● Digital output with oversampling	No
Switching capacity of the outputs	
● with resistive load, max.	2 A
● 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
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	No
Substitute values connectable	Yes
Alarms	
● Diagnostic alarm	Yes
● Maintenance interrupt	Yes; maintenance alarm for switching cycle counter
Diagnoses	

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● Monitoring the supply voltage	Yes
● Wire break	No
● Short-circuit	No
● Group error	No
Diagnostics indication LED	
● RUN LED	Yes; green LED
● ERROR LED	Yes; red LED
● MAINT LED	Yes; Yellow 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	
Siemens Eco Profile (SEP)	Siemens EcoTech
Suitable for safety functions	No
Suitable for safety-related tripping of standard modules	Yes; From FS02
Ecological footprint	
● environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	43.8 kg
— global warming potential, (during production) [CO2 eq]	9.5 kg
— global warming potential, (during operation) [CO2 eq]	34.5 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.231 kg
Highest safety class achievable for safety-related tripping of standard modules	
● Performance level according to ISO 13849-1	PL c
● Category according to ISO 13849-1	Cat. 2
● SIL acc. to IEC 62061	SIL 1
● remark on safety-oriented shutdown	https://support.industry.siemens.com/cs/de/en/view/39198632
Security	
signed firmware update	Yes; Firmware V3.0.0 or higher
securely removing data	No
data integrity	Yes; Firmware V3.0.0 or higher
Ambient conditions	
Ambient temperature during operation	
● horizontal installation, min.	-25 °C; From FS02
● horizontal installation, max.	60 °C
● vertical installation, min.	-25 °C; From FS02
● vertical installation, max.	40 °C
Altitude during operation relating to sea level	
● Installation altitude above sea level, max.	2 000 m
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	

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Weight, approx.	350 g

Classifications

	Version	Classification
eClass	16	27-24-22-04
eClass	14	27-24-22-04
eClass	12	27-24-22-04
eClass	9.1	27-24-22-04
eClass	9	27-24-22-04
eClass	8	27-24-22-04
eClass	7.1	27-24-22-04
eClass	6	27-24-22-04
ETIM	10	EC001419
ETIM	9	EC001419
ETIM	8	EC001419
ETIM	7	EC001419
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

Miscellaneous

Manufacturer Declaration

General Product Approval

China RoHS

Manufacturer Declaration

For use in hazardous locations

FM

Maritime application

NK / Nippon Kaiji Kyokai

Maritime application

CCS (China Classification Society)

KR (Korean Register of Shipping)

Environment

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