



Figure similar

SIPLUS S7-1500 DQ 8x230V AC ST 5A T1 rail based on 6ES7522-5HF00-0AB0 with conformal coating, -25...+60 °C, OT1 with ST1/2 (+70 °C für 10 minutes), digital output module, 8 channels in groups of 1; 5 A per group; diagnostics; substitute value

General information	
Product type designation	DQ 8x230 V AC/5 A ST (relay)
Firmware version	
• FW update possible	Yes
based on	6ES7522-5HF00-0AB0
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	see entry ID: 109746275
Operating mode	
• DQ	Yes
• DQ with energy-saving function	No
• PWM	No
• Oversampling	No
• MSO	Yes
• Integrated operating cycle counter	Yes; FW V2.1.0 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.	80 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
Digital outputs	
Type of digital output	Relays
Number of digital outputs	8
Current-sinking	Yes
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	No

Controlling a digital input	Yes; possible
Size of motor starters according to NEMA, max.	5
Switching capacity of the outputs	
• on lamp load, max.	1 500 W; 10 000 operating cycles
Output current	
• for signal "1" rated value	5 A
• for signal "1" permissible range, min.	5 mA; 10 V
• for signal "1" permissible range, max.	8 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.	2 Hz
• with inductive load, max.	0.5 Hz
• on lamp load, max.	2 Hz
Total current of the outputs	
• Current per channel, max.	8 A; see additional description in the manual
• Current per group, max.	8 A; see additional description in the manual
• Current per module, max.	64 A; see additional description in the manual
Relay outputs	
• Number of relay outputs	8
• Rated supply voltage of relay coil L+ (DC)	24 V
• Current consumption of relays (coil current of all relays), typ.	80 mA
• external protection for relay outputs	With miniature circuit breaker with characteristic B for: $\cos \varphi$ 1.0: 600 A $\cos \varphi$ 0.5 ... 0.7: 900 A with 8 A Diazed fuse: 1 000 A
• Contact connection (internal)	No
• Number of operating cycles, max.	4 000 000; see additional description in the manual
• Relay approved acc. to UL 508	Yes; 250 V AC/5 A g.p.; 120 V AC TV-4 tungsten; A300, R300
Switching capacity of contacts	
— with inductive load, max.	see additional description in the manual
— with resistive load, max.	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	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire break	No
• short-circuit	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	Yes; Switching of different phases permitted
• between the channels, in groups of	1

• 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; 250 V AC between the channels (500 V AC when connecting different phases; basic insulation)
Isolation	
Isolation tested with	2 545 V DC (type test) and according to EN 50155 (routine test)
Standards, approvals, certificates	
Suitable for safety functions	No
Suitable for safety-related tripping of standard modules	Yes; From FS03
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://www.modulplc.com/?s=6AG2522-5HF00-1AB0
Railway application	
• EN 50121-3-2	Yes; EMC for rail vehicles
• EN 50121-4	Yes; EMC for signal and telecommunications systems
• EN 50121-5	Yes; EMC for fixed installations and railway power supply equipment (shielded cables required)
• EN 50124-1	Yes; Railway applications - overvoltage category OV3; pollution degree PD2; UNm = 230 V AC
• EN 50125-1	Yes; Rail vehicles - see ambient conditions
• EN 50125-2	Yes; Stationary electrical equipment - see ambient conditions
• EN 50125-3	Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track)
• EN 50155	Yes; Rail vehicles - temperature class OT1, ST1/ST2, horizontal mounting position
• EN 61373	Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B
• Fire protection acc. to EN 45545-2	Yes; For proof of conformity, see Service & Support
Security	
signed firmware update	No
data integrity	No
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-25 °C; = Tmin (incl. condensation/frost)
• horizontal installation, max.	60 °C; = Tmax; +70 °C for 10 min (OT1, ST1/ST2 acc. to EN 50155)
• vertical installation, min.	-25 °C; = Tmin
• vertical installation, max.	60 °C; = Tmax
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	2 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
Resistance	
Coolants and lubricants	
— Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	

— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request																																													
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *																																													
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *																																													
Use on land craft, rail vehicles and special-purpose vehicles																																														
— to biologically active substances according to EN 60721-3-5	Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request																																													
— to chemically active substances according to EN 60721-3-5	Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *																																													
— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 incl. sand, dust; *																																													
Usage in industrial process technology																																														
— Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)																																													
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)																																													
Remark																																														
— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!																																													
Conformal coating																																														
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability																																													
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection																																													
• Electronic equipment on rolling stock acc. to EN 50155	Yes; Class PC2 protective coating acc. to EN 50155:2017																																													
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life																																													
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A																																													
Dimensions																																														
Width	35 mm																																													
Height	147 mm																																													
Depth	129 mm																																													
Weights																																														
Weight, approx.	350 g																																													
Other																																														
Note:	for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776																																													
Classifications																																														
	<table><tr><th></th><th>Version</th><th>Classification</th></tr><tr><td>eClass</td><td>16</td><td>27-24-22-04</td></tr><tr><td>eClass</td><td>14</td><td>27-24-22-04</td></tr><tr><td>eClass</td><td>12</td><td>27-24-22-04</td></tr><tr><td>eClass</td><td>9.1</td><td>27-24-22-04</td></tr><tr><td>eClass</td><td>9</td><td>27-24-22-04</td></tr><tr><td>eClass</td><td>8</td><td>27-24-22-04</td></tr><tr><td>eClass</td><td>7.1</td><td>27-24-22-04</td></tr><tr><td>eClass</td><td>6</td><td>27-24-22-04</td></tr><tr><td>ETIM</td><td>10</td><td>EC001419</td></tr><tr><td>ETIM</td><td>9</td><td>EC001419</td></tr><tr><td>ETIM</td><td>8</td><td>EC001419</td></tr><tr><td>ETIM</td><td>7</td><td>EC001419</td></tr><tr><td>IDEA</td><td>4</td><td>3566</td></tr><tr><td>UNSPSC</td><td>15</td><td>32-15-17-05</td></tr></table>		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
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