



Figure similar

SIPLUS S7-1200 SM 1222 8DQ RLY T1 rail based on 6ES7222-1HF32-0XB0 with conformal coating, -25...+60 °C, OT1 with ST1/2 (+70 °C für 10 minutes), digital output 8 DQ, relay 2 A

General information	
Product type designation	SM 1222, DQ 8x relay/2 A
Supply voltage	
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
from backplane bus 5 V DC, max.	120 mA
Digital outputs	
<ul style="list-style-type: none"> from load voltage L+, max. 	11 mA/relay coil
Power loss	
Power loss, typ.	4.5 W
Digital outputs	
Number of digital outputs	8
<ul style="list-style-type: none"> in groups of 	2
Short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
<ul style="list-style-type: none"> with resistive load, max. on lamp load, max. 	2 A 30 W with DC, 200 W with AC
Output voltage	
<ul style="list-style-type: none"> Rated value (DC) Rated value (AC) 	5 V DC to 30 V DC 5 V AC to 250 V AC
Output current	
<ul style="list-style-type: none"> for signal "1" rated value 	2 A
Output delay with resistive load	
<ul style="list-style-type: none"> "0" to "1", max. "1" to "0", max. 	10 ms 10 ms
Total current of the outputs (per group)	
horizontal installation	
— up to 50 °C, max.	10 A; Current per mass
Relay outputs	
<ul style="list-style-type: none"> Number of relay outputs Rated supply voltage of relay coil L+ (DC) Number of operating cycles, max. 	8 24 V mechanically 10 million, at rated load voltage 100 000
Switching capacity of contacts	
<ul style="list-style-type: none"> with inductive load, max. on lamp load, max. with resistive load, max. 	2 A 30 W with DC, 200 W with AC 2 A
Cable length	

<ul style="list-style-type: none"> • shielded, max. 	500 m
<ul style="list-style-type: none"> • unshielded, max. 	150 m
Interrupts/diagnostics/status information	
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm 	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> • for status of the outputs 	Yes
Potential separation	
Potential separation digital outputs	
<ul style="list-style-type: none"> • between the channels 	Relays
<ul style="list-style-type: none"> • between the channels, in groups of 	2
<ul style="list-style-type: none"> • between the channels and backplane bus 	1 500 V AC for 1 minute
Permissible potential difference	
between different circuits	750 V AC for 1 minute
Isolation	
Isolation tested with	750 V DC (type test) and according to EN 50155 (routine test)
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
Railway application	
<ul style="list-style-type: none"> • EN 50121-3-2 	Yes; EMC for rail vehicles
<ul style="list-style-type: none"> • EN 50121-4 	Yes; EMC for signal and telecommunications systems
<ul style="list-style-type: none"> • EN 50124-1 	Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC
<ul style="list-style-type: none"> • EN 50125-1 	Yes; Rail vehicles - see ambient conditions
<ul style="list-style-type: none"> • EN 50125-2 	Yes; Stationary electrical equipment - see ambient conditions
<ul style="list-style-type: none"> • 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)
<ul style="list-style-type: none"> • EN 50155 	Yes; Rail vehicles - temperature class OT1, ST1/ST2, horizontal mounting position
<ul style="list-style-type: none"> • EN 61373 	Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B
<ul style="list-style-type: none"> • Fire protection acc. to EN 45545-2 	Yes; For proof of conformity, see Service & Support
Ambient conditions	
Free fall	
<ul style="list-style-type: none"> • Fall height, max. 	0.3 m; five times, in product package
Ambient temperature during operation	
<ul style="list-style-type: none"> • min. 	-25 °C; = Tmin (incl. condensation/frost)
<ul style="list-style-type: none"> • max. 	60 °C; = Tmax; +70 °C for 10 min (OT1, ST1/ST2 acc. to EN 50155)
<ul style="list-style-type: none"> • vertical installation, min. 	-25 °C; = Tmin
<ul style="list-style-type: none"> • vertical installation, max. 	50 °C; = Tmax
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. 	-40 °C
<ul style="list-style-type: none"> • max. 	70 °C
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> • Installation altitude above sea level, max. 	2 000 m
<ul style="list-style-type: none"> • Ambient air temperature-barometric pressure-altitude 	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
Relative humidity	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • Coatings for printed circuit board assemblies acc. to EN 61086 • Protection against fouling acc. to EN 60664-3 • Electronic equipment on rolling stock acc. to EN 50155 • Military testing according to MIL-I-46058C, Amendment 7 • Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A 	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Class PC2 protective coating acc. to EN 50155:2017</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>
connection method / header	
required front connector	Yes
Mechanics/material	
Enclosure material (front) <ul style="list-style-type: none"> • Plastic 	Yes
Dimensions	
Width	45 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	190 g
Other	
Note:	for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776

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