



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
based on	6ES7222-1HF32-0XB0
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	
• from load voltage L+, max.	11 mA/relay coil
Power loss	
Power loss, typ.	4.5 W
Digital outputs	
Number of digital outputs	8
• in groups of	2
Short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
• with resistive load, max.	2 A
• on lamp load, max.	30 W with DC, 200 W with AC
Output voltage	
• Rated value (DC)	5 V DC to 30 V DC
• Rated value (AC)	5 V AC to 250 V AC
Output current	
• for signal "1" rated value	2 A
Output delay with resistive load	
• "0" to "1", max.	10 ms
• "1" to "0", max.	10 ms
Total current of the outputs (per group)	
horizontal installation	
— up to 50 °C, max.	10 A; Current per mass
Relay outputs	
• Number of relay outputs	8
• Rated supply voltage of relay coil L+ (DC)	24 V
• Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000
Switching capacity of contacts	
— with inductive load, max.	2 A
— on lamp load, max.	30 W with DC, 200 W with AC
— with resistive load, max.	2 A

Cable length	
• shielded, max.	500 m
• unshielded, max.	150 m
Interrupts/diagnostics/status information	
Alarms	
• Diagnostic alarm	Yes
Diagnostics indication LED	
• for status of the outputs	Yes
Potential separation	
Potential separation digital outputs	
• between the channels	Relays
• between the channels, in groups of	2
• 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	2 545 V DC (type test) and according to EN 50155 (routine test)
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
Ecological footprint	
• environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO ₂ eq]	68.6 kg
— global warming potential, (during production) [CO ₂ eq]	8.16 kg
— global warming potential, (during operation) [CO ₂ eq]	60.7 kg
— global warming potential, (after end of life cycle) [CO ₂ eq]	-0.334 kg
Railway application	
• EN 50121-3-2	Yes; EMC for rail vehicles
• EN 50121-4	Yes; EMC for signal and telecommunications systems
• EN 50124-1	Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage U _{NI} = 0.5 kV; U _{NM} = 24 V DC
• 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
Ambient conditions	
Free fall	
• Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
• min.	-25 °C; = T _{min} (incl. condensation/frost)
• max.	60 °C; = T _{max} ; +70 °C for 10 min (OT1, ST1/ST2 acc. to EN 50155)
• vertical installation, min.	-25 °C; = T _{min}
• vertical installation, max.	50 °C; = T _{max}
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	2 000 m
• Ambient air temperature-barometric pressure-altitude	T _{min} ... T _{max} 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	<ul style="list-style-type: none"> — 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	<ul style="list-style-type: none"> — 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	<ul style="list-style-type: none"> — 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	* 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 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 																														
Connection method																															
required front connector	Yes																														
Mechanics/material																															
Enclosure material (front)																															
• 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																														
Classifications																															
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ETIM	8	EC001419
ETIM	7	EC001419
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

EMV

[Manufacturer Declaration](#)



[China RoHS](#)



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Railway

Environment



[Confirmation](#)



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