



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	<a href="#">6ES7222-1HF32-0XB0</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"> <li>from load voltage L+, max.</li> </ul>	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"> <li>in groups of</li> </ul>	2
Short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
<ul style="list-style-type: none"> <li>with resistive load, max.</li> <li>on lamp load, max.</li> </ul>	2 A 30 W with DC, 200 W with AC
Output voltage	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> <li>Rated value (AC)</li> </ul>	5 V DC to 30 V DC 5 V AC to 250 V AC
Output current	
<ul style="list-style-type: none"> <li>for signal "1" rated value</li> </ul>	2 A
Output delay with resistive load	
<ul style="list-style-type: none"> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> </ul>	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"> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> <li>Number of operating cycles, max.</li> </ul>	8 24 V mechanically 10 million, at rated load voltage 100 000
Switching capacity of contacts	
<ul style="list-style-type: none"> <li>with inductive load, max.</li> <li>on lamp load, max.</li> <li>with resistive load, max.</li> </ul>	2 A 30 W with DC, 200 W with AC 2 A
Cable length	

<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	500 m
<ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>	150 m
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>	Yes
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>• for status of the outputs</li> </ul>	Yes
<b>Potential separation</b>	
<b>Potential separation digital outputs</b>	
<ul style="list-style-type: none"> <li>• between the channels</li> </ul>	Relays
<ul style="list-style-type: none"> <li>• between the channels, in groups of</li> </ul>	2
<ul style="list-style-type: none"> <li>• between the channels and backplane bus</li> </ul>	1 500 V AC for 1 minute
<b>Permissible potential difference</b>	
between different circuits	750 V AC for 1 minute
<b>Isolation</b>	
Isolation tested with	750 V DC (type test) and according to EN 50155 (routine test)
<b>Degree and class of protection</b>	
IP degree of protection	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
<b>Ecological footprint</b>	
<ul style="list-style-type: none"> <li>• environmental product declaration</li> </ul>	Yes
<b>Global warming potential</b>	
— global warming potential, (total) [CO2 eq]	68.6 kg
— global warming potential, (during production) [CO2 eq]	8.16 kg
— global warming potential, (during operation) [CO2 eq]	60.7 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.334 kg
<b>Railway application</b>	
<ul style="list-style-type: none"> <li>• EN 50121-3-2</li> </ul>	Yes; EMC for rail vehicles
<ul style="list-style-type: none"> <li>• EN 50121-4</li> </ul>	Yes; EMC for signal and telecommunications systems
<ul style="list-style-type: none"> <li>• EN 50124-1</li> </ul>	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"> <li>• EN 50125-1</li> </ul>	Yes; Rail vehicles - see ambient conditions
<ul style="list-style-type: none"> <li>• EN 50125-2</li> </ul>	Yes; Stationary electrical equipment - see ambient conditions
<ul style="list-style-type: none"> <li>• EN 50125-3</li> </ul>	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"> <li>• EN 50155</li> </ul>	Yes; Rail vehicles - temperature class OT1, ST1/ST2, horizontal mounting position
<ul style="list-style-type: none"> <li>• EN 61373</li> </ul>	Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B
<ul style="list-style-type: none"> <li>• Fire protection acc. to EN 45545-2</li> </ul>	Yes; For proof of conformity, see Service & Support
<b>Ambient conditions</b>	
<b>Free fall</b>	
<ul style="list-style-type: none"> <li>• Fall height, max.</li> </ul>	0.3 m; five times, in product package
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>• min.</li> </ul>	-25 °C; = Tmin (incl. condensation/frost)
<ul style="list-style-type: none"> <li>• max.</li> </ul>	60 °C; = Tmax; +70 °C for 10 min (OT1, ST1/ST2 acc. to EN 50155)
<ul style="list-style-type: none"> <li>• vertical installation, min.</li> </ul>	-25 °C; = Tmin
<ul style="list-style-type: none"> <li>• vertical installation, max.</li> </ul>	50 °C; = Tmax
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>• min.</li> </ul>	-40 °C
<ul style="list-style-type: none"> <li>• max.</li> </ul>	70 °C
<b>Altitude during operation relating to sea level</b>	
<ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> </ul>	2 000 m
<ul style="list-style-type: none"> <li>• Ambient air temperature-barometric pressure-altitude</li> </ul>	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>• With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
<b>Resistance</b>	
Coolants and lubricants	

— Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>	
— 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, *
<b>Use on land craft, rail vehicles and special-purpose vehicles</b>	
— 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; *
<b>Usage in industrial process technology</b>	
— 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)
<b>Remark</b>	
— 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!
<b>Conformal coating</b>	
<ul style="list-style-type: none"> <li>• Coatings for printed circuit board assemblies acc. to EN 61086</li> <li>• Protection against fouling acc. to EN 60664-3</li> <li>• Electronic equipment on rolling stock acc. to EN 50155</li> <li>• Military testing according to MIL-I-46058C, Amendment 7</li> <li>• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul>	<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>
<b>connection method</b>	
required front connector	Yes
<b>Mechanics/material</b>	
Enclosure material (front) <ul style="list-style-type: none"> <li>• Plastic</li> </ul>	Yes
<b>Dimensions</b>	
Width	45 mm
Height	100 mm
Depth	75 mm
<b>Weights</b>	
Weight, approx.	190 g
<b>Other</b>	
Note:	for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776
<b>last modified:</b>	10/9/2024 