



Figure similar

SIPLUS ET 200SP RQ 4x120/230V MA TX rail based on 6ES7132-6MD00-0BB1 with conformal coating, -40...+70 °C, OT4 with ST1/2 (+85 °C for 10 minutes), relay module normally open, suitable for BU type B0 or B1, module diagnostics with manual operation

General information	
Product type designation	RQ 4x120 V DC ... 230 V AC/5 A NO MA ST
Firmware version	
• FW update possible	Yes
usable BaseUnits	BU type B0, B1
Color code for module-specific color identification plate	CC40
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	No
Operating mode	
• DQ	Yes
• DQ with energy-saving function	No
• PWM	No
• Oversampling	No
• MSO	No
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.	100 mA; without load
Power loss	
Power loss, typ.	1.5 W
Address area	
Address space per module	
• Address space per module, max.	1 byte; + 1 byte for QI information
• Inputs	1 byte; With QI
• Outputs	1 byte
Digital outputs	
Type of digital output	Relays
Number of digital outputs	4
Short-circuit protection	No
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.	5 A
• Current per module, max.	20 A
Total current of the outputs (per module)	
horizontal installation	
— up to 50 °C, max.	20 A
— up to 60 °C, max.	16 A
— up to 70 °C, max.	12 A
vertical installation	
— up to 40 °C, max.	20 A
— up to 50 °C, max.	16 A
Relay outputs	
• Number of relay outputs	4
• Rated supply voltage of relay coil L+ (DC)	24 V
• Current consumption of relays (coil current of all relays), max.	40 mA
• external protection for relay outputs	Yes, with 6A
• Number of operating cycles, max.	7 000 000; 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.	5 A; see additional description in the manual
— Thermal continuous current, max.	5 A
— Switching current, min.	100 mA; 5 V DC
— Rated switching voltage (DC)	24 V DC to 120 V DC
— Rated switching voltage (AC)	24V AC to 230V AC
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	200 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire-break	No
• Short-circuit	No
• Group error	Yes
Diagnostics indication LED	
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
• Channel status display	Yes; green LED
• for channel diagnostics	No
• for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
• between the channels	Yes
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	Yes
Isolation	
Isolation tested with	2 545 V DC (type test) and according to EN 50155 (routine test)
tested with	
• between channels and backplane bus/supply voltage	2 545 V DC (type test) and according to EN 50155 (routine test)
• between backplane bus and supply voltage	750 V DC (type test) and according to EN 50155 (routine test)
Standards, approvals, certificates	
Suitable for safety functions	No
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 OV3; pollution degree

• EN 50125-1 • EN 50125-2 • EN 50125-3	PD2; UNm = 230 V AC Yes; Rail vehicles - see ambient conditions Yes; Stationary electrical equipment - see ambient conditions 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 OT4, 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	
Ambient temperature during operation	
• horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max.	-40 °C; = Tmin (incl. condensation/frost) 70 °C; = Tmax; +85 °C for 10 min (OT4, ST1/ST2 acc. to EN 50155) -40 °C; = Tmin 50 °C; = Tmax
Altitude during operation relating to sea level	
• Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude	2 000 m 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 — to chemically active substances according to EN 60721-3-3 — to mechanically 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 Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 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 — to chemically active substances according to EN 60721-3-5 — to mechanically 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 Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * Yes; Class 5S3 incl. sand, dust; *
Usage in industrial process technology	
— Against chemically active substances acc. to EN 60654-4 — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Class 3 (excluding trichlorethylene) 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 • 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	Yes; Class 2 for high reliability Yes; Type 1 protection Yes; Class PC2 protective coating acc. to EN 50155:2017 Yes; Discoloration of coating possible during service life Yes; Conformal coating, Class A
Dimensions	
Width	20 mm
Height	73 mm

Depth	58 mm
Weights	
Weight, approx.	45 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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