



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
based on	6ES7132-6MD00-0BB1
usable BaseUnits	BU type B0, B1
Color code for module-specific color-coded label	CC40
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	No
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	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	
• Inputs	1 byte; + 1 byte for QI information
• Outputs	1 byte
Hardware configuration	
Automatic encoding	Yes
• Mechanical coding element	Yes
• Type of mechanical coding element	type C
Selection of BaseUnit for connection variants	
• 2-wire connection	BU type B1
• 3-wire connection	BU type B0

Digital outputs	
Type of digital output	Relays
Number of digital outputs	4
Current-sinking	Yes
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	No
Switching frequency	
<ul style="list-style-type: none"> with resistive load, max. 	2 Hz
<ul style="list-style-type: none"> with inductive load, max. 	0.5 Hz
<ul style="list-style-type: none"> with inductive load (acc. to IEC 60947-5-1, DC13), max. 	0.5 Hz; provide one freewheeling diode for switching frequencies higher than 0.1 Hz
<ul style="list-style-type: none"> with inductive load (acc. to IEC 60947-5-1, AC15), max. 	0.5 Hz
<ul style="list-style-type: none"> on lamp load, max. 	2 Hz
Total current of the outputs	
<ul style="list-style-type: none"> Current per channel, max. 	5 A
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Number of relay outputs 	4
<ul style="list-style-type: none"> Rated supply voltage of relay coil L+ (DC) 	24 V
<ul style="list-style-type: none"> Current consumption of relays (coil current of all relays), max. 	40 mA
<ul style="list-style-type: none"> external protection for relay outputs 	Yes, with 6A
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> shielded, max. 	1 000 m
<ul style="list-style-type: none"> unshielded, max. 	200 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	Yes
Diagnoses	
<ul style="list-style-type: none"> Monitoring the supply voltage 	Yes
<ul style="list-style-type: none"> Wire break 	No
<ul style="list-style-type: none"> Short-circuit 	No
<ul style="list-style-type: none"> Group error 	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> Monitoring of the supply voltage (PWR-LED) 	Yes; green PWR LED
<ul style="list-style-type: none"> Channel status display 	Yes; green LED
<ul style="list-style-type: none"> for channel diagnostics 	No
<ul style="list-style-type: none"> for module diagnostics 	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	

<ul style="list-style-type: none"> • between the channels 	Yes
<ul style="list-style-type: none"> • between the channels and backplane bus 	Yes
<ul style="list-style-type: none"> • between the channels and the power supply of the electronics 	Yes
Permissible potential difference	
between channels and backplane bus/supply voltage	240 V AC
Isolation	
Isolation tested with	2 545 V DC (type test) and according to EN 50155 (routine test)
tested with	
<ul style="list-style-type: none"> • between channels and backplane bus/supply voltage 	2 545 V DC (type test) and according to EN 50155 (routine test)
<ul style="list-style-type: none"> • 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	
<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 50121-5 	Yes; EMC for fixed installations and railway power supply equipment (shielded cables required)
<ul style="list-style-type: none"> • EN 50124-1 	Yes; Railway applications - overvoltage category OV3; pollution degree PD2; UNm = 230 V AC
<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 OT4, 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	
Ambient temperature during operation	
<ul style="list-style-type: none"> • horizontal installation, min. 	-40 °C; = Tmin (incl. condensation/frost)
<ul style="list-style-type: none"> • horizontal installation, max. 	70 °C; = Tmax; +85 °C for 10 min (OT4, ST1/ST2 acc. to EN 50155)
<ul style="list-style-type: none"> • vertical installation, min. 	-40 °C; = Tmin
<ul style="list-style-type: none"> • vertical installation, max. 	50 °C; = Tmax
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	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas)

and control systems acc. to ANSI/ISA-71.04

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
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Other

Note: for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776

Classifications

	Version	Classification
eClass	14	27-24-26-04
eClass	12	27-24-26-04
eClass	9.1	27-24-26-04
eClass	9	27-24-26-04
eClass	8	27-24-26-04
eClass	7.1	27-24-26-04
eClass	6	27-24-26-04
ETIM	10	EC001599
ETIM	9	EC001599
ETIM	8	EC001599
ETIM	7	EC001599
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

[Manufacturer Declaration](#)



[China RoHS](#)



General Product Approval

EMV



[China RoHS](#)



last modified:

10/23/2025