

SIPLUS ET 200SP DQ 4X24VDC/2A ST TX RAIL -40 ... +70 °C TX with 85 °C for 10 minutes with conformal coating Based on: 6ES7132-6BD20-0BA0 . suitable for BU type A0, Color code CC02, Module diagnostics



General information	
Product type designation	DQ 4x24 V DC/2 A ST
Firmware version	
<ul style="list-style-type: none"> FW update possible 	Yes
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC02
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
Operating mode	
<ul style="list-style-type: none"> DQ DQ with energy-saving function PWM Oversampling MSO 	Yes No No No No
Redundancy	
<ul style="list-style-type: none"> Redundancy capability 	Yes
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.	60 mA; without load
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Output voltage

Rated value (DC)	24 V
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Power loss

Power loss, typ.	1 W
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Address area

Address space per module	
• Address space per module, max.	1 byte; + 1 byte for QI information

Digital outputs

Type of digital output	Source output (PNP, current-sourcing)
Number of digital outputs	4; > +60 °C number of simultaneously controllable outputs max. 2 x 0.25 A or max. 4 x 0.125 A, max. total current 0.5 A
Current-sinking	No
Current-sourcing	Yes
Short-circuit protection	Yes
• Response threshold, typ.	2.8 to 5.2 A
Limitation of inductive shutdown voltage to	Typ. L+ (-50 V)
Controlling a digital input	Yes

Switching capacity of the outputs

• with resistive load, max.	2 A
• on lamp load, max.	10 W

Load resistance range

• lower limit	12 Ω
• upper limit	3 400 Ω

Output current

• for signal "1" rated value	2 A
• for signal "0" residual current, max.	0.1 mA

Output delay with resistive load

• "0" to "1", typ.	50 μs
• "0" to "1", max.	50 μs
• "1" to "0", typ.	100 μs
• "1" to "0", max.	100 μs

Parallel switching of two outputs

• for uprating	No
• for redundant control of a load	Yes

Switching frequency

• with resistive load, max.	100 Hz
• with inductive load, max.	2 Hz
• on lamp load, max.	10 Hz
Total current of the outputs	
• Current per channel, max.	2 A
• Current per module, max.	8 A
Total current of the outputs (per module)	
horizontal installation	
— up to 30 °C, max.	8 A
— up to 40 °C, max.	8 A
— up to 50 °C, max.	6 A
— up to 60 °C, max.	4 A
— up to 70 °C, max.	0.5 A
vertical installation	
— up to 30 °C, max.	8 A
— up to 40 °C, max.	6 A
— up to 50 °C, max.	4 A
— up to 60 °C, max.	4 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	No
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnostic messages	
• Monitoring the supply voltage	Yes
• Wire-break	Yes; Module-wise
• Short-circuit	Yes; Module-wise
• 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
- between the channels and backplane bus

No
Yes

Isolation

Isolation tested with

707 V DC (type test) and according to EN 50155 (routine test)

Standards, approvals, certificates

Railway application

- | | |
|--|---|
| <ul style="list-style-type: none"> • EN 50121-3-2 • EN 50121-4 • EN 50124-1 | <p>Yes; EMC for rail vehicles</p> <p>Yes; EMC for signal and telecommunications systems</p> <p>Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC</p> |
| <ul style="list-style-type: none"> • EN 50125-1 • EN 50125-2 • EN 50125-3 | <p>Yes; Rail vehicles - see ambient conditions</p> <p>Yes; Stationary electrical equipment - see ambient conditions</p> <p>Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track)</p> |
| <ul style="list-style-type: none"> • EN 50155 | <p>Yes; Rail vehicles - temperature class Tx, horizontal mounting position, salt spray Class ST2</p> |
| <ul style="list-style-type: none"> • EN 61373 | <p>Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B</p> |
| <ul style="list-style-type: none"> • Fire protection acc. to EN 45545-2 | <p>Yes; Rail vehicles - verification on request</p> |

Ambient conditions

Ambient temperature during operation

- | | |
|---|---|
| <ul style="list-style-type: none"> • horizontal installation, min. | <p>-40 °C; = Tmin</p> |
| <ul style="list-style-type: none"> • horizontal installation, max. | <p>70 °C; = Tmax; +85 °C for 10 min (Tx acc. to EN 50155)</p> |

Altitude during operation relating to sea level

- | | |
|--|---|
| <ul style="list-style-type: none"> • Installation altitude above sea level, max. | <p>2 000 m</p> |
| <ul style="list-style-type: none"> • Ambient air temperature-barometric pressure-altitude | <p>Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)</p> |

Relative humidity

- | | |
|---|--|
| <ul style="list-style-type: none"> • With condensation, tested in accordance with IEC 60068-2-38, max. | <p>100 %; RH incl. condensation/frost (no commissioning under condensation conditions)</p> |
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Resistance

Coolants and lubricants

- | | |
|---|------------|
| <ul style="list-style-type: none"> — Resistant to commercially available coolants and lubricants | <p>Yes</p> |
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Use in stationary industrial systems

- | | |
|---|---|
| <ul style="list-style-type: none"> — to biologically active substances according to EN 60721-3-3 | <p>Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</p> |
| <ul style="list-style-type: none"> — to chemically active substances according to EN 60721-3-3 | <p>Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *</p> |
| <ul style="list-style-type: none"> — to mechanically active substances according to EN 60721-3-3 | <p>Yes; Class 3S4 incl. sand, dust, *</p> |

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 50155 (ST2); *

Yes; Class 5S3 incl. sand, dust; *

from supply voltage 1L+

- Note regarding classification of environmental conditions acc. to EN 60721

* The supplied plug covers must remain in place over the unused interfaces during operation!

Dimensions

Width	15 mm
Height	73 mm
Depth	58 mm

Weights

Weight, approx.	30 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

last modified:

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