SIEMENS

Data sheet   **3RQ1000-1LB00**

Positively driven coupling relay in industrial enclosure 4 NO contacts / 1 NC contact 24 V DC SIL 2 / PL c screw terminal

product brand name	SIRIUS
product designation	force-guided coupling relay
design of the product	fail-safe up to SIL 2/PL c
product type designation	3RQ1
General technical data	
consumed active power	1.3 W
insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value	300 V
degree of pollution	3
surge voltage resistance rated value	4 kV
protection class IP	IP20
shock resistance	
● according to IEC 60068-2-27	11g / 15 ms
vibration resistance	
● according to IEC 60068-2-6	10 ... 55 Hz: 0.35 mm
operating frequency maximum	360 1/h
switching behavior	monostable
mechanical service life (operating cycles) typical	10 000 000
thermal current of the switching element with contacts maximum	5 A
reference code according to IEC 81346-2	K
Substance Prohibitance (Date)	05/31/2018
Product Function	
suitability for operation device connector 3ZY12	Yes
Control circuit/ Control	
control supply voltage 1	
● at DC rated value	24 V
● at DC	24 ... 24 V
operating range factor control supply voltage rated value at DC	
● initial value	0.8
● full-scale value	1.2
ON-delay time	
● at AC maximum	15 ms
● at DC maximum	15 ms
OFF-delay time	35 ms
design of the relay operating mechanism	poled
product component plug-in socket	No
Short-circuit protection	
design of the fuse link for short-circuit protection of the auxiliary switch required	fuse gL/gG: 6 A

Auxiliary circuit	
material of switching contacts	AgSnO2 + Au flash
number of NC contacts for auxiliary contacts	1
number of NO contacts for auxiliary contacts	4
number of CO contacts for auxiliary contacts	0
type of voltage	DC
ampacity of the output relay at AC-15	
● at 250 V at 50/60 Hz	1.5 A
ampacity of the output relay at DC-13	
● at 24 V	1 A
● at 125 V	0.2 A
● at 250 V	0.1 A

Electromagnetic compatibility	
EMC emitted interference according to IEC 60947-1	ambience A (industrial sector)
EMC immunity according to IEC 60947-1	corresponds to degree of severity 3
conducted interference	
● due to burst according to IEC 61000-4-4	2 kV
● due to conductor-earth surge according to IEC 61000-4-5	2 kV (line to ground)
● due to conductor-conductor surge according to IEC 61000-4-5	1 kV (line to line)
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	4 kV contact discharging, 8 kV air discharging

Safety related data	
Safety Integrity Level (SIL) according to IEC 61508	2
SIL Claim Limit (subsystem) according to EN 62061	2
performance level (PL) according to EN ISO 13849-1	c
PFHD	
● with high demand rate according to IEC 61508	9.5E-7 1/h
● with low demand rate according to IEC 61508	0.004 1/h
hardware fault tolerance according to IEC 61508	0
electromagnetic compatibility	IEC 60947-1 / IEC 61000-6-2 / IEC 61000-6-4

Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	screw-type terminals
wire length at DC maximum	2 000 m
type of connectable conductor cross-sections	
● solid	1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)
● finely stranded with core end processing	1x (0.5 ... 4 mm²), 2x (0.5 ... 1.5 mm²)
● for AWG cables solid	1x (20 ... 12), 2x (20 ... 14)
connectable conductor cross-section	
● solid	0.5 ... 4 mm²
● finely stranded with core end processing	4 mm²
● finely stranded without core end processing	0.5 mm²
AWG number as coded connectable conductor cross section	
● solid	12 ... 20
● stranded	12 ... 20
tightening torque with screw-type terminals	0.6 ... 0.8 N·m
stripped length of the cable for auxiliary and control contacts	10 mm

Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm DIN rail
height	100 mm
width	22.5 mm
depth	120 mm

Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
● during operation	-25 ... +60 °C
● during storage	-40 ... +80 °C

● during transport	-40 ... +80 °C
relative humidity during operation	10 ... 95 %

Certificates/ approvals

General Product Approval

CSA	CCC	[Confirmation](#)	TÜV	UL	EAC

EMC	Declaration of Conformity		Marine / Shipping	other
RCM	UKCA	CE EG-Konf.	DNV	[Confirmation](#)

Further information

Siemens has decided to exit the Russian market (see here).
https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.
Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875

Information- and Downloadcenter (Catalogs, Brochures,…)
https://www.siemens.com/ic10

Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RQ1000-1LB00

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RQ1000-1LB00

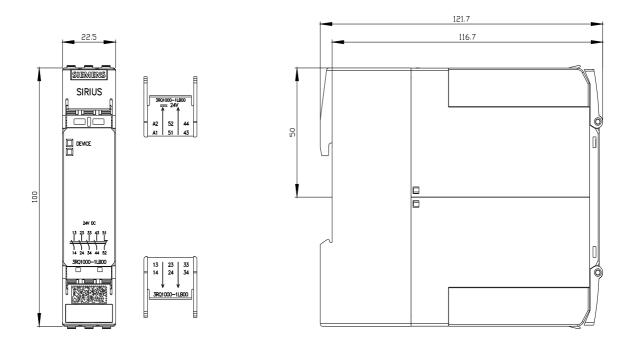**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
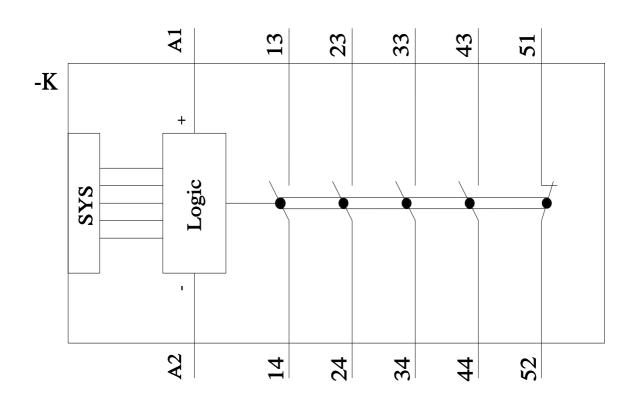https://support.industry.siemens.com/cs/ww/en/ps/3RQ1000-1LB00

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RQ1000-1LB00&lang=en

Characteristic: Derating
https://support.industry.siemens.com/cs/ww/en/ps/3RQ1000-1LB00/manual

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SIRIUS

DEVICE

24V DC

13 23 33 43 51

14 24 34 44 52

3RQ1000-1LB00

22.5

100

3RQ1000-1LB00
24V

A2 | 52 | 44
A1 | 51 | 43

13 | 23 | 33
14 | 24 | 34
3RQ1000-1LB00

121.7

116.7

50

-K

A1   13   23   33   43   51

SYS   Logic   +

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A2   14   24   34   44   52

6/19/2023