SIEMENS

Data sheet 3RQ1000-1GB00

Positively driven coupling relay in industrial enclosure 2 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	
product feature protective coating on printed-circuit board	No
consumed active power	0.9 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
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
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7
Product Function	
suitability for operation device connector 3ZY12	Yes
Control circuit/ Control	
control supply voltage 1 at DC	
● rated value	24 V
●	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 maximum	35 ms
Switching Function	
design of the switching function	NC contact and NO contact
Mechanical data	

product component plug-in socket	No
design of the relay operating mechanism	poled
Short-circuit protection	
design of the fuse link for short-circuit protection of the auxiliary switch required	NO: fuse gL/gG: 6 A; NC: fuse gL/gG: 4 A
Auxiliary circuit	
material of switching contacts	AgNi + Au flash
number of NC contacts for auxiliary contacts	1
number of NO contacts for auxiliary contacts	2
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	2 A
ampacity of the output relay at DC-13	
● at 24 V	2 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	
product function	
● positively driven operation according to IEC 60947-5-1	Yes
suitability for use	
● safety-related switching on	No
● safety-related switching OFF	Yes
service life maximum	20 a
test wear-related service life necessary	Yes
stop category according to IEC 60204-1	0
MTTFd	470 a
IEC 62061	
SIL Claim Limit (subsystem) according to EN 62061	2
Safety Integrity Level (SIL)	
● **according to IEC 62061**	2
ISO 13849	
performance level (PL) according to EN ISO 13849-1	c
category according to EN ISO 13849-1	2
performance level (PL) according to ISO 13849-1	c
category according to ISO 13849-1	1
overdimensioning according to ISO 13849-2 necessary	No
IEC 61508	
Safety Integrity Level (SIL) according to IEC 61508	2
safety device type according to IEC 61508-2	Type A
PFHD with high demand rate according to IEC 61508	6E-7 1/h
PFHD with low demand rate according to IEC 61508	0.004 1/h
PFDavg with low demand rate according to IEC 61508	0.002
Safe failure fraction (SFF)	85 %
hardware fault tolerance according to IEC 61508	0
T1 value	
● of service life according to IEC 61508	20 a
● for proof test interval or service life according to IEC 61508	20 a
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes

type of electrical connection	screw terminal
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 maximum	4 mm²
● finely stranded without core end processing minimum	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	17.5 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 %

Approvals Certificates

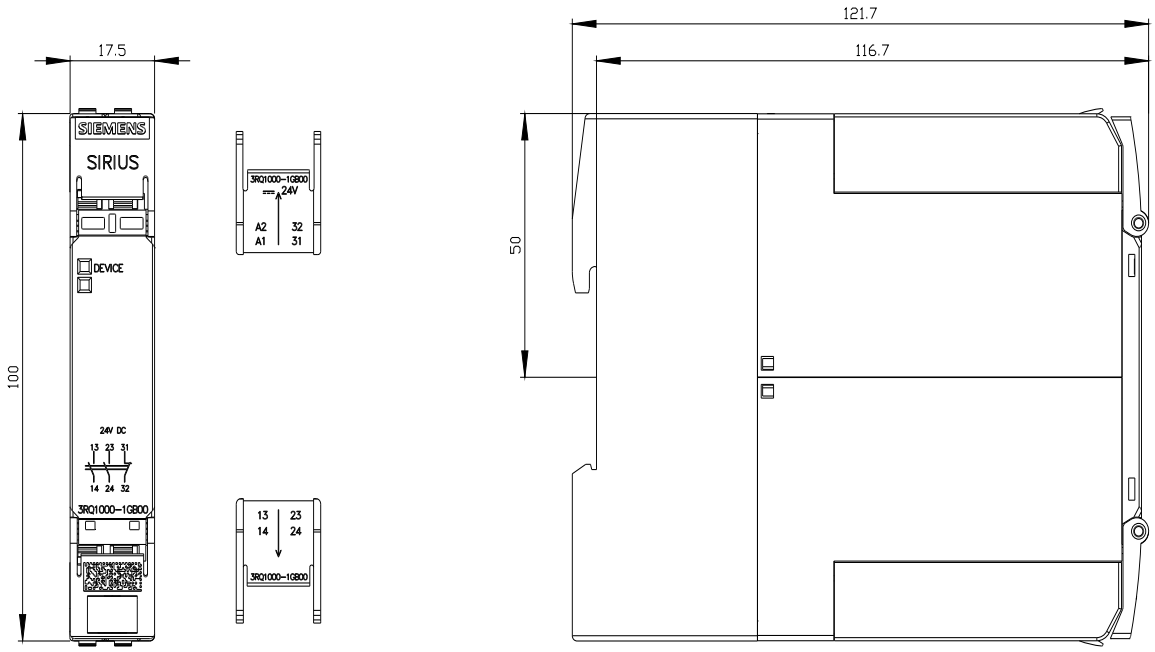
General Product Approval

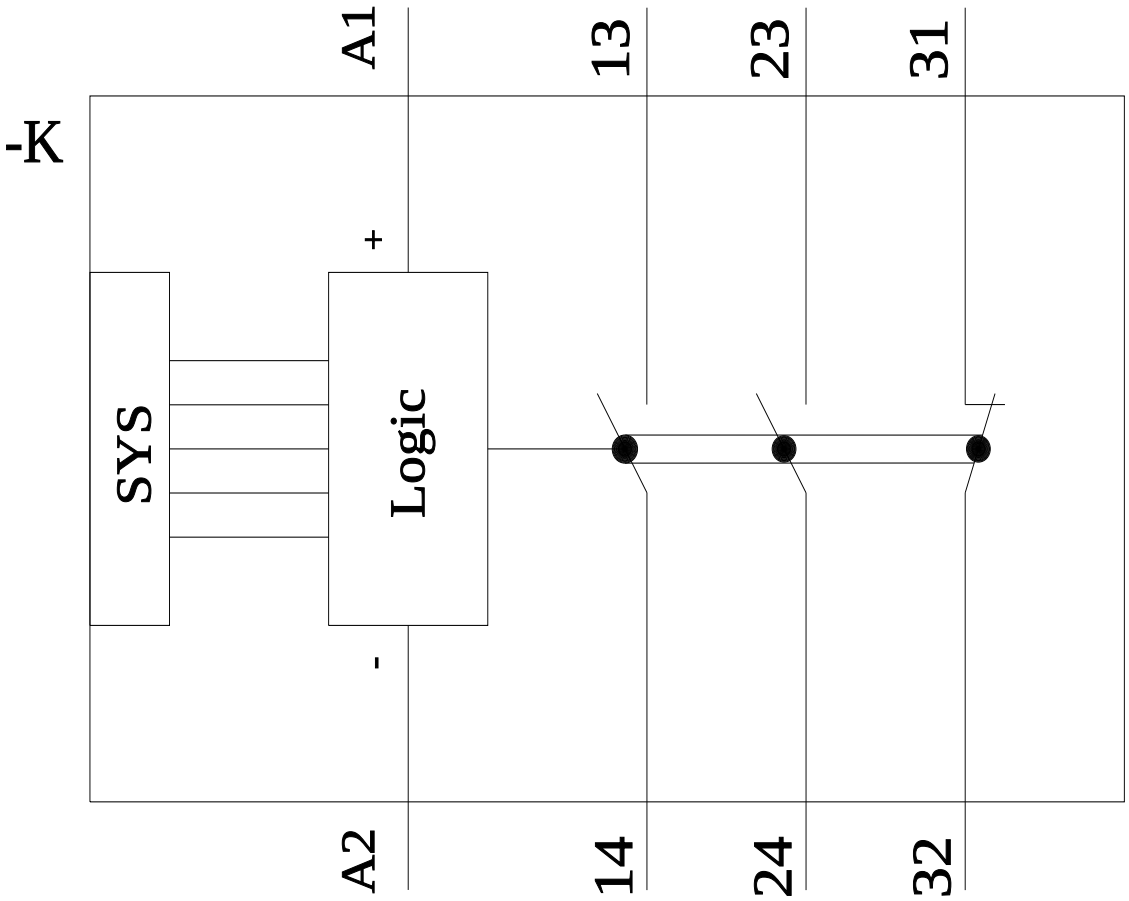

Confirmation


General Product Approval	EMV	Marine / Shipping	other	Environment
			Confirmation	Environmental Confirmations

Further information

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=3RQ1000-1GB00
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RQ1000-1GB00
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RQ1000-1GB00
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RQ1000-1GB00&lang=en
Characteristic: Derating
https://support.industry.siemens.com/cs/ww/en/ps/3RQ1000-1GB00/manual





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