



force-guided coupling relay in industrial enclosure 1 NO contact / 1 NC contact (24 V) 24 V DC SIL 3 / PL e screw terminal

product brand name	SIRIUS
product designation	force-guided coupling relay
design of the product	fail-safe up to SIL 3/PL e
product type designation	3RQ1
<b>General technical data</b>	
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
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
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5
Weight	0.161 kg
<b>Product Function</b>	
suitability for operation device connector 3ZY12	Yes
<b>Control circuit/ Control</b>	
control supply voltage at DC rated value	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
<b>Switching Function</b>	
design of the switching function	NO contact
<b>Mechanical data</b>	

product component plug-in socket	No
design of the relay operating mechanism	poled
<b>Short-circuit protection</b>	
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
<b>Auxiliary circuit</b>	
material of switching contacts	AgNi + Au flash
number of NC contacts for auxiliary contacts	0
number of NO contacts for auxiliary contacts	1
number of CO contacts for auxiliary contacts	0
type of voltage	DC
<b>Inputs/ Outputs</b>	
output current minimum	1 mA
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
<b>Electromagnetic compatibility</b>	
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
<b>Display</b>	
product component LED	Yes
<b>Safety related data</b>	
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
safe state	safe shutdown
test wear-related service life necessary	Yes
stop category according to IEC 60204-1	0
IEC 62061	
Safety Integrity Level (SIL)	
• according to IEC 62061	SIL 3
ISO 13849	
performance level (PL) according to ISO 13849-1	PL e
category according to ISO 13849-1	4
device type according to ISO 13849-1	1
overdimensioning according to ISO 13849-2 necessary	No
IEC 61508	
Safety Integrity Level (SIL) according to IEC 61508	SIL 3
safety device type according to IEC 61508-2	Type A
PFHD with high demand rate according to IEC 61508	5E-10 1/h
PFDavg with low demand rate according to IEC 61508	8E-7
Safe failure fraction (SFF)	99 %
hardware fault tolerance according to IEC 61508	1
T1 value of service life according to IEC 61508	20 a
<b>Connections/ Terminals</b>	
product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	screw terminal
wire length at DC maximum	2 000 m

<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• for AWG cables solid</li> </ul>	1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> ) 1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> ) 1x (20 ... 12), 2x (20 ... 14)
<b>connectable conductor cross-section</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing maximum</li> <li>• finely stranded without core end processing minimum</li> </ul>	0.5 ... 4 mm <sup>2</sup> 4 mm <sup>2</sup> 0.5 mm <sup>2</sup>
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>	12 ... 20 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

<b>mounting position</b>	any
<b>fastening method</b>	screw and snap-on mounting onto 35 mm DIN rail
<b>height</b>	100 mm
<b>width</b>	17.5 mm
<b>depth</b>	120 mm

#### Ambient conditions

installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> </ul>	-25 ... +60 °C -40 ... +80 °C -40 ... +80 °C
relative humidity during operation	10 ... 95 %

#### Approvals Certificates

##### General Product Approval



[TUEV](#)

EMV	Maritime application	other	Environment
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[Confirmation](#)

[Environmental Confirmations](#)

#### Further information

##### Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

##### Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

##### 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=3RQ1200-1EB00>

##### Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RQ1200-1EB00>

##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RQ1200-1EB00>

##### Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RQ1200-1EB00&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RQ1200-1EB00&lang=en)



