SIEMENS

Data sheet 3RF2120-1AA42

Semiconductor relay, 1-phase 3RF2 Width 22.5 mm, 20 A 24-230 V / 4-30 V DC screw terminal



product brand name	SIRIUS
product designation	solid-state relay
product type designation	3RF21
manufacturer's article number	
_1 / of the accessories that can be ordered	3RF2900-3PA88
_2 / of the accessories that can be ordered	3RF2920-0HA13
 _3 / of the accessories that can be ordered 	3RF2900-0EA18
_4 / of the accessories that can be ordered	3RF2920-0GA13
_5 / of the accessories that can be ordered	3RF2920-0FA08
product designation	
_1 / of the accessories that can be ordered	terminal cover
 _2 / of the accessories that can be ordered 	power regulator
 _3 / of the accessories that can be ordered 	converter
 _4 / of the accessories that can be ordered 	load monitoring
_5 / of the accessories that can be ordered	load monitoring, basis
General technical data	
product function	zero-point switching
power loss [V•A] / maximum	28.6 V·A

power loss [W] / for rated value of the current / at AC / in hot operating state	28.6 W
insulation voltage	
• rated value	600 V
protection class IP	IP20
shock resistance / acc. to IEC 60068-2-27	15g / 11 ms
vibration resistance / acc. to IEC 60068-2-6	2g
reference code / acc. to DIN EN 81346-2	Q
Marine alternation	
Main circuit number of poles / for main current circuit	1
number of NO contacts / for main contacts	1
number of NC contacts / for main contacts	0
operating voltage / at AC	· ·
• at 50 Hz / rated value	24 230 V
at 60 Hz / rated value at 60 Hz / rated value	24 230 V
operating frequency / rated value	50 60 Hz
relative symmetrical tolerance / of the operating frequency	10 %
operating range relative to the operating voltage / at	
AC	
● at 50 Hz	20 253 V
● at 60 Hz	20 253 V
operating current	
• at AC-51 / rated value	20 A
● acc. to UL 508 / rated value	20 A
ampacity / maximum	20 A
operating current / minimum	100 mA
rate of voltage rise / at the thyristor / for main contacts / maximum permissible	500 V/μs
blocking voltage / at the thyristor / for main contacts /	800 V
maximum permissible	40 4
reverse current / of the thyristor	10 mA
derating temperature	40 °C
surge current resistance / rated value	200 A
I2t value / maximum	200 A²·s
Control circuit/ Control	
type of voltage / of the control supply voltage	DC
control supply voltage / 1	
• at DC / rated value	30 V
• at DC	4 30 V

control supply voltage

• at DC / initial value for signal <1> detection

4 V

at DC / full-scale value for signal<0> recognition control current / at minimum control supply voltage at DC control current / at DC / rated value 15 mA switch-on delay time 1 ms; additionally max. one half-wave Off-delay time 1 ms; additionally max. one half-wave Off-delay time 1 ms; additionally max. one half-wave Off-delay time 1 ms; additionally max. one half-wave Off-delay time 1 ms; additionally max. one half-wave Omenator of NO contacts / for auxiliary contacts 0 number of NO contacts / for auxiliary contacts 0 number of NO contacts / for auxiliary contacts 0 number of OC contacts / for auxiliary contacts 0 number of OC contacts / for auxiliary contacts 0 vessel fixing **exish-ye-side mounting **Yes **height **width 22.5 mm depth 48 mm **Connections/ Terminals **Upe of electrical connection • for main current circuit • for auxiliary and control current circuit **ype of connectable conductor cross-sections • for main contacts - solid - finely stranded / with core end processing • at AWG conductors / for main contacts **Uppe of connectable conductor cross-sections • for auxiliary and control contacts - solid - finely stranded / with core end processing - finely stranded / with our end processing - finely stranded		
• at DC control current/ at DC / rated value switch-on delay time Off-delay time 1 ms; additionally max. one half-wave number of NC contacts / for auxiliary contacts 0 number of NC contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 screw-fixing 9 es wide-by-side mounting 9 screw-fixing 9 es wide-by-side mounting 9 ves 9 smm 9 width 9 depth 9 depth 9 de mm 9 contacts / for main contacts 1 of or auxiliary and control current circuit 1 of or auxiliary and control contacts 1 of or auxiliary and control contacts 1 of neley stranded / with core end processing 1 of neley stranded / with core end processing 1 of neley stranded / with core end processing 1 of new for auxiliary and control contacts 1 of new for auxiliary and control contacts 1 of or auxiliary and control contacts / with screw-type terminals 1 of or auxiliary and control contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type terminals 1 of or main contacts / with screw-type term	_	1 V
control current / at DC / rated value switch-on delay time Off-delay time Off-delay time I ms; additionally max. one half-wave Off-delay time I ms; additionally max. one half-wave Off-delay time I ms; additionally max. one half-wave O mumber of NC contacts / for auxiliary contacts O mumber of NC contacts / for auxiliary contacts O mumber of CO contacts / for auxiliary contacts O linstallation/ mounting / dimensions mounting type • side-by-side mounting • side-by-side mounting As mm Vidth depth ### As mm Connections/ Terminals **Connections/ Terminals **Or of electrical connection • for main current circuit • for auxiliary and control current circuit **Screw-type terminals **Off main contacts - solid - finely stranded / with core end processing • at AWG conductors / for main contacts - solid - finely stranded / with core end processing - finely stranded	control current / at minimum control supply voltage	
switch-on delay time Off-delay time Off-delay time I ms; additionally max. one half-wave Off-delay time I ms; additionally max. one half-wave I max additionally max. one half-wave I ms; additionally max. one half-wave I max additionally max. one half-wave I max additionally max. one half-wave I ms; additionally max. one half-wave I max additionally max. one half-wave I ms; additionally max. one half-wave I max additionally max. one half-wave I ms; additionally max. one half-wave I max additionally max. one I ms; additionally max. one I ms; additionally max. one I ms; additionally and contacts ones. I ms; additionally max. one I ms; additionally and contacts ones. I ms; additionally max. one I ms; additionally max. one I ms; additionally and contacts ones. I ms; additionally max. one	• at DC	13 mA
Off-delay time 1 ms; additionally max. one half-wave number of NC contacts / for auxiliary contacts 0 number of NO contacts / for auxiliary contacts 0 number of NO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / for auxiliary contacts 0 number of CO contacts / with screw-type terminals 0 number of NO contacts / with screw-type terminals	control current / at DC / rated value	15 mA
number of NC contacts / for auxiliary contacts number of NO contacts / for auxiliary contacts number of CO contacts / for auxiliary contacts number of CO contacts / for auxiliary contacts number of CO contacts / for auxiliary contacts Note	switch-on delay time	1 ms; additionally max. one half-wave
number of NO contacts / for auxiliary contacts number of CO contacts / for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals e for main contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for auxiliary and control contacts / with screw-type terminals e for	Off-delay time	1 ms; additionally max. one half-wave
Installation/ mounting/ dimensions mounting type	number of NC contacts / for auxiliary contacts	0
mounting type side-by-side mounting height stide-by-side mounting width depth 48 mm Connections/ Terminals type of electrical connection for main current circuit screw-type terminals for main contacts - solid - finely stranded / with core end processing of rauxiliary and control contacts - solid - finely stranded / with core end processing finely stranded / with core end processing for auxiliary and control contacts for auxiliary and control contacts 1 x (0.5 2.5 mm²), 2x (2.5 6 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²) 2x (14 10) stype of connectable conductor cross-sections for auxiliary and control contacts finely stranded / with core end processing finely stranded / without core end processing at AWG conductors / for auxiliary and control contacts fightening torque for main contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals	number of NO contacts / for auxiliary contacts	0
mounting type	number of CO contacts / for auxiliary contacts	0
mounting type	Installation/ mounting/ dimensions	
Side-by-side mounting Yes		screw fixing
height width 22.5 mm depth 48 mm Connections/ Terminals type of electrical connection		
width depth 22.5 mm 48 mm Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control current circuit - solid - finely stranded / with core end processing • at AWG conductors / for main contacts - solid - finely stranded / with core end processing • for auxiliary and control contacts - solid - finely stranded / with core end processing • at AWG conductors / for main contacts - solid - finely stranded / with core end processing - finely stranded / without core end processing - at AWG conductors / for auxiliary and control contacts tightening torque • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals tightening torque [lbf·in] • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals		
Connections/ Terminals type of electrical connection for main current circuit for auxiliary and control current circuit screw-type terminals screw-type terminals type of connectable conductor cross-sections 2x (1.5 2.5 mm²), 2x (2.5 6 mm²) - solid 2x (1.5 2.5 mm²), 2x (2.5 6 mm²) - finely stranded / with core end processing 2x (14 10) type of connectable conductor cross-sections 6 for auxiliary and control contacts - solid 1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²), 1x 10 mm² - solid 1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²) - finely stranded / with core end processing 1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²) - finely stranded / without core end processing 1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²) - at AWG conductors / for auxiliary and control contacts 1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²) - for main contacts / with screw-type terminals 2 2.5 mr², 2x (0.5 1.0 mm²) - for main contacts / with screw-type terminals 2 2.5 mr², 2x (0.5 1.0 mm²) - for auxiliary and control contacts / with screw-type terminals 2 2.5 mr², 2x (0.5 1.0 mm²) - for main contacts / with screw-type terminals 2 2.5 N·m - for main contacts / with screw-type		
type of electrical connection • for main current circuit • for auxiliary and control current circuit screw-type terminals • for main contacts • for main contacts • for main contacts - solid - finely stranded / with core end processing • for auxiliary and control contacts - solid - finely stranded / with core end processing • for auxiliary and control contacts - solid - finely stranded / with core end processing • for auxiliary and control contacts - solid - finely stranded / with core end processing - finely stranded / with core end processing - finely stranded / without core end processing • at AWG conductors / for auxiliary and control contacts (1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²) 1x (0.5		
type of electrical connection	шорш.	10 111111
• for main current circuit • for auxiliary and control current circuit type of connectable conductor cross-sections • for main contacts — solid — finely stranded / with core end processing • at AWG conductors / for main contacts — solid — finely stranded / with core end processing • for auxiliary and control contacts — solid — finely stranded / with core end processing • for auxiliary and control contacts — solid — finely stranded / with core end processing — finely stranded / with core end processing — finely stranded / without core end processing • at AWG conductors / for auxiliary and control contacts tightening torque • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals		
• for auxiliary and control current circuit type of connectable conductor cross-sections • for main contacts — solid — finely stranded / with core end processing • at AWG conductors / for main contacts • for auxiliary and control contacts — solid — finely stranded / with core end processing • for auxiliary and control contacts — solid — finely stranded / with core end processing — finely stranded / with core end processing — finely stranded / without core end processing — at AWG conductors / for auxiliary and control contacts • at AWG conductors / for auxiliary and control contacts tightening torque • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals tightening torque [lbf-in] • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals	••	
• for main contacts — solid — finely stranded / with core end processing • at AWG conductors / for main contacts — solid — finely stranded / with core end processing • for auxiliary and control contacts — solid — finely stranded / with core end processing — finely stranded / without core end processing — finely stranded / without core end processing — at AWG conductors / for auxiliary and control contacts • at AWG conductors / for auxiliary and control contacts itghtening torque • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals		
 • for main contacts — solid — finely stranded / with core end processing • at AWG conductors / for main contacts (**) type of connectable conductor cross-sections • for auxiliary and control contacts — solid — finely stranded / with core end processing — finely stranded / without core end processing — finely stranded / without core end processing — at AWG conductors / for auxiliary and control contacts **Torrightening torque* • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control	· · · · · · · · · · · · · · · · · · ·	screw-type terminals
solid	type of connectable conductor cross-sections	
 finely stranded / with core end processing at AWG conductors / for main contacts type of connectable conductor cross-sections for auxiliary and control contacts — solid — finely stranded / with core end processing — finely stranded / without core end processing — finely stranded / without core end processing • at AWG conductors / for auxiliary and control contacts tightening torque • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for main contacts / with screw-type terminals • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals 	• for main contacts	
at AWG conductors / for main contacts type of connectable conductor cross-sections for auxiliary and control contacts	— solid	2x (1.5 2.5 mm²), 2x (2.5 6 mm²)
type of connectable conductor cross-sections • for auxiliary and control contacts — solid — finely stranded / with core end processing — finely stranded / without core end processing • at AWG conductors / for auxiliary and control contacts tightening torque • for auxiliary and control contacts / with screw-type terminals • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals	 finely stranded / with core end processing 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
 for auxiliary and control contacts — solid — finely stranded / with core end processing — finely stranded / without core end processing • at AWG conductors / for auxiliary and control contacts tightening torque • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals tightening torque [lbf-in] • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with	 at AWG conductors / for main contacts 	2x (14 10)
- solid - finely stranded / with core end processing - finely stranded / without core end processing - finely stranded / without core end processing - finely stranded / without core end processing - at AWG conductors / for auxiliary and control contacts tightening torque - for main contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals tightening torque [lbf-in] - for main contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and control contacts / with screw-type terminals - for auxiliary and cont	type of connectable conductor cross-sections	
 finely stranded / with core end processing finely stranded / without core end processing at AWG conductors / for auxiliary and control contacts for main contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for main contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals 	 for auxiliary and control contacts 	
— finely stranded / without core end processing • at AWG conductors / for auxiliary and control contacts tightening torque • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals tightening torque [lbf-in] • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals	— solid	1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)
processing • at AWG conductors / for auxiliary and control contacts tightening torque • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals tightening torque [lbf-in] • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals	— finely stranded / with core end processing	1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)
tightening torque • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals tightening torque [lbf-in] • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals	-	1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)
 for main contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals tightening torque [lbf-in] for main contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals 10.3 lbf-in 4.5 5.3 lbf-in 	-	1x (AWG 20 12)
 for auxiliary and control contacts / with screwtype terminals tightening torque [lbf-in] for main contacts / with screw-type terminals for auxiliary and control contacts / with screwtype terminals 5 10.6 N·m 7 10.3 lbf-in 4.5 5.3 lbf-in 	tightening torque	
tightening torque [lbf·in] • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals • tightening torque [lbf·in] • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals	• for main contacts / with screw-type terminals	2 2.5 N·m
 for main contacts / with screw-type terminals for auxiliary and control contacts / with screw-type terminals 7 10.3 lbf·in 4.5 5.3 lbf·in 		0.5 0.6 N·m
• for auxiliary and control contacts / with screw- type terminals 4.5 5.3 lbf·in	tightening torque [lbf·in]	
type terminals	• for main contacts / with screw-type terminals	7 10.3 lbf·in
		4.5 5.3 lbf·in
design of the thread / of the connection screw	design of the thread / of the connection screw	

for main contacts	M4
of the auxiliary and control contacts	M3
wire stripping length / of the cable	NIO .
• for main contacts	7 mm
	7 mm
for auxiliary and control contacts	7 111111
Ambient conditions	
installation altitude / at height above sea level /	1 000 m
maximum	
ambient temperature	
during operation	-25 +60 °C
during storage	-55 +80 °C
Electromagnetic compatibility	
conducted interference	
• due to burst / acc. to IEC 61000-4-4	2 kV / 5 kHz behavior criterion 2
 due to conductor-earth surge / acc. to IEC 61000-4-5 	2 kV behavior criterion 2
• due to conductor-conductor surge / acc. to IEC 61000-4-5	1 kV behavior criterion 2
 due to high-frequency radiation / acc. to IEC 61000-4-6 	140 dBuV in the frequency range 0.15 80 MHz, behavior criterion 1
electrostatic discharge / acc. to IEC 61000-4-2	4 kV contact discharging / 8 kV air discharging, behavior criterion 2
conducted HF-interference emissions / acc. to CISPR11	Class A for industrial environment
field-bound HF-interference emission / acc. to CISPR11	Class B for the domestic, business and commercial environments
Short-circuit protection, design of the fuse link	
manufacturer's article number	
 of gS fuse for semiconductor protection / at NH design 	<u>3NE1814-0</u>
 of full range R fuse link for semiconductor protection / at cylindrical design 	<u>5SE1325</u>
 of back-up R fuse link for semiconductor protection / at NH design 	3NE8015-1
 of back-up R fuse link for semiconductor protection / at cylindrical design 10 x 38 mm 	3NC1032
 of back-up R fuse link for semiconductor protection / at cylindrical design 14 x 51 mm 	3NC1430
 of back-up R fuse link for semiconductor protection / at cylindrical design 22 x 58 mm 	3NC2225
manufacturer's article number / of the gG fuse	
• at NH design	3NA6803; These fuses have a smaller rated current than the semiconductor relays

 at cylindrical design 10 x 38 mm at cylindrical design 14 x 51 mm 	3NW6001-1; These fuses have a smaller rated current than the semiconductor relays 3NW6101-1; These fuses have a smaller rated current than the semiconductor relays
manufacturer's article number	
• of DIAZED fuse	5SB141; These fuses have a smaller rated current than the semiconductor relays
• of NEOZED fuse	5SE2306; These fuses have a smaller rated current than the semiconductor relays

Certificates/ approvals

General Product Approval

EMC

Declaration of Conformity











Miscellaneous

Test Certificates

other

Railway

Type Test Certificates/Test Report

Special Test Certificate

Confirmation



Vibration and Shock

Further information

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=3RF2120-1AA42

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2120-1AA42

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

https://support.industry.siemens.com/cs/ww/en/ps/3RF2120-1AA42

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2120-1AA42&lang=en







