

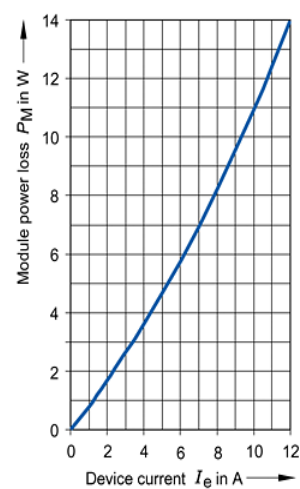
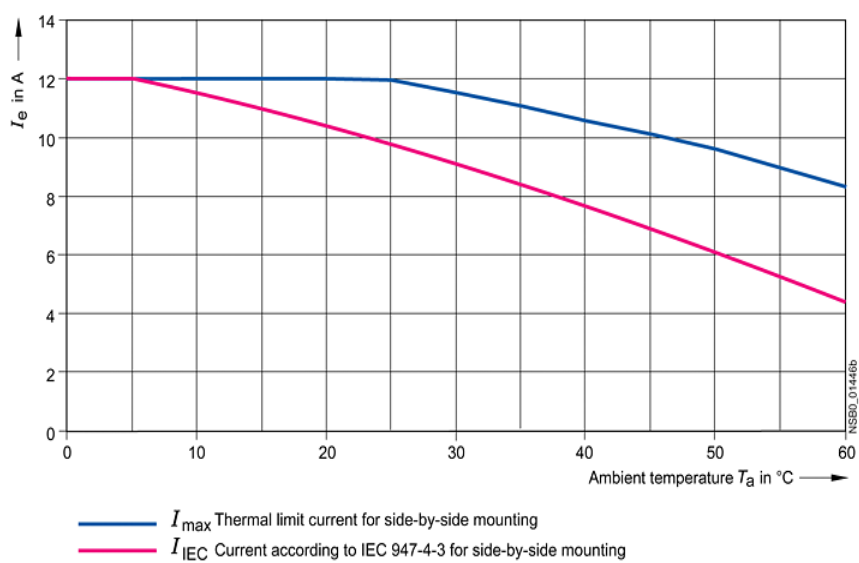
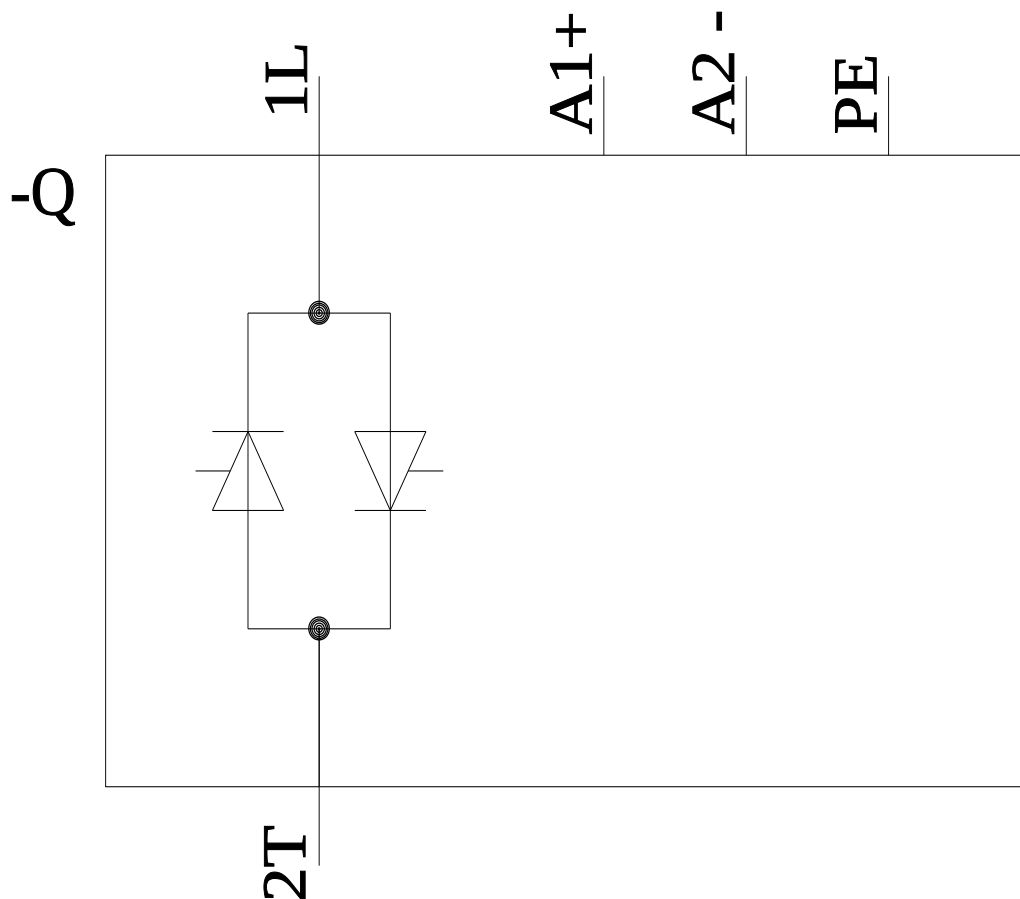


Solid-state contactor 1-phase 3RF2 AC 51 / 10.5 A / 40 °C 24-230 V / 24 V
AC/DC screw terminal

product brand name	SIRIUS
product designation	solid-state contactor
design of the product	single-phase
product type designation	3RF23
manufacturer's article number	
• _1 of the accessories that can be ordered • _3 of the accessories that can be ordered • _4 of the accessories that can be ordered	3RF2900-3PA88 3RF2900-0EA18 3RF2920-0GA13
product designation	
• _1 of the accessories that can be ordered • _3 of the accessories that can be ordered • _4 of the accessories that can be ordered	terminal cover converter load monitoring
General technical data	
product function	zero-point switching
power loss [W] for rated value of the current	
• at AC in hot operating state • at AC in hot operating state per pole • without load current share typical	11 W 11 W 0.5 W
insulation voltage rated value	600 V
degree of pollution	3
type of voltage of the control supply voltage	AC/DC
surge voltage resistance of main circuit rated value	6 kV
shock resistance according to IEC 60068-2-27	15g / 11 ms
vibration resistance according to IEC 60068-2-6	2g
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	05/28/2009
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 • at 60 Hz rated value	24 ... 230 V 24 ... 230 V
operating frequency rated value	50 ... 60 Hz
operating range relative to the operating voltage at AC	
• at 50 Hz • at 60 Hz	20 ... 253 V 20 ... 253 V
operational current	
• at AC-51 rated value • at AC-51 according to IEC 60947-4-3 • according to UL 508 rated value	10.5 A 7.5 A 9.6 A

operational 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 maximum permissible	800 V
reverse current of the thyristor	10 mA
derating temperature	40 °C
surge current resistance rated value	200 A
I ² t value maximum	200 A ² ·s
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage 1 at AC	
• at 50 Hz	24 ... 24 V
• at 60 Hz	24 ... 24 V
control supply voltage frequency	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
control supply voltage 1	
• at DC rated value	30 V
• at DC	15 ... 24 V
control supply voltage at AC	
• at 50 Hz full-scale value for signal<0> recognition	5 V
• at 60 Hz full-scale value for signal<0> recognition	5 V
control supply voltage	
• at AC initial value for signal <1> detection	14 V
• at DC initial value for signal <1> detection	15 V
• at DC full-scale value for signal<0> recognition	5 V
symmetrical line frequency tolerance	5 Hz
control current at minimum control supply voltage	
• at AC	2 mA
control current at AC rated value	15 mA
control current at DC rated value	20 mA
ON-delay time	1 ms; additionally max. one half-wave
OFF-delay time	15 ms; additionally max. one half-wave
Auxiliary circuit	
number of NC contacts for auxiliary contacts	0
number of NO contacts for auxiliary contacts	0
number of CO contacts for auxiliary contacts	0
Installation/ mounting/ dimensions	
fastening method	screw fixing and snap-on mounting on standard mounting rail 35 mm according to IEC 60715
• side-by-side mounting	Yes
design of the thread of the screw for securing the equipment	M4
height	95 mm
width	22.5 mm
depth	88 mm
Connections/ Terminals	
type of electrical connection	
• for main current circuit	screw-type terminals
• for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (1.5 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²)
— finely stranded with core end processing	2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ²
• at AWG cables for main contacts	2x (14 ... 10)
connectable conductor cross-section for main contacts	
• solid or stranded	1.5 ... 6 mm ²
• finely stranded with core end processing	1 ... 10 mm ²
type of connectable conductor cross-sections	
• for auxiliary and control contacts	
— solid	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)

— finely stranded without core end processing • at AWG cables for auxiliary and control contacts AWG number as coded connectable conductor cross section for main 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 design of the thread of the connection screw • for main contacts • of the auxiliary and control contacts stripped length of the cable • for main contacts • for auxiliary and control contacts	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²) 1x (AWG 20 ... 12) 10 ... 14 2 ... 2.5 N·m 0.5 ... 0.6 N·m 18 ... 22 lbf-in 4.5 ... 5.3 lbf-in M4 M3 7 mm 7 mm
Safety related data	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Ambient conditions	
installation altitude at height above sea level maximum	1 000 m
ambient temperature	
• during operation • during storage	-25 ... +60 °C -55 ... +80 °C
Electromagnetic compatibility	
conducted interference	
• due to burst according to IEC 61000-4-4 • due to conductor-earth surge according to IEC 61000-4-5 • due to conductor-conductor surge according to IEC 61000-4-5 • due to high-frequency radiation according to IEC 61000-4-6	2 kV / 5 kHz behavior criterion 2 2 kV behavior criterion 2 1 kV behavior criterion 2 140 dBuV in the frequency range 0.15 ... 80 MHz, behavior criterion 1
field-based interference according to IEC 61000-4-3	80 MHz ... 1 GHz 10 V/m, behavior criterion 1
electrostatic discharge according to IEC 61000-4-2	4 kV contact discharging / 8 kV air discharging, behavior criterion 2
conducted HF interference emissions according to CISPR11	Class A for industrial environment
field-bound HF interference emission according 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 usable • of full range R fuse link for semiconductor protection at cylindrical design usable • of back-up R fuse link for semiconductor protection at NH design usable • of back-up R fuse link for semiconductor protection at cylindrical design 10 x 38 mm usable • of back-up R fuse link for semiconductor protection at cylindrical design 14 x 51 mm usable • of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable manufacturer's article number of the gG fuse • at NH design usable • at cylindrical design 10 x 38 mm usable • at cylindrical design 14 x 51 mm usable manufacturer's article number • of NEOZED fuse usable	3NE1813-0 5SE1316 3NE8015-1 3NC1020 3NC1430 3NC2225 3NA6803 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 5SE2306; These fuses have a smaller rated current than the semiconductor relays
Certificates/ approvals	



last modified:

1/26/2022