

# 1 Phase electronic contactor (RC 11 Heatingelement)



- Rated operational voltage up to 480VAC 50/60 Hz
- Rated operational current up to 15/30/50/63A AC-1
- Control voltage from 5-24 VDC or 24-230 VAC/DC
- Compact modular design 22.5, 45 or 90 mm
- LED Status indication
- Meets EN 60947-4-3 requirements
- Requires no additional components
- Built-in varistor protection
- IP-20 Protection

## Item selection and technical specifications

Load AC-1/51 Heating-element	Control voltage	Item number by 12-240VAC 50/60Hz Line Voltage	Load in kW by 230V	EAN Nr. 5705 609	Item number by 24-480VAC 50/60Hz Line Voltage	Load in kW by 400V	EAN Nr. 5705 609	Module-width
10A	5-24 VDC	RC 11 DD 2310	2.3 kW	002 152				W = 22.5 mm
15A	5-24 VDC 24-230 VAC/DC	RC 11 DD 2315	Max. 3.5 kW	002169	RC 11 DD 4015	Max. 6.0 kW	002 206	W = 22.5mm
		RC 11 DA 2315		002 077	RC 11 DA 4015		002 114	W = 22.5mm
30A	5-24 VDC 24-230 VAC/DC	RC 11 DD 2330	Max. 6.9 kW	002 176	RC 11 DD 4030	Max. 12.0 kW	002 213	W = 45mm
		RC 11 DA 2330		002 084	RC 11 DA 4030		002 121	W = 45mm
50A	5-24 VDC 24-230 VAC/DC	RC 11 DD 2350	Max. 11.5 kW	002 183	RC 11 DD 4050	Max. 20.0 kW	002 220	W = 90mm
		RC 11 DA 2350		002 091	RC 11 DA 4050		002 138	W = 90mm
63A	5-24 VDC 24-230 VAC/DC	RC 11 DD 2363	Max. 14.5 kW	002 190	RC 11 DD 4063	Max. 25.2 kW	002 237	W = 90mm
		RC 11 DA 2363		002 107	RC 11 DA 4063		002 145	W = 90mm

## Output load specification

Leakage current	1mA ACmax.	Min. operational current	10mA
Duty cycle	100%		

## Control terminal specifications

RC 11 DD XXXX (DC)		RC 11 DA XXXX (AC/DC)	
Control voltage	5-24 VDC	Control voltage	24-230 VAC/DC
Pick-up voltage max.	4.25 VDC	Pick-up voltage max.	20.4 VAC/DC
Drop-out voltage min.	1.5 VDC	Drop-out voltage min.	7.2 VAC/DC
Control current voltage RC 11 DD 2310	8 mA@24 VDC	Control current / power max.	8 mA / 2.5VA@24 VDC
Control current voltage RC 11 DD xxxx	15 mA@24 VDC	Max. control voltage	253 VAC/DC
Max. control voltage	32 VDC	Response time max.	1 cycle
Response time max.	1/2 cycle		

## Thermal specification

Power dissipation for continuous operation PDmax	1.2 W/A	Operation in ambient temperatures exceeding 40°C is possible if the power dissipation is limited either by reducing the steady-state current or by reducing the duty-cycle as shown in the table. Max.cycle time 15min.		
Power dissipation for intermittent operation PD	1.2 W/A x dutycycle			
Cooling method	Natural convection			
Mounting	Vertical +/-30°			
Operating temperature range EN 60947-4-2	-5°C to 40°C			
Max. operating temperature with current derating	60°C			
Storage temperature EN 60947-4-2	-20°C to 80°C			
		By 40°C	By 50°C	By 60°C
		100% load Duty-cycle 100%	80% load Duty-cycle max. 0.8	65% load Duty-cycle max. 0.65

## Environment

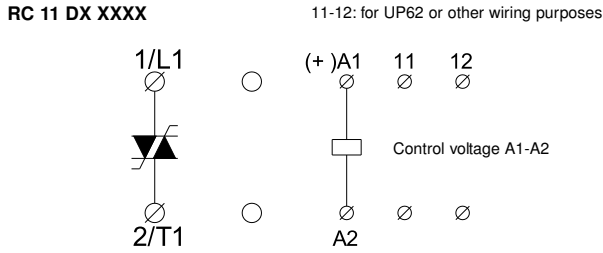
Degree of protection	IP 20	Pollution degree	3
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## Insulation specifications

Rated insulation voltage	Ui 660 Volt
Rated impulse withstand voltage	Uimp. 4 kVolt
Installation category	III

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## Wiring specifications



## Short-circuit protection by fuses

Two type of short-circuit protection can be used:

### Short-circuit protection by fuses

Fuse short-circuit protection is divided into 2 levels **Type 1** or **Type 2**

### Co-ordination Type 1: Short-circuit protects the installation

RC 11 DX 2310	Protection max. 16A gL/gG
RC 11 DX XX15	Protection max. 50A gL/gG
RC 11 DX XX30	Protection max. 50A gL/gG
RC 11 DX XX50	Protection max. 50A gL/gG
RC 11 DX XX63	Protection max. 80A gL/gG

### Co-ordination Type 2: Short-circuit protects the installation and the semiconductors inside the motor controller

RC 11 DX 2310	Protection max. $i^2t$ of the fuse	180 A <sup>2</sup> S
RC 11 DX XX15	Protection max. $i^2t$ of the fuse	610 A <sup>2</sup> S
RC 11 DX XX30	Protection max. $i^2t$ of the fuse	610 A <sup>2</sup> S
RC 11 DX XX50	Protection max. $i^2t$ of the fuse	1800 A <sup>2</sup> S
RC 11 DX XX63	Protection max. $i^2t$ of the fuse	6300 A <sup>2</sup> S

Fuses from e.g. Ferraz, Siba, Bussmann can be used as short-circuit protection Type 2

More information concerning Co-ordination Type 2 see page 45

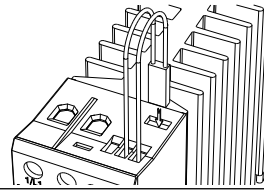
## EMC

This component meets the requirements of the product standard EN 60947-4-3 and is CE marked according to this standard. This products has been designed for class A equipment. Use of the product in domestic environments may cause radio interference, in which case the user may be required to employ additional mitigation methods.

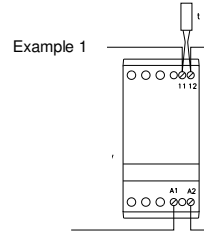
## Utilisation Categories (EN 60947-4-3)

AC - 51	Switching of resistive loads
AC - 55a	Switching of electric discharge lamp controls
AC - 55b	Switching of incandescent lamps
AC - 56a	Switching of transformers

## Thermal overload protection (see also page 44)



Optional thermal overload protection is possible by inserting a thermostat in a slot on the right hand side of the electronic contactor. Type number UP62

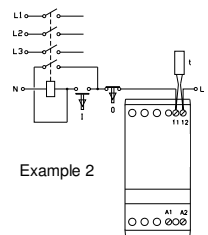


The thermostat can be connected in series with the control circuit of the electronic contactor.

When the temperature of the heatsink exceeds 90°C the electronic contactor will switch Off.

### Note:

When the temperature has dropped approx. 30°C the electronic contactor will automatically be switched on again.



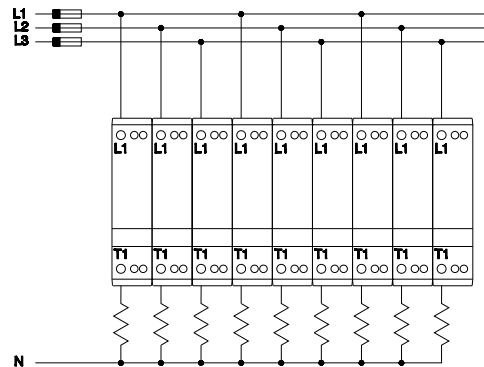
The thermostat is connected in series with the control circuit of the main contactor.

When the temperature of the heatsink exceeds 90°C the main contactor will switch Off.

### Note:

A manual reset is necessary to restart this circuit.

## Common Short Circuit Protection RC 11 DX XX15



## Dimensions (se also page 44)

Type	H	D	W
22.5 mm module	94 mm	124.3 mm	22.5 mm
45 mm module	94 mm	124.3 mm	45 mm
90 mm module	94 mm	124.3 mm	90 mm

## Mounting and cable wiring information

Mounting information see page 44 / Cable wiring see page 45