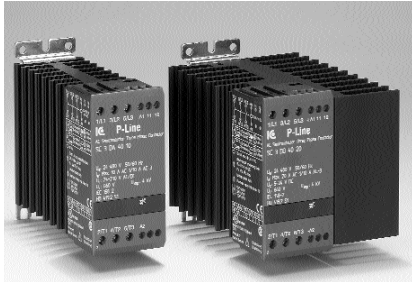


# 3 Phase electronic contactor (RC 33)



- Rated operational voltage up to 480VAC 50/60 Hz
- Rated operational current up to 10 / 20A AC-1
- Control voltage from 5-24 VDC or 24-230 VAC/DC
- Compact modular design 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 33 DD 2310	Max. 4.0 kW	002 367	RC 33 DD 4010	Max. 6.9 kW	002 381	W = 45mm
	24-230 VAC/DC	RC 33 DA 2310		002 329	RC 33 DA 4010		002 343	W = 45mm
20A	5-24 VDC	RC 33 DD 2320	Max. 8.0 kW	002 374	RC 33 DD 4020	Max. 13.9 kW	002 398	W = 90mm
	24-230 VAC/DC	RC 33 DA 2320		002 336	RC 33 DA 4020		002 350	W = 90mm

### Output load specification

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

### Control terminal specifications

RC 33 DD XXXX (DC)		RC 33 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	25 mA@24 VDC	Control current / power max.	8mA / 2.5VA@24 VDC
Max. control voltage	32 VDC	Max. control voltage	253 VAC/DC
Response time max. (ON/OFF)	1/2 cycle	Response time max. (ON/OFF)	1 cycle

### Thermal specification

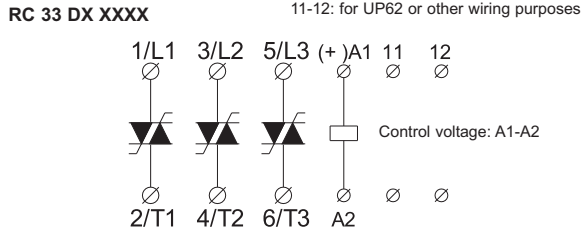
Power dissipation for continuous operation PDmax	3.6 W/A	Operation in ambient temperatures exceeding 40°C is possible if the power dissipation is limited either by reducing the steady-state current or by reducing the duty-cycle as shown in the table. Max.cycle time 15min.		
Power dissipation for intermittent operation PD	3.6 W/A x dutycycle			
Cooling method	Natural convection	By 40°C	By 50°C	By 60°C
Mounting	Vertical +/-30°	100% load Duty-cycle 100%	80% load Duty-cycle max. 0.8	65% load Duty-cycle max. 0.65
Operating temperature range EN 60947-4-2	-5°C to 40°C	<b>Environment</b>		
Max. operating temperature with current derating	60°C	Degree of protection	IP 20	Pollution degree
Storage temperature EN 60947-4-2	-20°C to 80°C			3

### Insulation specifications

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

# 3 Phase electronic contactor (RC 33 Heatingelement)

## Wiring specifications



## Short-circuit protection by fuses

Two type of short-circuit protection can be used:

### Short-circuit protection by fuses

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

**Co-ordination Type 1:** Short-circuit protects the installation  
 RC 3 DX XX10 Protection max. 50A gL/gG  
 RC 3 DX XX20 Protection max. 50A gL/gG

**Co-ordination Type 2:** Short-circuit protects the installation and the semi-conductors inside the motor controller  
 RC 3 DX XX10 Protection max.  $i^2t$  of the fuse 610 A<sup>2</sup>S  
 RC 3 DX XX20 Protection max.  $i^2t$  of the fuse 610 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

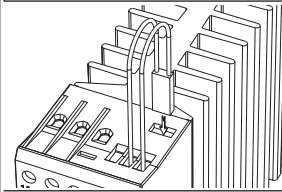
## EMC

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.

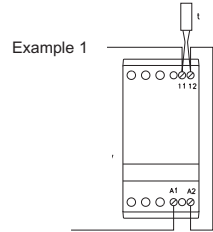
## Mounting and cable wiring information

Mounting information see page 44 / Cable wiring see page 45

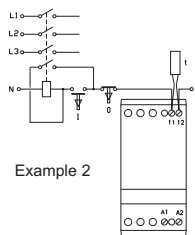
## Thermal overload protection (see also page 44)



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.

## 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

## Dimensions (se also page 44)

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