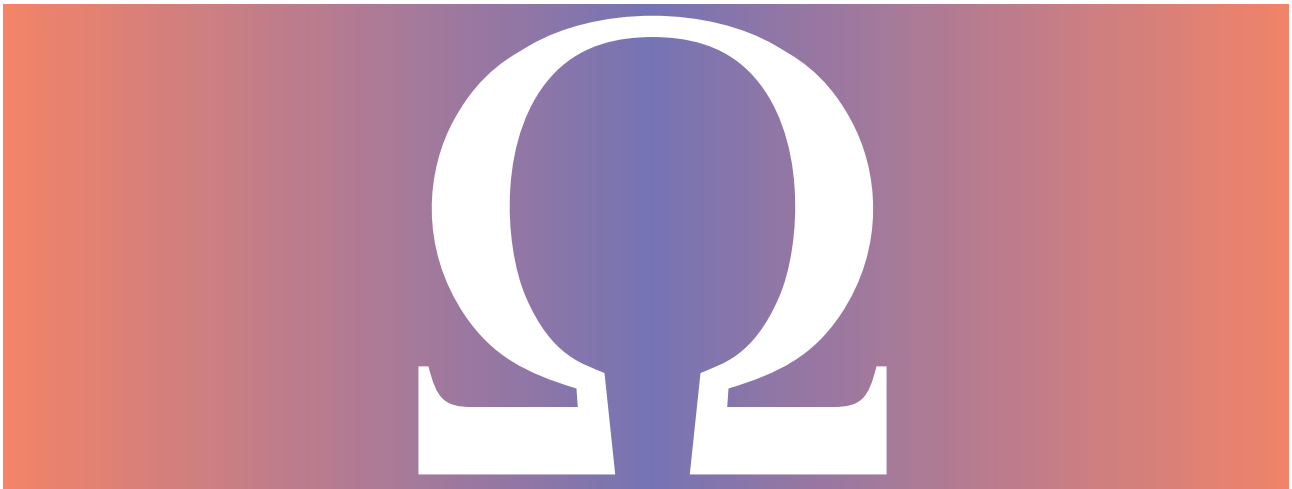

ELECTRONIC CONTACTORS FOR HEATING APPLICATION



IC ELECTRONIC A/S

www.ic-electronic.com

1, dual and 3-Phase electronic contactors for heating applications

- Rated operational voltage up to 480VAC 50/60 Hz
- Rated operational current up to 10/15/20/25/30/50A 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
- Side by side mounting possible
- Meets EN 60947-4-3 requirements
- Requires no additional components
- Built-in varistor protection
- IP-20 Protection

	Load AC-1/51 Heating- element	Control voltage	Item number by 12-240VAC 50/60Hz Line Voltage	Load in kW by 230V	EAN No. 5705 609	Item number by 24-480VAC 50/60Hz Line Voltage	Load in kW by 400V	EAN No. 5705 609	Dimensions H x D x W 94 x 124.3 x W	
1-Phase (wiring specifications page 4)										
	10A	5-24 VDC	RC 11 DD 2310	2.3 kW	002152	N.A.			W = 22.5mm	
	15A	5-24 VDC	RC 11 DD 2315	Max. 3.5 kW	002169	RC 11 DD 4015	Max. 6.0 kW	002206	W = 22.5mm	
		24-230 VAC/DC	RC 11 DA 2315		002077	RC 11 DA 4015		002114	W = 22.5mm	
	30A	5-24 VDC	RC 11 DD 2330	Max. 6.9 kW	002176	RC 11 DD 4030	Max. 12.0 kW	002213	W = 45mm	
		24-230 VAC/DC	RC 11 DA 2330		002084	RC 11 DA 4030		002121	W = 45mm	
	50A	5-24 VDC	RC 11 DD 2350	Max. 11.5 kW	002183	RC 11 DD 4050	Max. 20.0 kW	002220	W = 90mm	
		24-230 VAC/DC	RC 11 DA 2350		002091	RC 11 DA 4050		002138	W = 90mm	
	Dual-Phase (wiring specifications page 4)									
	30A accumu- lated	5-24 VDC	RC 22 DD 2330	Max. 6.9 kW accumulated	002282	RC 22 DD 4030	Max. 12.0 kW accumulated	002305	W = 45mm	
		24-230 VAC/DC	RC 22 DA 2330		002244	RC 22 DA 4030		002268	W = 45mm	
	50A accumu- lated	5-24 VDC	RC 22 DD 2350	Max. 11.5 kW accumulated	002299	RC 22 DD 4050	Max. 20.0 kW accumulated	002312	W = 90mm	
		24-230 VAC/DC	RC 22 DA 2350		002251	RC 22 DA 4050		002275	W = 90mm	
3-Phase (two controlled phases) (wiring specifications page 4)										
	15A	5-24 VDC	N.A.	-	-	RC 32 DD 4015	Max. 10.4 kW	002428	W = 45mm	
		24-230 VAC/DC	N.A.		-	RC 32 DA 4015		002404	W = 45mm	
	25A	5-24 VDC	N.A.	-	-	RC 32 DD 4025	Max. 17.3 kW	002435	W = 90mm	
		24-230 VAC/DC	N.A.		-	RC 32 DA 4025		002411	W = 90mm	
3-Phase (three controlled phases) (wiring specifications page 4)										
	10A	5-24 VDC	RC 33 DD 2310	Max. 4.0 kW	002367	RC 33 DD 4010	Max. 6.9 kW	002381	W = 45mm	
		24-230 VAC/DC	RC 33 DA 2310		002329	RC 33 DA 4010		002343	W = 45mm	
	20A	5-24 VDC	RC 33 DD 2320	Max. 8.0 kW	002374	RC 33 DD 4020	Max. 13.9 kW	002398	W = 90mm	
		24-230 VAC/DC	RC 33 DA 2320		002336	RC 33 DA 4020		002350	W = 90mm	
Control Circuit specifications										
RC XX DD XXXX (DC)						RC XX 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 (RC11/RC22)			15 mA@24 VDC			Control current / power max.			8 mA/2.5VA@24 VDC	
Control current voltage (RC32)			20 mA@24 VDC							
Control current voltage (RC33)			25 mA@24 VDC							
Max. control voltage			32 VDC			Max. control voltage			253 VAC/DC	
Response time max.			1/2 cycle			Response time max.			1 cycle	

1, dual and 3-Phase electronic contactors for heating applications

Insulation specifications for 1-Phase	1-Phase contactors (RC 11)					
Contact type	10A Type	15A Type	30A Type	50A Type		
Operational current heater load (AC1)	10A	15A	30A	50A		
Minimum operational Current	10mA	10mA	10mA	10mA		
Leakage current	1mA AC _{max}	1mA AC _{max}	1mA AC _{max}	1mA AC _{max}		
Duty cycle	100%	100%	100%	100%		
Short-circuit protection fuse max. (Type 1)	16A gL/gG	50A gL/gG	50A gL/gG	50A gL/gG		
Semiconductor protection fuse max.	180 A ² S	610 A ² S	610 A ² S	1800 A ² S		

Insulation specifications for Dual and 3-Phase	Dual Phase contactors (RC 22)		3-Phase contactors (RC 32)		3-Phase contactors (RC 33)	
Contact type	30A Type	50A Type	15A Type	25A Type	10A Type	20A Type
Operational current heater load (AC1)	30A accumul	50A accumul	15A	25A	10A	20A
Minimum operational Current	10mA	10mA	10mA	10mA	10mA	10mA
Leakage current	1mA AC _{max}	1mA AC _{max}	1mA AC _{max}	1mA AC _{max}	1mA AC _{max}	1mA AC _{max}
Duty cycle	100%	100%	100%	100%	100%	100%
Short-circuit protection fuse max. (Type 1)	50A gL/gG	50A gL/gG	50A gL/gG	50A gL/gG	50A gL/gG	50A gL/gG
Semiconductor protection fuse max.	610 A ² S	1800 A ² S	610 A ² S	610 A ² S	610 A ² S	610 A ² S

Thermal Specifications	RC 11 / RC 22 Contactors	RC 32 Contactors	RC 33 Contactors
Power dissipation for continuous operation PD _{max}	1.2W/A/1.2W/A accumul	2.4W/A	3.6W/A
Power dissipation for intermittent operation PD	1.2W/A/1.2W/A x dutycycle	2.4W/A x dutycycle	3.6W/A x dutycycle
Cooling method	Natural convection		
Mounting	Vertical +/-30°		
Operating temperature range EN 60947-4-2	-5°C to 40°C		
Storage temperature EN 60947-4-2	-20°C to 80°C		
Max. operating temperature with current derating	60°C		
Thermal Overload Protection (thermostat bimetal)	Item Number UP 62		
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.	100% load Duty-cycle max. 1.00 by 40°C	80% load Duty-cycle max. 0.80 by 50°C	65% load Duty-cycle max. 0.65 by 60°C

Insulation specifications	All types
Rated insulation Voltage	Ui 660 Volt
Installation Category	III
Rated impulse withstand Voltage	Uimp. 4 kVolt

Materials	All types
Housing	Self extinguishing PPO UL94V1
Heatsink	Aluminium
Base	Electroplated steel

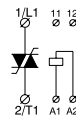
Registered by UL to ISO 9001



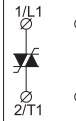
Wiring Specifications



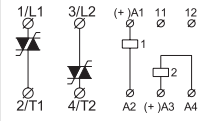
RC 11 1-Phase 10/15A



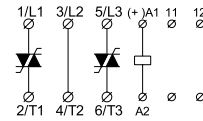
RC 11 1-Phase 30/50A



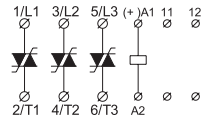
RC 22 Dual-Phase



RC 32 3-Phase



RC 33 3-Phase

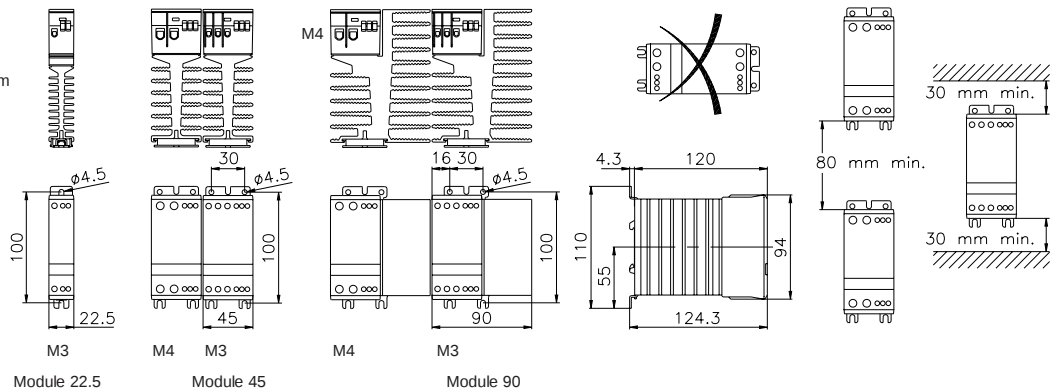


Mechanical Dimensions

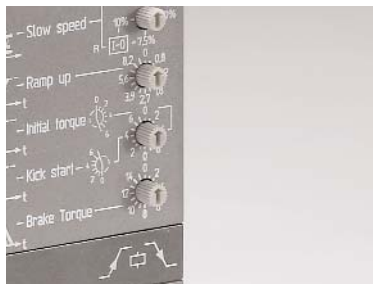
weight 22.5mm = 250 gram

weight 45mm = 690 gram

weight 90mm = 1150 gram



The program also emphasize soft starter with or without dynamic brake, reversing contactor, electronic contactors for motor, lamp, transformer and other inductive loads.
More information available on www.ic-electronic.com



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