

# Motor protection relays

## BASIC MOTOR PROTECTION

- For 3-phase motors from 1 to 630 A and over. Cable feed through relay.
- Precise motor heating and cooling memory, reproduces its thermal image.
- Immediate detection of phase loss (3 s), even at reduced load.
- Visual indication of tripping cause.

For motors of low and medium power in several applications such as compressors, ventilators, surface mounted pumps, conveyor belts, machine tools, and in general to protect motors which need dependable and accurate protection relays for every type of start.

Its 3 trip classes cover many types of starting or working cycles.

## EXTERNAL DISPLAY MODULE

By means of this plug-in optional accessory, the relay status can be seen and reset from the exterior of the electrical panel board.

Easy to install. Size of a Ø22 mm push button.

Suitable for motor control centres (MCC) and panel boards.

C



## PROTECTION FUNCTIONS

- Overload
- ⚡ Phase imbalance or phase loss

ODC



Models	Code	Relay type
ODC	12530	C

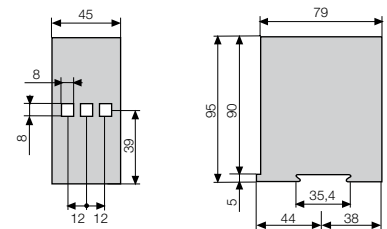
MODELS		C 9	C 21	C 45
Adjustment range Motor 400 V 50/60 Hz	$I_B$ (A)	3 - 9,3	9 - 21,6	20 - 45,2
	CV kW	2 - 5,5 1,5 - 4	7,5 - 12 5,5 - 9	15 - 30 11 - 22
Code according to the relay voltage supply (+15% -10%) ac: 50/60 Hz	230 Vac single phase	11203	11223	11243
	115 Vac single phase	11202	11222	11242
	24 Vac, dc single phase	11200	11220	11240
For $I_N$ of the motor below the minimum setting $I_B$		Pass the cables several times (n) through the holes in the relay $I_s = n \times I_n$		
For $I_N$ of the motor below the minimum setting $I_B$		Use 3 CT .../5 and the relay C9 and pass the secondary twice through the holes		
External display module (optional)		ODC		

CHARACTERISTICS	
Thermal memory / Overload trip	Yes / From $1,1 \times I_B$
Maximum motor nominal voltage	1000 Vac
Trip classes (IEC 947-4-1)	10 - 20 - 30
Phase imbalance protection	Over 40%. Tripping time < 3s
Reset mode	Manual and remote
Signalling LED's	3 LED's: ON + ➤ + ⚡
Output contacts	1 relay with 1 NO + 1 NC
Switching power	$I_{th}$ : 5A; AC15 - 250V - 2A; DC13 - 30V - 2A
Terminals: Max. section / screw torque	2,5 mm <sup>2</sup> , No. 22 - 12AWG / 20Ncm, 1.8 LB - IN
Power consumption	C9: 6,5VA (230Vac) - 3VA (115Vac) / C21-C45: 2,5VA
Protection degree / weight / mounting	IP20 / 0,3 kg / DIN rail
Storage temperature	-30°C +70°C
Operation temperature / max. altitude	-15°C +60°C / 1000m ; -15°C +50°C / 3000m
Standards	IEC 255, IEC 947, IEC 801, EN 50081-2

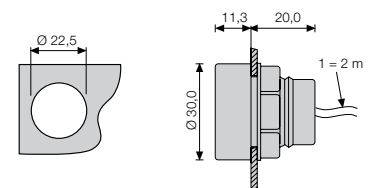


Settings and curves, see pages 24 to 29.

## DIMENSIONS C RELAY (mm)



## DIMENSIONS ODC MODULE (mm)



## WIRING DIAGRAMS (mm)

