

- Space savings, accurate measurement and optimized functions all improve the efficiency of your electrical installation.
- Control : Select "Over-current" or "Under-current" control mode, by means of a dip switch on the underside of the unit.
- Safety : Choose whether or not to activate the fault memorisation function, and set the threshold crossing delay T1 and the inhibit time delay T2 in the same way. In addition, AC/DC mode is detected automatically.
- Accuracy : 3 products, EIL, EIH or EIT enable you to choose the best product for greater accuracy of measurement, provided by a microcontroller.

Operating principle

AC/DC control without memory.

When the value of the controlled current, either AC or DC, reaches the threshold displayed on the front face, the output relay changes state at the end of time delay T1.

It returns instantly to the initial state when the current drops below the hysteresis threshold, or when the power supply is disconnected.

AC/DC control with memory.

The output relay changes state at the end of time delay T1 and remains latched in this position. To reset the memory function the auxiliary supply must be disconnected.

Over-current function (UPPER).

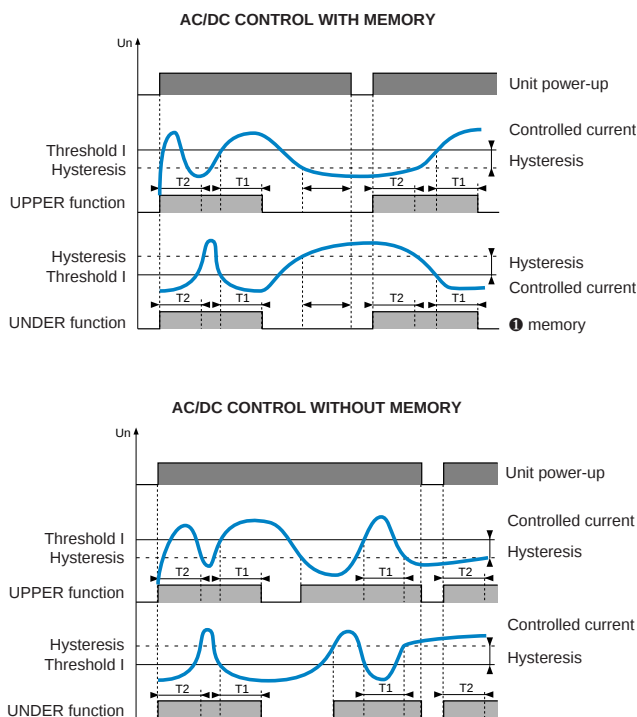
The time delay on energisation T2 prevents current peaks due to motor starting.

The delay on upward crossing of threshold T1 provides immunity to transients and other interference, thereby preventing spurious triggering of the output relay.

Under-current function (UNDER).

The time delay on energisation T2 prevents the occurrence of current troughs. The delay on downward crossing of threshold T1 provides immunity to random dips, thereby preventing spurious triggering of the output relay.

Note : In underload function, the absolute value of the hysteresis cannot be greater than the measurement range maximum.



Type	EIL	EIH	EIT
Measurement range	2 to 500 mA	0.1 to 10 A	10 to 100 A with current transformer

Part numbers (and voltages)

24 V $\equiv$	84 871 001	84 871 006	84 871 201
24 V $\sim$	84 871 002	84 871 007	84 871 202
48 V $\sim$	84 871 003	84 871 008	84 871 203
120 V $\sim$	84 871 004	84 871 009	84 871 204
230 V $\sim$	84 871 005	84 871 010	84 871 205
Current transformer			26 852 304

Technical specification

Type	EIL	EIH	EIT
Supply voltage	230 V, 110 V, 48 V, 24 V a 50 / 60 Hz (galvanic isolation by transformer)		
Un	24 V $\equiv$ (No galvanic isolation) (!)		
Supply tolerance	0.85 • 1.15 Un		
Maximum power consumption	3 VA		
Frequency of measured signal	40 Hz • 500 Hz		
Adjustable hysteresis	5 • 50% of the displayed threshold		
Threshold value	10 • 100% of the measurement range		
Display accuracy of the preset threshold	$\pm 10\%$		
Repetition accuracy with constant parameters	$\pm 0.1\%$		
Voltage drift	$\pm 0.1\%$ ($\pm 10\%$ Un)		
Temperature drift	$\pm 0.02\%$		
Delay on energisation T2	1 s • 20 s $\pm 30\%$		
Delay on upward crossing of threshold T1	0.1 s • 3 s, 0 $\pm 20\%$		
Delay on pick-up	500 ms		
Output relay	1 AgCdO changeover, 8 A $\sim$ max		
Temperature limits	Use	-20 °C • +60 °C	
Stored		-30 °C • +70 °C	
Weight	140 g		
Measurement range	Inputs	E1-M	E2-M
	Sensitivity	E3 M	E1-M
Input resistance	2 to 20 mA	10 to 100 mA	50 to 500 mA
	5 Ω	1 Ω	0.2 Ω
Input resistance	0.1 to 1 A	0.5 to 5 A	1 to 10 A
	0.1 Ω	0.02 Ω	0.01 Ω
Input resistance	10 to 100 A	10 to 100 A	10 to 100 A
	20 Ω	20 Ω	20 Ω

(1) The "negative" poles of the auxiliary power supply and the measurement circuit are connected inside the unit.

Other information

For connections, see page 3/45
For conformity, common characteristics, see page 3/50
For dimensions, see page 3/52

To order, specify :

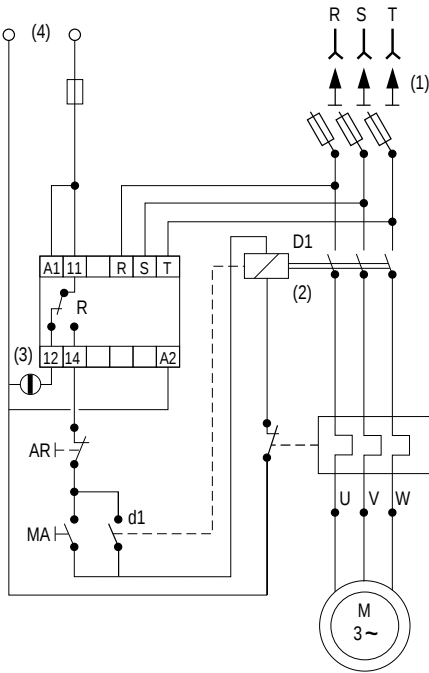
Standard products

Standard products, non stocked

1 Part number

Example : Current control relay EI - 84 871 002

DWR2 / LWR2

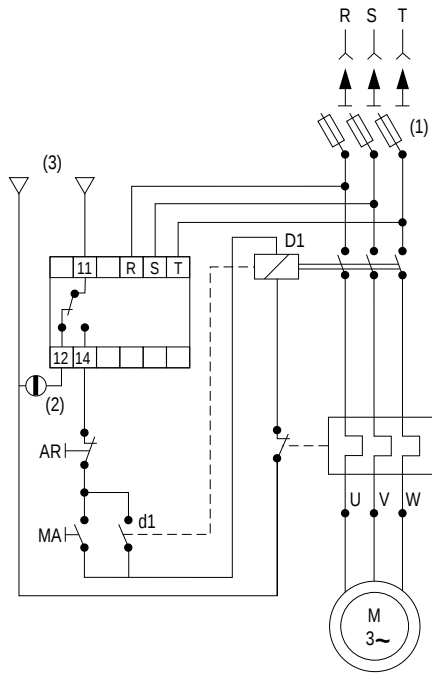


- (1) - Isolating switch
- (2) - Contactor
- (3) - Alarm
- (4) - Auxiliary power supply

DWR2	A1	A2	11	12	14	R	S	T
LWR2	2	10	1	4	3	5	6	7

DWRS2 / LWRS2

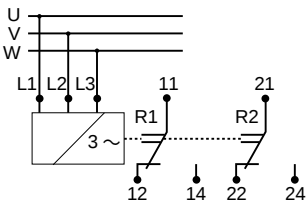
Monitoring of three-phase motor.
Manual re-engage after disappearance of the fault.



- (1) - Isolating switch
- D1 - Contactor
- (2) - Alarm
- (3) - Auxiliary power supply for contactor coil and signalling

DWRS	11	12	14	R	S	T
LWRS	1	4	3	5	6	7

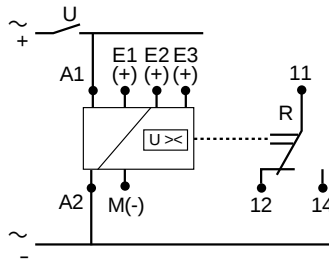
FW



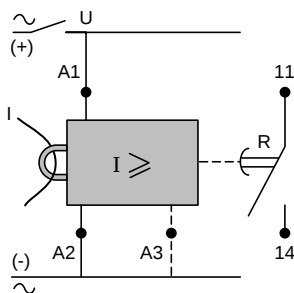
Terminal identification

L1 - L2 - L3 : 3-phase network being monitored
12 - 13 - 14 : Output relay
21 - 22 - 24 : Output relay

HDI / HDU

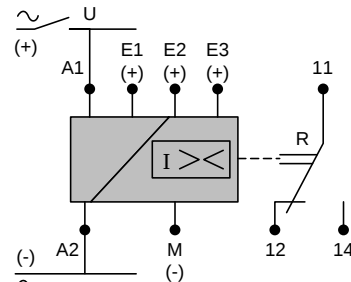


MCI



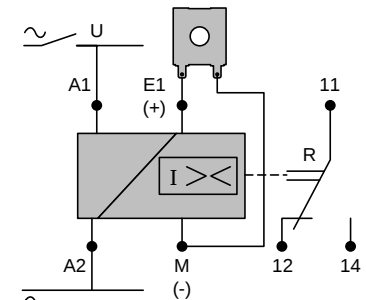
A1 - A2 : Power supply

EIL / EIH



A1 - A2 : Power supply

EIT



A1 - A2 : Power supply

Approvals and conformity

Approvals :

UL

CSA

Conforming to :

VDE 0435 Generic standard for electrical relays

VDE 0609 Screw terminal connection

VDE 0110 Creepage distance

VBG 4 Protection against accidental contact with terminals

IEC 158-1 Standard covering low voltage control equipment (contactors) - AC1

IEC 255-0-20 Generic standard for electrical relays

IEC 255-3 & 6 Generic standard for measurement and protection relays

IEC 255-8 & 17 Generic standard for measurement and protection relays & thermal protection of motors

IEC 255-22-1 Protection against HF interference - 1 Mhz

IEC 255-22-2 Protection against electrostatic discharges 8 Kv

IEC 255-5 Protection against 1.2/50 μ s impulse voltages and insulation resistance

IEC 801-4 Protection against pulse-string interference

IEC 67.1.5 1 & 18 Pluggable into 11-pin base

DIN 46277 Fitting to DIN rail

IEC 529 Class of protection IP 40 unit and IP 20 terminals

DIN 40050 Class of protection IP 40 unit and IP 20 terminals

NFC 20010 Class of protection IP 40 unit and IP 20 terminals

Common technical characteristics

Self-extinguishing housing

Output circuit..... 1 AgCdO changeover

Rated power 2000 VA $\sim$

190 W $\equiv$

Max. breaking current 8 A $\sim$

10 A $\equiv$

Minimum breaking current 100 mA $\sim$

100 mA $\equiv$

Max. breaking voltage..... 380 V $\sim$

Nominal breaking voltage 250 V $\sim$

Electrical life 10^5 operations at 2000 VA resistive

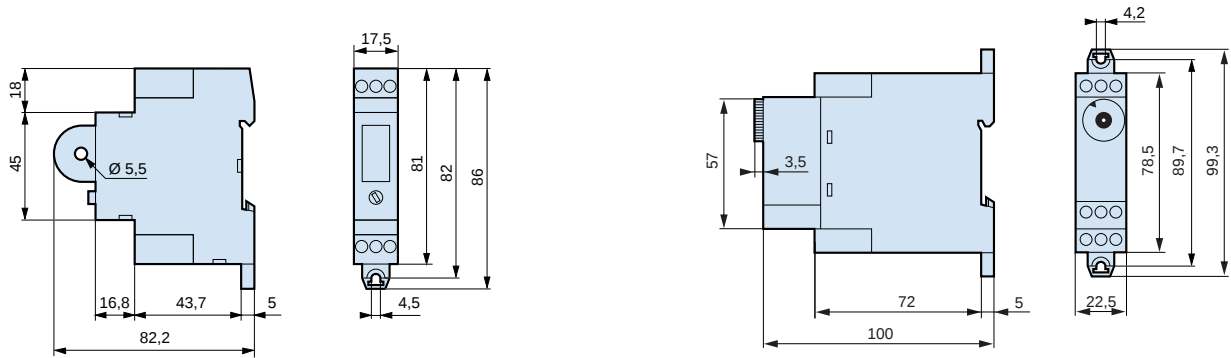
Mechanical life $5 \cdot 10^6$ operations

Contact/coil isolation 4 kV

Dimensions

MCI

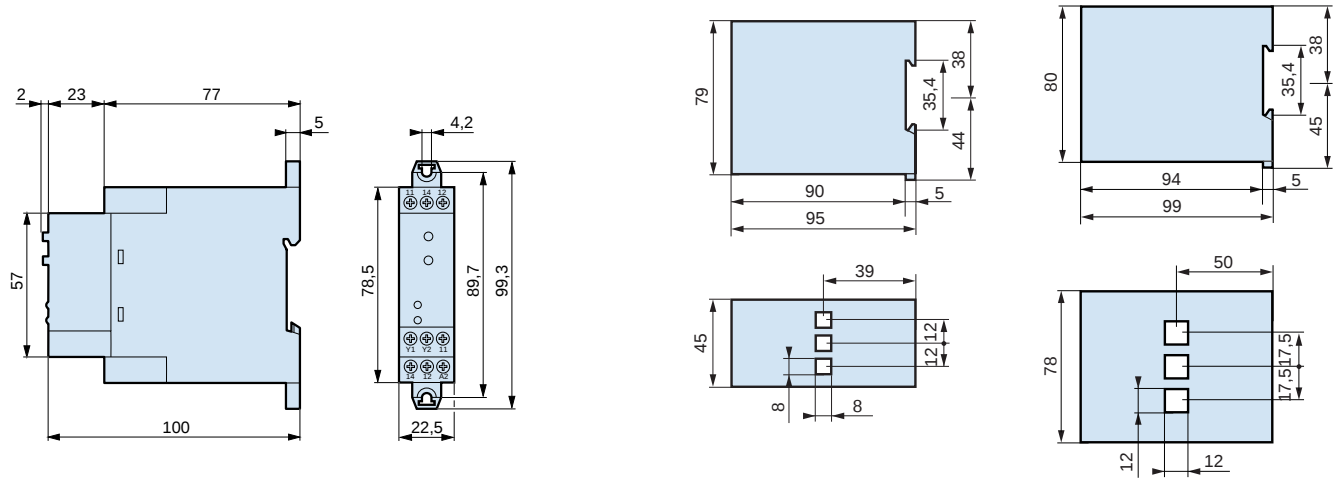
EI - EUL / EUH - EUS / EUSF



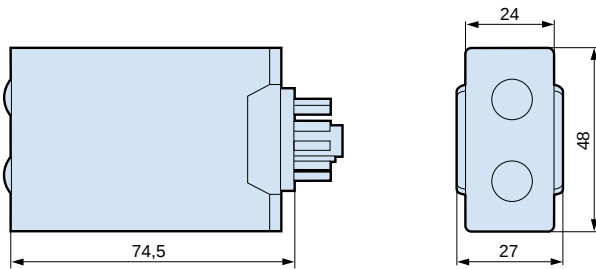
ETM / ETM2

F3I

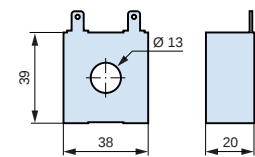
F3IT



TIDR - TDA-TDC



Accessory



Transformer
part number 26 852 304