

TECHNICAL SPECIFICATION

Thermomagnetic automatic breaker TM2/TM3



Description:

The thermomagnetic automatic breakers TM 2-Exx series are devices designed for control and protection of induction motors from overload, overheat or short circuit. The overload motor protection is carried out by the built in the breaker thermal elements, and the short circuit protection is carried out by the magnetic elements. These magnetic elements allow the adjustment of the current leakage which is 13 times the maximum current of the thermal protection. The overload protection elements include automatic compensation for the ambient temperature changes. In combination with under voltage release the thermomagnetic breaker TM 2-Exx also provides protection of the motors from fall out of a phase from the power supply. The choice of a suitable protection prevents motor's operation at unusual temperature conditions and guarantees maximum constant operation, increases the effectiveness and prolongs the term of exploitation.

Function:

- switching off alternating current consumers at current overload
- switching off the electrical circuit to the consumer at inlet short circuit
- protects the motor at lack/lowering of the phase voltage (if there is under voltage release)
- used as a protective operating element in control panels of induction motors
- remarkable with high reliability of current characteristics
- possibility for change/choice of the protection current (according to the operating current of the motor)
- automatic compensation of the ambient temperature

Technical data:

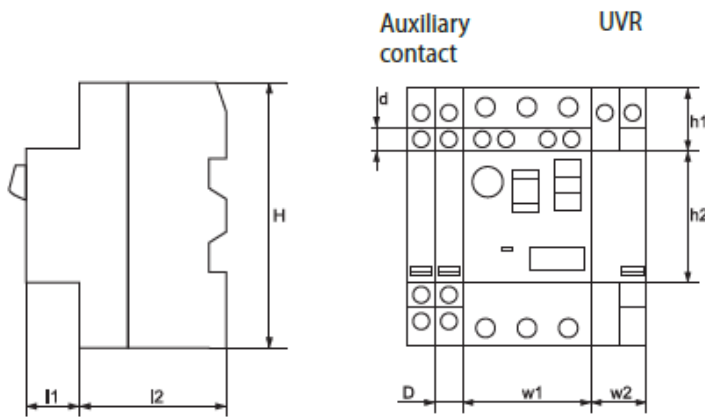
- Rated operating voltage: up to 690V AC; 50/60 Hz
- Rated operating current range: from 0.1 to 80A according to the type in table 1
- Insulation voltage: 690V
- Plastic: wear resistance of UV rays and non-flammable (self-extinguishing material)
- Surge voltage wear resistance: $\geq 6000V$
- Joining terminal: screw terminal
- Connecting:
 - flexible or rigid conductors with or without cable terminal for joining to the consumer
 - to the contactor through the relay terminals
 - the connecting terminals with the consumer can be adjusted according to the type of the contactor
- Electrical wear resistance (number of cycles): ≥ 1000000
- Mechanical wear resistance (number of cycles): ≥ 10000000
- Indication for protection activating
- Switching on of the breaker manually with button "I" and switching off with button "O" manually or automatically at failure or after activating of the protection

- Possibility for range adjustment of the protection activating
- Possibility for operation at higher frequency
- Possibility for independent operation or as an element of an automation system
- Tripping category: class 10A

Mounting:

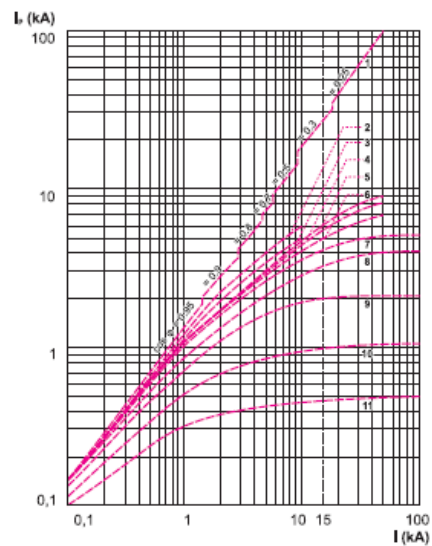
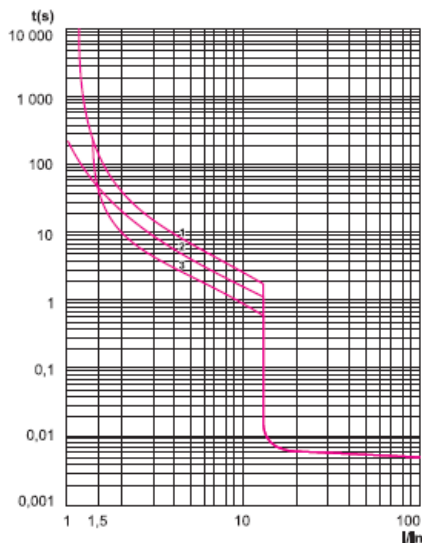
- mounting to DIN-rail
- mounting position: vertical gradient – maximum $\pm 5^\circ$
- Ambient temperature: $-10^\circ\text{C} + 65^\circ\text{C}$
- Altitude: up to 2000m

Dimensions:



H	I1	I2	d	D	w1	w2	h1	h2
89	16	50	10	9,2	44,5	18	22	45

Schemes:



Variants:

Type	Rated capacity of three-phase motor in AC-3 category					Instantaneous Short-circuit release (A)	Current setting range (A)	Thermal Current I _{the} TM2-E (A)	Packing / Box (pcs)	Cat. number
	220V 230V	400V 410V	440V	500V	690V					
TM2-E01	-	-	-	-	-	1.5	0.1-0.16	0.16	1 / 50	48001
TM2-E02	-	0.06	0.06	-	-	2.4	0.16-0.25	0.25	1 / 50	48002
TM2-E03	0.06	0.09	0.09	-	-	5.0	0.25-0.40	0.40	1 / 50	48003
TM2-E04	-	0.12	0.18	-	0.37	8.0	0.40-0.63	0.63	1 / 50	48004
TM2-E05	0.09	0.25	0.25	0.37	0.55	13.0	0.63-1.00	1	1 / 50	48005
TM2-E06	0.18	0.37	0.37	0.37	0.75	22.5	1-1.60	1.6	1 / 50	48006
TM2-E07	0.37	0.75	0.75	1.10	1.50	33.5	1.6-2.50	2.5	1 / 50	48007
TM2-E08	0.55	1.10	1.50	1.50	2.20	51.0	2.5-4.00	4	1 / 50	48008
TM2-E10	1.10	2.20	2.20	3.00	4.00	78.0	4-6.30	6.3	1 / 50	48010
TM2-E14	1.50	3.00	4.00	4.00	5.50	138	6-10.0	9	1 / 50	48014
TM2-E16	2.20	5.50	5.50	7.50	9.00	170	9-14.0	13	1 / 50	48016
TM2-E20	4.00	7.50	7.50	9.00	15.0	223	13-18.0	17	1 / 50	48020
TM2-E21	5.50	9.00	11.0	11.0	18.5	327	17-23.0	21	1 / 50	48021
TM2-E22	5.50	11.0	11.0	15.0	22.0	327	20-25.0	23	1 / 50	48022
TM2-E32	7.50	15.0	15.0	18.5	22.0	416	24-32.0	24	1 / 50	48032
TM2-E40	11.0	18.5	22.0	25.0	33.0	480	25-40.0	32	1 / 15	48040
TM2-E63	15.0	30.0	33.0	40.0	55.0	550	40-63.0	50	1 / 15	48063
TM2-E80	22.0	40.0	45.0	55.0	63.0	665.5	56-80.0	64	1 / 15	48080

Standards: EN 60947-2:2006

EN60947-4-1:2010/A1:2012

