

TA25DU-M thermal overload relays

With screw terminals - 0.10 ... 32.0 A



TA25DU-19M

2CDC231019F0013

Description

The TA25DU-M thermal overload relays are economic electromechanical protection devices for the main circuit. They offer reliable protection for motors in the event of overload or phase failure. The devices have trip class 10A.

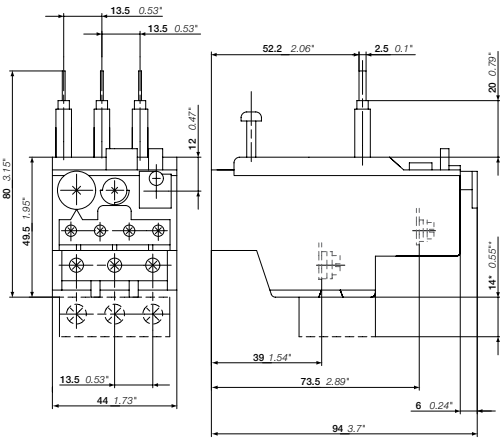
The thermal overload relays are three pole relays with bimetal tripping elements. The motor current flows through the bimetal tripping elements and heats them directly and indirectly. In case of an overload (over current), the bimetal elements bent as a result of the heating. This leads to a release of the relay and a change of the contacts switching position (95-96 / 97-98).

- Manual or automatic reset selectable
- Phase loss sensitive acc. to IEC/EN 60947-4-1
- Two electrically isolated auxiliary contacts – 1 N.O. + 1 N.C.
- TEST and STOP function – Trip indication on the front
- Temperature compensation
- Suitable for three- and single-phase applications

Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					
0.10 ... 0.16	0.50 A, Fuse type F	10A	TA25DU-0.16M	1SAZ211201R2005	0.150
0.16 ... 0.25	0.63 A, Fuse type F	10A	TA25DU-0.25M	1SAZ211201R2009	0.150
0.25 ... 0.40	1.25 A, Fuse type F	10A	TA25DU-0.4M	1SAZ211201R2013	0.150
0.40 ... 0.63	2 A, Fuse type gG / -	10A	TA25DU-0.63M	1SAZ211201R2017	0.150
0.63 ... 1.00	4 A, Fuse type gG / 2 A aM	10A	TA25DU-1.0M	1SAZ211201R2021	0.150
1.00 ... 1.40	6 A, Fuse type gG / 2 A aM	10A	TA25DU-1.4M	1SAZ211201R2023	0.150
1.30 ... 1.80	6 A, Fuse type gG / 4 A aM	10A	TA25DU-1.8M	1SAZ211201R2025	0.150
1.70 ... 2.40	6 A, Fuse type gG / 4 A aM	10A	TA25DU-2.4M	1SAZ211201R2028	0.150
2.20 ... 3.10	10 A, Fuse type gG / 6 A aM	10A	TA25DU-3.1M	1SAZ211201R2031	0.150
2.80 ... 4.00	10 A, Fuse type gG / 6 A aM	10A	TA25DU-4.0M	1SAZ211201R2033	0.150
3.50 ... 5.00	16 A, Fuse type gG / 10 A aM	10A	TA25DU-5.0M	1SAZ211201R2035	0.150
4.50 ... 6.50	20 A, Fuse type gG / 16 A aM	10A	TA25DU-6.5M	1SAZ211201R2038	0.150
6.00 ... 8.50	20 A, Fuse type gG / 20 A aM	10A	TA25DU-8.5M	1SAZ211201R2040	0.150
7.50 ... 11.00	35 A, Fuse type gG / 25 A aM	10A	TA25DU-11M	1SAZ211201R2043	0.150
10.00 ... 14.00	35 A, Fuse type gG / 25 A aM	10A	TA25DU-14M	1SAZ211201R2045	0.150
13.00 ... 19.00	50 A, Fuse type gG / 35 A aM	10A	TA25DU-19M	1SAZ211201R2047	0.170
18.00 ... 25.00	63 A, Fuse type gG / 50 A aM	10A	TA25DU-25M	1SAZ211201R2051	0.170
24.00 ... 32.00	80 A, Fuse type gG / 63 A aM	10A	TA25DU-32M	1SAZ211201R2053	0.200

Main dimensions mm, inches



TA25DU-M + DX25

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Technical data

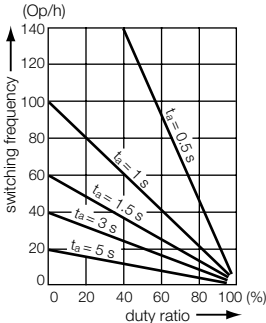
Main circuit – Utilization characteristics according to IEC/EN

Type	TA25DU-M
Standards	IEC/EN 60947-4-1, IEC/EN 60947-5-1, IEC/EN 60947-1
Rated operational voltage U_n	690 V AC
Rated frequency	DC, 50/60 Hz
Frequency range	0 ... 400 Hz
Trip class	10A
Number of poles	3
Duty time	100 %
Operating frequency without early tripping	Up to 15 operations/h, see "Technical diagram – Intermittent periodic duty"
Rated impulse withstand voltage U_{imp}	6 kV
Rated insulation voltage U_i	690 V AC

Auxiliary circuit according to IEC/EN

Type	TA25DU-M
Rated operational voltage U_n	500 V AC, 440 V DC
Conventional free air thermal current I_{th}	N.C., 95-96 10 A N.O., 97-98 6 A
Rated frequency	DC, 50/60 Hz
Number of poles	1 N.O. + 1 N.C.
I_n / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category	
110-120 V	N.C., 95-96 3.00 A N.O., 97-98 1.50 A
220-230-240 V	N.C., 95-96 3.00 A N.O., 97-98 1.50 A
440 V	N.C., 95-96 1.00 A N.O., 97-98 1.00 A
480-500 V	N.C., 95-96 1.00 A N.O., 97-98 1.00 A
I_n / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category	
24 V	N.C., 95-96 1.25 A N.O., 97-98 1.25 A
60 V	N.C., 95-96 0.25 A N.O., 97-98 0.25 A
110-120-125 V	N.C., 95-96 0.25 A N.O., 97-98 0.25 A
250 V	N.C., 95-96 0.12 A N.O., 97-98 0.04 A
Minimum switching capacity	17 V / 3 mA
Short-circuit protective device	N.C., 95-96 10 A, Fuse type gG N.O., 97-98 6 A, Fuse type gG
Rated impulse withstand voltage U_{imp}	6 kV
Rated insulation voltage U_i	690 V

Technical diagram – Intermittent periodic duty



TA25DU-M thermal overload relays

Technical data

General technical data

Type	TA25DU-M	
Pollution degree	3	
Phase loss sensitive	Yes	
Ambient air temperature		
Operation	Open - compensated	-25 ... +55 °C
	Open	-25 ... +55 °C
Storage	-40 ... +70 °C	
Ambient air temperature compensation	Acc. to IEC/EN60947-4-1	
Maximum operating altitude permissible	2000 m	
Resistance to shock acc. to IEC 60068-2-27	12g / 15 ms	
Mounting position	Position 1-6	
Mounting	Mount on the contactor and tighten the screws of the main circuit terminals or with single mounting kit on DIN rail (35 mm)	
Degree of protection	Housing	IP20
	Main circuit terminals	IP10

Electrical connection

Main circuit

Type	TA25DU-M (0.16-11 A)		TA25DU-M (14-25 A)	TA25DU-M (32 A)
Connecting capacity				
 Rigid	1 x	0.75 ... 4 mm²	1.5 ... 6 mm²	1.5 ... 10 mm²
	2 x	0.75 ... 4 mm²	1.5 ... 6 mm²	-
 Flexible with insulated ferrule	1 x or 2 x ¹⁾	0.75 ... 4 mm²	1.5 ... 4 mm²	1.5 ... 6 mm²
Stripping length	12 mm		12 mm	15 mm
Tightening torques	1.4 - 2.0 Nm		1.4 - 2.0 Nm	2.5 - 3.2 Nm
Connection screw	M4 (Pozidriv 2)		M4 (Pozidriv 2)	M5 (Pozidriv 2)

¹⁾ Combination of different wires not possible

Auxiliary circuit

Type	TA25DU-M		
Connecting capacity			
 Rigid	1 x or 2 x	0.75 ... 4 mm²	
 Flexible	1 x or 2 x	0.75 ... 2.5 mm²	
Stripping length	9 mm		
Tightening torques	0.8 ... 1.3 Nm		
Connection screw	M3.5 (Pozidriv 2)		