



Main catalog

Motor protection and control

Manual motor starters, A9 ... A300 contactors and overload relays

TA25DU-M thermal overload relays

With screw terminals - 0.10 ... 32.0 A



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.

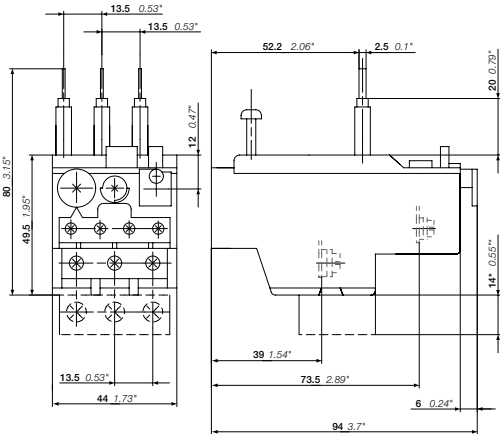
The thermal overload relays are three pole relays with bimetal tripping elements. The motor current flows through the bimetal tripping elements and heats them directly and indirectly. In case of an overload (over current), the bimetal elements bent as a result of the heating. This leads to a release 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

TA25DU-M thermal overload relays

Technical data

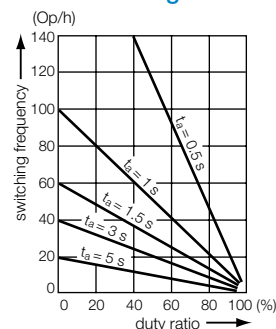
Main circuit – Utilization characteristics according to IEC/EN

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



t_s : Motor starting time

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2CDC10605600201

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 mm ²	1.5 ... 6 mm ²	1.5 ... 10 mm ²
	2 x	0.75 ... 4 mm ²	1.5 ... 6 mm ²	-
 Flexible with insulated ferrule	1 x or 2 x ¹⁾	0.75 ... 4 mm ²	1.5 ... 4 mm ²	1.5 ... 6 mm ²
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 mm ²
 Flexible	1 x or 2 x	0.75 ... 2.5 mm ²
Stripping length	9 mm	
Tightening torques	0.8 ... 1.3 Nm	
Connection screw	M3.5 (Pozidriv 2)	

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The single mounting kits offer the possibility to mount the overload relays separately from the contactor. The DS25-A allows electrically remote tripping of TA25DU-M. DR25-A coil for remote reset of TA25DU-M.

For thermal overload relays	Description	Type	Order code	Weight (1 pce) kg
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TA25DU-0.16M; ... 25M / DB25/25 A	Terminal block 10 mm²	DX25	1SAZ201307R0002	0.030
TA25DU-0.16M ... 25M	Single mounting kit	DB25/25A	1SAZ201108R0001	0.055
TA25DU-32M	Single mounting kit	DB25/32A	1SAZ201108R0002	0.080

TA25DU-M	24 V, 50/60 Hz	DR25-A-24	1SAZ201504R0001	0.050
TA25DU-M	48 V, 50/60 Hz	DR25-A-48	1SAZ201504R0002	0.050
TA25DU-M	110 V, 50/60 Hz	DR25-A-110	1SAZ201504R0003	0.050
TA25DU-M	220/380 V, 50/60 Hz	DR25-A-220/380	1SAZ201504R0005	0.050
TA25DU-M	500 V, 50/60 Hz	DR25-A-500	1SAZ201504R0006	0.050

The remote reset coil is to be connected to auxiliary contact 97-98 of TA25DU-M.
The coil is not suitable for Continuous operation. Impulse duration: maximum 0.2 seconds.

TA25DU-M	Reset push button*	KPR-101L	1SFA616162R1014	0.027
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*Note: for more information see catalogue 1SFC151004C0201

Technical drawing of the 233023FC0011 component, showing front and side views with dimensions in inches and millimeters.

Front View Dimensions:

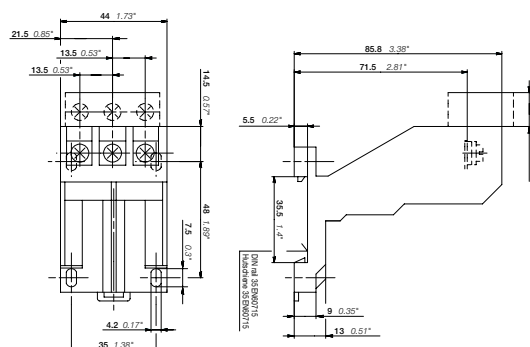
- Top horizontal dimensions: 13.5 0.53" and 13.5 0.53"
- Left vertical dimensions: 80.3 15" and 49.5 1.61"
- Right vertical dimension: 12 0.47"
- Bottom horizontal dimensions: 13.5 0.53" and 44 1.73"

Side View Dimensions:

- Top horizontal dimensions: 52.2 2.06" and 2.5 0.1"
- Right vertical dimensions: 20 0.79" and 14 0.55"
- Bottom horizontal dimensions: 39 1.54" and 73.5 2.89"
- Bottom right horizontal dimension: 6 0.24"

Part Number: 233023FC0011

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