TA25DU thermal overload relays
With screw terminals - 0.10 … 32.0 A

TA25DU-0.19

Description

The TA25DU 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.

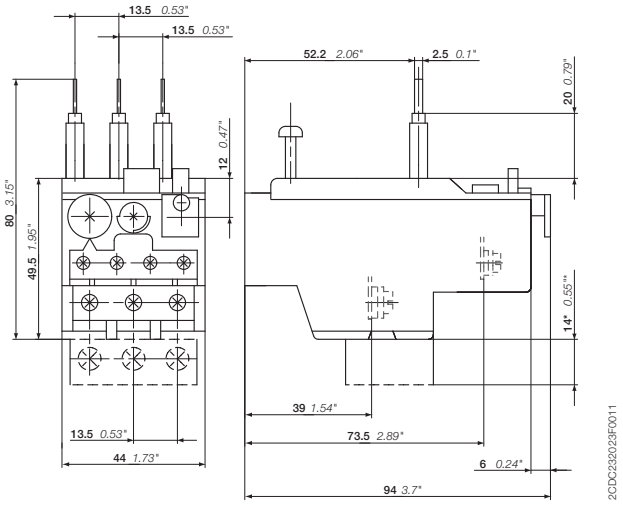
The thermal overload relays are three pole relays with bimetal tripping elements. The motor current flows through the bimetal tripping elements and heats them directly and indirectly. In case of an overload (over current), the bimetal elements bent as a result of the heating. This leads to a release 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 A	Short-circuit protective device	Trip class	Type	Order code		Weight (1 pce) kg
0.10 ... 0.16	0.50 A, Fuse type F	10A	TA25DU-0.16	1SAZ211201R1005		0.150
0.16 ... 0.25	0.63 A, Fuse type F	10A	TA25DU-0.25	1SAZ211201R1009		0.150
0.25 ... 0.40	1.25 A, Fuse type F	10A	TA25DU-0.4	1SAZ211201R1013		0.150
0.40 ... 0.63	2 A, Fuse type gG / -	10A	TA25DU-0.63	1SAZ211201R1017		0.150
0.63 ... 1.00	4 A, Fuse type gG / 2 A aM	10A	TA25DU-1.0	1SAZ211201R1021		0.150
1.00 ... 1.40	6 A, Fuse type gG / 2 A aM	10A	TA25DU-1.4	1SAZ211201R1023		0.150
1.30 ... 1.80	6 A, Fuse type gG / 4 A aM	10A	TA25DU-1.8	1SAZ211201R1025		0.150
1.70 ... 2.40	6 A, Fuse type gG / 4 A aM	10A	TA25DU-2.4	1SAZ211201R1028		0.150
2.20 ... 3.10	10 A, Fuse type gG / 6 A aM	10A	TA25DU-3.1	1SAZ211201R1031		0.150
2.80 ... 4.00	10 A, Fuse type gG / 6 A aM	10A	TA25DU-4.0	1SAZ211201R1033		0.150
3.50 ... 5.00	16 A, Fuse type gG / 10 A aM	10A	TA25DU-5.0	1SAZ211201R1035		0.150
4.50 ... 6.50	20 A, Fuse type gG / 16 A aM	10A	TA25DU-6.5	1SAZ211201R1038		0.150
6.00 ... 8.50	20 A, Fuse type gG / 20 A aM	10A	TA25DU-8.5	1SAZ211201R1040		0.150
7.50 ... 11.00	35 A, Fuse type gG / 25 A aM	10A	TA25DU-11	1SAZ211201R1043		0.150
10.00 ... 14.00	35 A, Fuse type gG / 25 A aM	10A	TA25DU-14	1SAZ211201R1045		0.150
13.00 ... 19.00	50 A, Fuse type gG / 35 A aM	10A	TA25DU-19	1SAZ211201R1047		0.170
18.00 ... 25.00	63 A, Fuse type gG / 50 A aM	10A	TA25DU-25	1SAZ211201R1051		0.170
24.00 ... 32.00	80 A, Fuse type gG / 63 A aM	10A	TA25DU-32	1SAZ211201R1053		0.200

Main dimensions mm, *inches*



TA25DU + DX25

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TA25DU thermal overload relays
Technical data

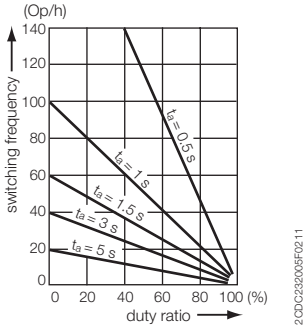
Main circuit – Utilization characteristics according to IEC/EN

Type	**TA25DU**
Standards	IEC/EN 60947–4–1, IEC/EN 60947-5-1, IEC/EN 60947-1
Rated operational voltage U_e	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**
Rated operational voltage U_e		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_e / 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	3.00 A
220-230-240 V	**N.C., 95-96**	3.00 A
	N.O., 97-98	3.00 A
440 V	**N.C., 95-96**	1.90 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_e / 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



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t_a: Motor starting time

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TA25DU thermal overload relays
Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	TA25DU
Standards	UL 508, CSA 22.2 No. 14
Maximum operational voltage	600 V AC
Trip rating	125 % of FLA
Full load amps (FLA)	See table "Full load amps and short-circuit protective device"
Short-circuit rating RMS symmetrical	See table "Full load amps and short-circuit protective device"
Short-circuit protective device	See table "Full load amps and short-circuit protective device"

Auxiliary circuit according to UL/CSA

Type		TA25DU
Contact rating	N.C., 95-96	C600
	N.O., 97-98	B600
Conventional thermal current		5 A

Full load amps and short-circuit protective device

Type	Full load amps (FLA)	Short-circuit protective device 480 / 600 V AC			480 / 600 V AC		480 / 600 V AC	
		Short circuit rating RMS symmetrical	Fuse type	Listed circuit breaker	Short circuit rating RMS symmetrical	Listed circuit breaker	Short circuit rating RMS symmetrical	Fuse type
TA25DU-0.16	0.16 A	5 kA	1.0 A, K5 / RK5	15 A	35 / 18 kA	15 A	50 kA	30 A, Class J
TA25DU-0.25	0.25 A	5 kA	1.0 A, K5 / RK5	15 A	35 / 18 kA	15 A	50 kA	30 A, Class J
TA25DU-0.4	0.40 A	5 kA	3.0 A, K5 / RK5	15 A	35 / 18 kA	15 A	50 kA	30 A, Class J
TA25DU-0.63	0.63 A	5 kA	3.0 A, K5 / RK5	15 A	35 / 18 kA	15 A	50 kA	30 A, Class J
TA25DU-1.0	1.0 A	5 kA	6.0 A, K5 / RK5	15 A	35 / 18 kA	15 A	50 kA	30 A, Class J
TA25DU-1.4	1.4 A	5 kA	6.0 A, K5 / RK5	15 A	35 / 18 kA	15 A	50 kA	30 A, Class J
TA25DU-1.8	1.8 A	5 kA	6.0 A, K5 / RK5	15 A	35 / 18 kA	15 A	50 kA	30 A, Class J
TA25DU-2.4	2.4 A	5 kA	10 A, K5 / RK5	15 A	35 / 18 kA	15 A	50 kA	30 A, Class J
TA25DU-3.1	3.1 A	5 kA	10 A, K5 / RK5	15 A	35 / 18 kA	15 A	50 kA	30 A, Class J
TA25DU-4.0	4.0 A	5 kA	15 A, K5 / RK5	15 A	35 / 18 kA	15 A	50 kA	30 A, Class J
TA25DU-5.0	5.0 A	5 kA	20 A, K5 / RK5	20 A	35 / 18 kA	20 A	50 kA	30 A, Class J
TA25DU-6.5	6.5 A	5 kA	25 A, K5 / RK5	20 A	35 / 18 kA	20 A	50 kA	30 A, Class J
TA25DU-8.5	8.5 A	5 kA	35 A, K5 / RK5	20 A	35 / 18 kA	20 A	50 kA	30 A, Class J
TA25DU-11	11 A	5 kA	45 A, K5 / RK5	50 A	35 / 18 kA	50 A	50 kA	35 A, Class J
TA25DU-14	14 A	5 kA	60 A, K5 / RK5	50 A	35 / 18 kA	50 A	50 kA	60 A, Class J
TA25DU-19	19 A	5 kA	60 A, K5 / RK5	50 A	35 / 18 kA	50 A	50 kA	60 A, Class J
TA25DU-25	25 A	5 kA	70 A, K5 / RK5	70 A	35 / 18 kA	70 A	50 kA	100 A, Class J
TA25DU-32	32 A	5 kA	100 A, K5 / RK5	100 A	35 / 18 kA	100 A	50 kA	100 A, Class J

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TA25DU thermal overload relays
Technical data

General technical data

Type			TA25DU
Pollution degree			3
Phase loss sensitive			Yes
Ambient air temperature			
Operation	Open - compensated without derating		-25 ... +55 °C
	Open		-25 ... +55 °C
Storage			-40 ... +70 °C
Ambient air temperature compensation			Continuous
Maximum operating altitude permissible			2000 m
Resistance to shock acc. to IEC 60068-2-27			12 g / 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			IP20

Electrical connection

Main circuit

Type			TA25DU (0.16-11 A)	TA25DU (14-25 A)	TA25DU (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
	Stranded acc. to UL/CSA	**1 x**	AWG 16-8	AWG 16-8	AWG 10-8
		2 x	AWG 16-8	AWG 16-8	-
	Flexible acc. to UL/CSA	**1 x**	AWG 16-8	AWG 16-8	AWG 10-8
		2 x	AWG 16-8	AWG 16-8	-
Stripping length			12 mm	12 mm	15 mm
Tightening torques			1.4 - 2.0 Nm / 12 lb.in	1.4 - 2.0 Nm / 12 lb.in	2.5 - 3.2 Nm / 20 lb.in
Connection screw			M4 (Pozidriv 2)	M4 (Pozidriv 2)	M5 (Pozidriv 2)

[1)] Combination of different wires not possible

Auxiliary circuit

Type			TA25DU
Connecting capacity			
	Rigid	**1 x or 2 x**	0.75 ... 4 mm²
	Flexible	**1 x or 2 x**	0.75 ... 2.5 mm²
	Stranded acc. to UL/CSA	**1 x or 2 x**	AWG 18-14
	Flexible acc. to UL/CSA	**1 x or 2 x**	AWG 18-14
Stripping length			9 mm
Tightening torques			0.8 ... 1.3 Nm / 12 lb.in
Connection screw			M3.5 (Pozidriv 2)

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