



Thermal overload relays

T16 (0.10 ... 16.0 A)	
Ordering details	6/2
Technical data	6/3
TF42 (0.10 ... 38.0 A)	
Ordering details	6/6
Technical data	6/7
TA25DU (0.10 ... 32.0 A)	
Ordering details	6/10
Technical data	6/11
Accessories	6/14
TA42DU (18.0 ... 42.0 A)	
Ordering details	6/15
Technical data	6/16
TA75DU (18 ... 80 A)	
Ordering details	6/19
Technical data	6/20
TA80DU (29 ... 80 A)	
Ordering details	6/23
Technical data	6/24
TA110DU (66 ... 110 A)	
Ordering details	6/27
Technical data	6/28
TA200DU (66 ... 200 A)	
Ordering details	6/31
Technical data	6/32
TA450DU (130 ... 310 A)	
Ordering details	6/35
Technical data	6/36

Electronic overload relays

E16DU, E45DU, E80DU, E140DU (0.10 to 140 A)	
Ordering details	6/39
Technical data	6/40
Accessories	6/43
EF19, EF45 (0.10 to 45.0 A)	
Ordering details	6/44
Technical data	6/45
E200DU, E320DU (60 to 320 A)	
Ordering details	6/48
Technical data	6/49
E500DU, E800DU, E1250DU (150 to 1250 A)	
Ordering details	6/51
Technical data	6/52

T16 thermal overload relays

0.10 ... 16.0 A



2CDC231012F0011

T16-16



2CDC235020F0011

T16 + DB16



2CDC231002F0011

DB16

Description

The T16 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 10.

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

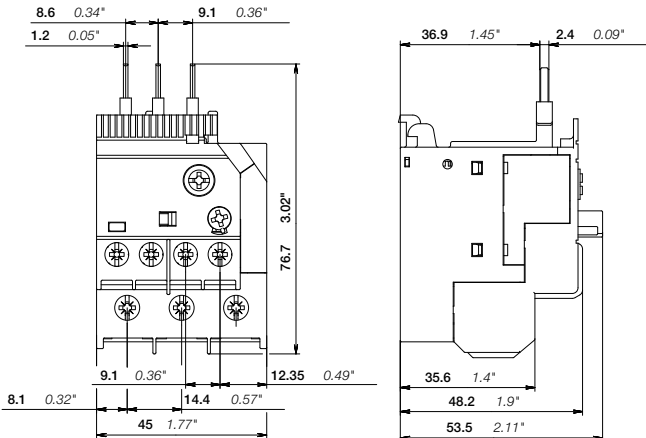
Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					
0.10 ... 0.13	0.5 A, Fuse type T	10	T16-0.13	1SAZ711201R1005	0.100
0.13 ... 0.17	1.0 A, Fuse type T	10	T16-0.17	1SAZ711201R1008	0.100
0.17 ... 0.23	1.0 A, Fuse type T	10	T16-0.23	1SAZ711201R1009	0.100
0.23 ... 0.31	1.0 A, Fuse type T	10	T16-0.31	1SAZ711201R1013	0.100
0.31 ... 0.41	2.0 A, Fuse type gG	10	T16-0.41	1SAZ711201R1014	0.100
0.41 ... 0.55	2.0 A, Fuse type gG	10	T16-0.55	1SAZ711201R1017	0.100
0.55 ... 0.74	4.0 A, Fuse type gG	10	T16-0.74	1SAZ711201R1021	0.100
0.74 ... 1.00	6.0 A, Fuse type gG	10	T16-1.0	1SAZ711201R1023	0.100
1.00 ... 1.30	6.0 A, Fuse type gG	10	T16-1.3	1SAZ711201R1025	0.100
1.30 ... 1.70	10.0 A, Fuse type gG	10	T16-1.7	1SAZ711201R1028	0.100
1.70 ... 2.30	10.0 A, Fuse type gG	10	T16-2.3	1SAZ711201R1031	0.100
2.30 ... 3.10	10.0 A, Fuse type gG	10	T16-3.1	1SAZ711201R1033	0.100
3.10 ... 4.20	20.0 A, Fuse type gG	10	T16-4.2	1SAZ711201R1035	0.100
4.20 ... 5.70	20.0 A, Fuse type gG	10	T16-5.7	1SAZ711201R1038	0.100
5.70 ... 7.60	35.0 A, Fuse type gG	10	T16-7.6	1SAZ711201R1040	0.100
7.60 ... 10.0	35.0 A, Fuse type gG	10	T16-10	1SAZ711201R1043	0.104
10.0 ... 13.0	40.0 A, Fuse type gG	10	T16-13	1SAZ711201R1045	0.104
13.0 ... 16.0	40.0 A, Fuse type gG	10	T16-16	1SAZ711201R1047	0.104

Ordering details accessories

For thermal overload relays	Description	Type	Order code	Weight (1 pce) kg
T16	Single mounting kit	DB16	1SAZ701901R0001	0.032

Main dimensions mm, inches



T16

2CDC232208F0008

2CDC106036C0201

T16 thermal overload relays

Technical data

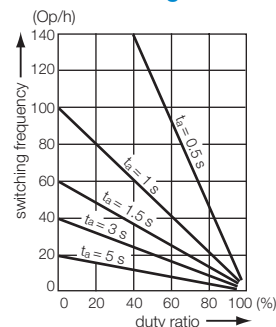
Main circuit – Utilization characteristics according to IEC/EN

Type	T16
Standards	IEC/EN 60947-4-1, IEC/EN 60947-5-1, IEC/EN 60947-1
Rated operational voltage U_o	690 V AC - V DC
Rated frequency	50/60 Hz
Trip class	10
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	T16
Rated operational voltage U_o	600 V
Conventional free air thermal current I_{th}	N.C., 95-96 6 A N.O., 97-98 4 A
Rated frequency	DC, 50/60 Hz
Number of poles	1 N.O. + 1 N.C.
I_o / 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 0.75 A
220-230-240 V	N.C., 95-96 3.00 A N.O., 97-98 0.75 A
440 V	N.C., 95-96 0.75 A N.O., 97-98 0.75 A
480-500 V	N.C., 95-96 0.75 A N.O., 97-98 0.75 A
I_o / 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 0.55 A N.O., 97-98 0.55 A
110-120-125 V	N.C., 95-96 0.55 A N.O., 97-98 0.55 A
250 V	N.C., 95-96 0.27 A N.O., 97-98 0.27 A
Minimum switching capacity	17 V / 3 mA
Short-circuit protective device	N.C., 95-96 6 A, Fuse type gG N.O., 97-98 4 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_a : Motor starting time

2002020050211

2CDC106036C0201

T16 thermal overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	T16
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	T16
Contact rating	N.C., 95-96 B600, Q300 N.O., 97-98 D300, Q300
Conventional thermal current	N.C., 95-96 5 A N.O., 97-98 2.5 A

6

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	
		Short circuit rating RMS symmetrical	Fuse type	Short circuit rating RMS symmetrical	Fuse type
T16-0.13	0.13 A	18 kA	1 A, K5	100 kA	30 A, Class J
T16-0.17	0.17 A	18 kA	1 A, K5	100 kA	30 A, Class J
T16-0.23	0.23 A	18 kA	1 A, K5	100 kA	30 A, Class J
T16-0.31	0.31 A	18 kA	3 A, K5	100 kA	30 A, Class J
T16-0.41	0.41 A	18 kA	3 A, K5	100 kA	30 A, Class J
T16-0.55	0.55 A	18 kA	3 A, K5	100 kA	30 A, Class J
T16-0.74	0.74 A	18 kA	3 A, K5	100 kA	30 A, Class J
T16-1.0	1.00 A	18 kA	6 A, K5	100 kA	30 A, Class J
T16-1.3	1.30 A	18 kA	6 A, K5	100 kA	30 A, Class J
T16-1.7	1.70 A	18 kA	6 A, K5	100 kA	30 A, Class J
T16-2.3	2.30 A	18 kA	10 A, K5	100 kA	30 A, Class J
T16-3.1	3.10 A	18 kA	10 A, K5	100 kA	30 A, Class J
T16-4.2	4.20 A	18 kA	15 A, K5	100 kA	30 A, Class J
T16-5.7	5.70 A	18 kA	20 A, K5	100 kA	30 A, Class J
T16-7.6	7.60 A	18 kA	25 A, K5	100 kA	30 A, Class J
T16-10	10.0 A	18 kA	35 A, K5	100 kA	45 A, Class J
T16-13	13.0 A	18 kA	40 A, K5	100 kA	45 A, Class J
T16-16	16.0 A	18 kA	60 A, K5	100 kA	45 A, Class J

T16 thermal overload relays

Technical data

General technical data

Type	T16	
Pollution degree	3	
Phase loss sensitive	Yes	
Ambient air temperature		
Operation	Open - compensated without derating	-25 ... +60 °C
	Open	-25 ... +60 °C
Storage	-50 ... +80 °C	
Ambient air temperature compensation	Continuous	
Maximum operating altitude permissible	2000 m	
Resistance to shock acc. to IEC 60068-2-27	25 g / 11 ms	
Resistance to vibrations acc. to IEC 60068-2-6	3 g / 3 ... 150 Hz	
Mounting position	Position 1-5	
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	T16	
Connecting capacity		
 Rigid	1 x	0.75 ... 4 mm ²
	2 x	0.75 ... 1.5 mm ² or 1.5 ... 4 mm ² ¹⁾
 Flexible	1 x or 2 x	0.75 ... 4 mm ²
Stranded acc. to UL/CSA	1 x or 2 x	AWG 18-10
Flexible acc. to UL/CSA	1 x or 2 x	AWG 18-10
Stripping length	12 mm	
Tightening torques	1.1 ... 1.5 Nm / 9 ... 13 lb.in	
Connection screw	M4 (Pozidriv 2)	

¹⁾ Combination of different wires not possible

Auxiliary circuit

Type	T16	
Connecting capacity		
 Rigid	1 x or 2 x	0.75 ... 4 mm ²
 Flexible with ferrule	1 x or 2 x	0.75 ... 2.5 mm ²
 Flexible with insulated ferrule	1 x	0.75 ... 2.5 mm ²
	2 x	0.75 ... 1.5 mm ²
 Flexible	1 x or 2 x	0.75 ... 1 mm ² or 1 ... 2.5 mm ²
Stranded acc. to UL/CSA	1 x or 2 x	AWG 18-12
Flexible acc. to UL/CSA	1 x or 2 x	AWG 18-12
Stripping length	9 mm	
Tightening torques	1.1 ... 1.5 Nm / 9 ... 13 lb.in	
Connection screw	M3 (Pozidriv 2)	

TF42 thermal overload relays

0.10 ... 38.0 A



TF42-38

1SBC101328F0010



DB42

2CDC231001F0011

Description

The TF42 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 10.

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).

- Phase loss sensitive acc. to IEC/EN 60947-4-1
- TEST and STOP function – Trip indication on the front
- Suitable for three- and single-phase applications
- Sealable cover

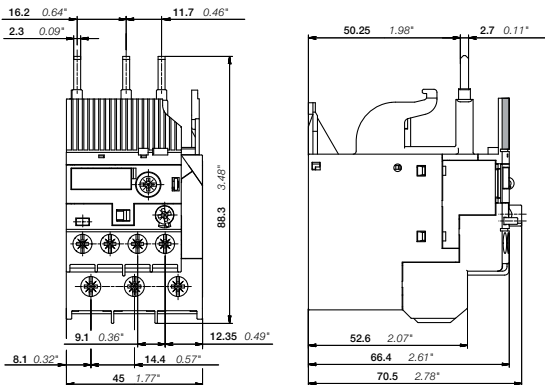
Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					
0.10 ... 0.13	0.5 A, Fuse type T	10	TF42-0.13	1SAZ721201R1005	0.130
0.13 ... 0.17	1.0 A, Fuse type T	10	TF42-0.17	1SAZ721201R1008	0.130
0.17 ... 0.23	1.0 A, Fuse type T	10	TF42-0.23	1SAZ721201R1009	0.130
0.23 ... 0.31	1.0 A, Fuse type T	10	TF42-0.31	1SAZ721201R1013	0.130
0.31 ... 0.41	2.0 A, Fuse type gG	10	TF42-0.41	1SAZ721201R1014	0.130
0.41 ... 0.55	2.0 A, Fuse type gG	10	TF42-0.55	1SAZ721201R1017	0.130
0.55 ... 0.74	4.0 A, Fuse type gG	10	TF42-0.74	1SAZ721201R1021	0.130
0.74 ... 1.00	6.0 A, Fuse type gG	10	TF42-1.0	1SAZ721201R1023	0.130
1.00 ... 1.30	6.0 A, Fuse type gG	10	TF42-1.3	1SAZ721201R1025	0.130
1.30 ... 1.70	10.0 A, Fuse type gG	10	TF42-1.7	1SAZ721201R1028	0.130
1.70 ... 2.30	10.0 A, Fuse type gG	10	TF42-2.3	1SAZ721201R1031	0.130
2.30 ... 3.10	10.0 A, Fuse type gG	10	TF42-3.1	1SAZ721201R1033	0.130
3.10 ... 4.20	20.0 A, Fuse type gG	10	TF42-4.2	1SAZ721201R1035	0.130
4.20 ... 5.70	20.0 A, Fuse type gG	10	TF42-5.7	1SAZ721201R1038	0.130
5.70 ... 7.60	35.0 A, Fuse type gG	10	TF42-7.6	1SAZ721201R1040	0.130
7.60 ... 10.0	35.0 A, Fuse type gG	10	TF42-10	1SAZ721201R1043	0.130
10.0 ... 13.0	40.0 A, Fuse type gG	10	TF42-13	1SAZ721201R1045	0.130
13.0 ... 16.0	40.0 A, Fuse type gG	10	TF42-16	1SAZ721201R1047	0.130
16.0 ... 20.0	63.0 A, Fuse type gG	10	TF42-20	1SAZ721201R1049	0.145
20.0 ... 24.0	63.0 A, Fuse type gG	10	TF42-24	1SAZ721201R1051	0.145
24.0 ... 29.0	63.0 A, Fuse type gG	10	TF42-29	1SAZ721201R1052	0.145
29.0 ... 35.0	80.0 A, Fuse type gG	10	TF42-35	1SAZ721201R1053	0.145
35.0 ... 38.0/40.0	80.0 A, Fuse type gG	10	TF42-38	1SAZ721201R1055	0.145

Ordering details accessories

For thermal overload relays	Description	Type	Order code	Weight (1 pce) kg
TF42	Single mounting kit	DB42	1SAZ701902R0001	0.087

Main dimensions mm, inches



TF42

2CDC23005F0009

2CDC106046C0201

TF42 thermal overload relays

Technical data

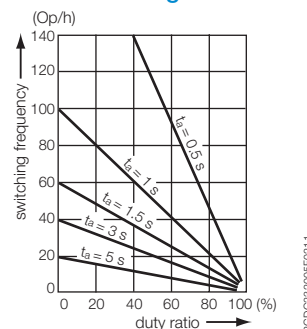
Main circuit – Utilization characteristics according to IEC/EN

Type	TF42
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	50/60 Hz
Trip class	10
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	TF42
Rated operational voltage U_e	600 V
Conventional free air thermal current I_{th}	N.C., 95-96 6 A N.O., 97-98 4 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 0.75 A
220-230-240 V	N.C., 95-96 3.00 A N.O., 97-98 0.75 A
440 V	N.C., 95-96 0.75 A N.O., 97-98 0.75 A
480-500 V	N.C., 95-96 0.75 A N.O., 97-98 0.75 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
110-120-125 V	N.C., 95-96 0.55 A N.O., 97-98 0.55 A
250 V	N.C., 95-96 0.27 A N.O., 97-98 0.27 A
Minimum switching capacity	17 V / 3 mA
Short-circuit protective device	N.C., 95-96 6 A, Fuse type gG N.O., 97-98 4 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_a : Motor starting time

TF42 thermal overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	TF42
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	TF42
Contact rating	N.C., 95-96 B600, Q300 N.O., 97-98 D300, Q300
Conventional thermal current	N.C., 95-96 5 A N.O., 97-98 2.5 A

6

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	
		Short circuit rating RMS symmetrical	Fuse type	Short circuit rating RMS symmetrical	Fuse type
TF42-0.13	0.13 A	18 kA	1 A, K5	100 kA	30 A, Class J
TF42-0.17	0.17 A	18 kA	1 A, K5	100 kA	30 A, Class J
TF42-0.23	0.23 A	18 kA	1 A, K5	100 kA	30 A, Class J
TF42-0.31	0.31 A	18 kA	3 A, K5	100 kA	30 A, Class J
TF42-0.41	0.41 A	18 kA	3 A, K5	100 kA	30 A, Class J
TF42-0.55	0.55 A	18 kA	3 A, K5	100 kA	30 A, Class J
TF42-0.74	0.74 A	18 kA	3 A, K5	100 kA	30 A, Class J
TF42-1.0	1.00 A	18 kA	6 A, K5	100 kA	30 A, Class J
TF42-1.3	1.30 A	18 kA	6 A, K5	100 kA	30 A, Class J
TF42-1.7	1.70 A	18 kA	6 A, K5	100 kA	30 A, Class J
TF42-2.3	2.30 A	18 kA	10 A, K5	100 kA	30 A, Class J
TF42-3.1	3.10 A	18 kA	10 A, K5	100 kA	30 A, Class J
TF42-4.2	4.20 A	18 kA	15 A, K5	100 kA	30 A, Class J
TF42-5.7	5.70 A	18 kA	20 A, K5	100 kA	30 A, Class J
TF42-7.6	7.60 A	18 kA	25 A, K5	100 kA	30 A, Class J
TF42-10	10.0 A	18 kA	35 A, K5	100 kA	45 A, Class J
TF42-13	13.0 A	18 kA	40 A, K5	100 kA	45 A, Class J
TF42-16	16.0 A	18 kA	60 A, K5	100 kA	45 A, Class J
TF42-20	20.0 A	18 kA	80 A, K5	100 kA	60 A, Class J
TF42-24	24.0 A	18 kA	80 A, K5	100 kA	60 A, Class J
TF42-29	29.0 A	18 kA	100 A, K5	100 kA	100 A, Class J
TF42-35	35.0 A	18 kA	150 A, K5	100 kA	175 A, Class J
TF42-38	38.0 A	18 kA	150 A, K5	100 kA	175 A, Class J

TF42 thermal overload relays

Technical data

General technical data

Type	TF42	
Pollution degree	3	
Phase loss sensitive	Yes	
Ambient air temperature		
Operation	Open - compensated without derating	-25 ... +60 °C
Open	Open	-25 ... +60 °C
Storage		-50 ... +80 °C
Ambient air temperature compensation	Continuous	
Maximum operating altitude permissible	2000 m	
Resistance to shock acc. to IEC 60068-2-27	25 g / 11 ms	
Resistance to vibrations acc. to IEC 60068-2-6	3 g / 3 ... 150 Hz	
Mounting position	Position 1-5	
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	TF42 (TF42-0.13 ... TF42-16)		TF42 (TF42-20 ... TF42-38)
Connecting capacity			
 Rigid	1 x or 2 x	0.75 ... 4 mm ²	1.5 ... 2.5 mm ² or 2.5 ... 10 mm ² ¹⁾
 Flexible with insulated ferrule	1 x or 2 x	0.75 ... 4 mm ²	2.5 ... 4 mm ² or 4 ... 6 mm ²
Stranded acc. to UL/CSA	1 x or 2 x	AWG 18-10	AWG 14-6
Flexible acc. to UL/CSA	1 x or 2 x	AWG 18-10	AWG 14-6
Stripping length	12 mm		
Tightening torques	1.5 - 2.5 Nm / 13 ... 22 lb.in		2.5 - 2.7 Nm / 22 lb.in
Connection screw	M4 (Pozidriv 2)		

¹⁾ Combination of different wires not possible

Auxiliary circuit

Type	TF42		
Connecting capacity			
 Rigid	1 x or 2 x	0.75 ... 4 mm ²	
 Flexible with ferrule	1 x or 2 x	0.75 ... 2.5 mm ²	
 Flexible with insulated ferrule	1 x	0.75 ... 2.5 mm ²	
	2 x	0.75 ... 1.5 mm ²	
 Flexible	1 x or 2 x	0.75 ... 1 mm ² or 1 ... 2.5 mm ²	
Stranded acc. to UL/CSA	1 x or 2 x	AWG 18-12	
Flexible acc. to UL/CSA	1 x or 2 x	AWG 18-12	
Stripping length	9 mm		
Tightening torques	1.1 ... 1.5 Nm / 9 ... 13 lb.in		
Connection screw	M3 (Pozidriv 2)		

TA25DU thermal overload relays

With screw terminals - 0.10 ... 32.0 A



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.

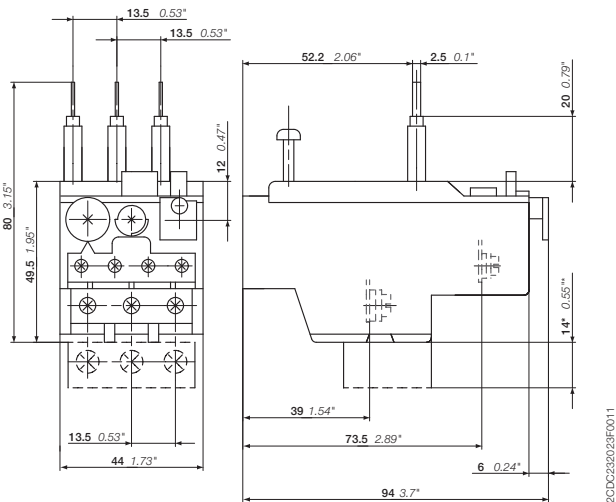
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- Manual or automatic reset selectable
- Phase loss sensitive acc. to IEC/EN 60947-4-1
- Two electrically isolated auxiliary contacts – 1 N.O. + 1 N.C.
- TEST and STOP function – Trip indication on the front
- Temperature compensation
- Suitable for 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-0.16	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

TA25DU thermal overload relays

Technical data

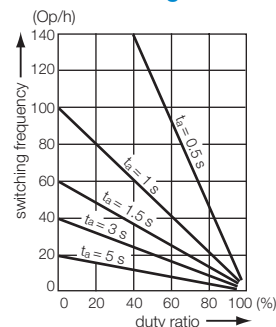
Main circuit – Utilization characteristics according to IEC/EN

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



t_a : Motor starting time

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

6

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	

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 mm ² 2 x 0.75 ... 4 mm ²	1.5 ... 6 mm ² 1.5 ... 6 mm ²	1.5 ... 10 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
Stranded acc. to UL/CSA	1 x AWG 16-8 2 x AWG 16-8	AWG 16-8 AWG 16-8	AWG 10-8 -
Flexible acc. to UL/CSA	1 x AWG 16-8 2 x AWG 16-8	AWG 16-8 AWG 16-8	AWG 10-8 -
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 mm ²
 Flexible	1 x or 2 x	0.75 ... 2.5 mm ²
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)	

TA25DU thermal overload relays

Accessories



DX25



DB25/25A



DS25-A-220/380



DR25-A-220/380

Description

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. DR25-A coil for remote reset of TA25DU.

Ordering details

For thermal overload relays	Description	Type	Order code	Weight (1 pce) kg
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Terminal block and mounting kits

TA25DU-0.16 ... 25 / DB25/25 A	Terminal block 10 mm ²	DX25	1SAZ201307R0002	0.030
TA25DU-0.16 ... 25	Single mounting kit	DB25/25A	1SAZ201108R0001	0.055
TA25DU-32	Single mounting kit	DB25/32A	1SAZ201108R0002	0.080

Remote tripping coil

TA25DU	24/48 V, 50/60 Hz	DS25-A-24	1SAZ201501R0001	0.050
TA25DU	110 V, 50/60Hz	DS25-A-110	1SAZ201501R0003	0.050
TA25DU	220/380 V, 50/60 Hz	DS25-A-220/380	1SAZ201501R0005	0.050
TA25DU	500 V, 50/60Hz	DS25-A-500	1SAZ201501R0006	0.050

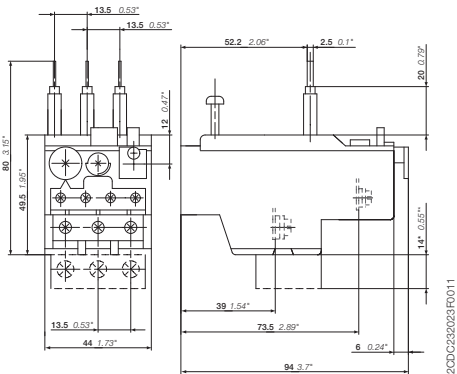
The remote tripping coil is to be connected to auxiliary contact 95-96 of TA25DU.
The coil is not suitable for Continuous operation. Impulse duration: maximum 0.2 seconds.

Remote reset coil

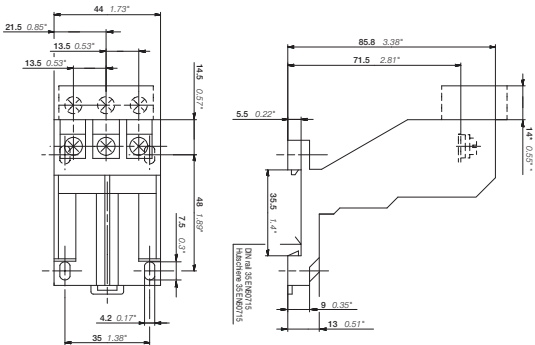
TA25DU	24 V, 50/60 Hz	DR25-A-24	1SAZ201504R0001	0.050
TA25DU	48 V, 50/60 Hz	DR25-A-48	1SAZ201504R0002	0.050
TA25DU	110 V, 50/60 Hz	DR25-A-110	1SAZ201504R0003	0.050
TA25DU	220/380 V, 50/60 Hz	DR25-A-220/380	1SAZ201504R0005	0.050
TA25DU	500 V, 50/60 Hz	DR25-A-500	1SAZ201504R0006	0.050

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

Main dimensions mm, inches



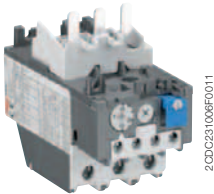
TA25DU + DX25



DB25

TA42DU thermal overload relays

18.0 ... 42.0 A



TA42DU-32

Description

The TA42DU 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

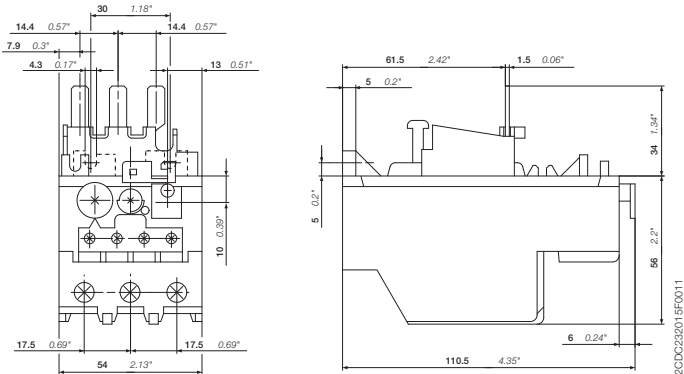
Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					
18 ... 25	63 A, Fuse type gG / 50 A aM	10A	TA42DU-25	1SAZ311201R1001	0.335
22 ... 32	80 A, Fuse type gG / 63 A aM	10A	TA42DU-32	1SAZ311201R1002	0.335
29 ... 42	100 A, Fuse type gG / 80 A aM	10A	TA42DU-42	1SAZ311201R1003	0.335

Ordering details accessories

For thermal overload relays	Description	Type	Order code	Weight (1 pce) kg
TA42DU	Single mounting kit	DB80	1SAZ301110R0001	0.155

Main dimensions mm, inches



TA42DU

2CDC106040C0201

TA42DU thermal overload relays

Technical data

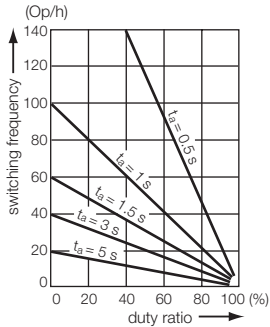
Main circuit – Utilization characteristics according to IEC/EN

Type	TA42DU
Standards	IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1
Rated operational voltage U_e	690 V AC
Rated frequency	DC, 50/60 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	TA42DU
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



TA42DU thermal overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	TA42DU
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	TA42DU
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						
		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
TA42DU-25	25 A	5 kA	80 A, K5/ RK5	80 A	35 / 18 kA	80 A	50 kA	100 A, Class J
TA42DU-32	32 A	5 kA	100 A, K5/ RK5	80 A	35 / 18 kA	80 A	50 kA	100 A, Class J
TA42DU-42	42 A	5 kA	150 A, K5/ RK5	80 A	35 / 18 kA	80 A	50 kA	200 A, Class J

TA42DU thermal overload relays

Technical data

General technical data

Type	TA42DU	
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

6

Main circuit

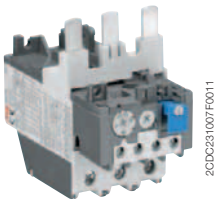
Type	TA42DU	
Connecting capacity		
 Rigid	1 x	2.5 ... 25 mm ²
	2 x	2.5 ... 16 mm ²
 Flexible with insulated ferrule	1 x	2.5 ... 25 mm ²
	2 x	2.5 ... 10 mm ²
	1 x or 2 x	Stranded acc. to UL/CSA AWG 8-1
	1 x or 2 x	Flexible acc. to UL/CSA AWG 8-1
Stripping length	14 mm	
Tightening torques	4.5 Nm / 40 lb.in	
Connection screw	M6 (Pozidriv 2)	

Auxiliary circuit

Type	TA42DU	
Connecting capacity		
 Rigid	1 x or 2 x	0.75 ... 4 mm ²
 Flexible with ferrule	1 x or 2 x	0.75 ... 2.5 mm ²
 Flexible with insulated ferrule	1 x or 2 x	0.75 ... 2.5 mm ²
 Flexible	1 x or 2 x	0.75 ... 2.5 mm ²
	1 x or 2 x	Stranded acc. to UL/CSA AWG 18-14
	1 x or 2 x	Flexible acc. to UL/CSA AWG 18-14
Stripping length	9 mm	
Tightening torques	0.8 ... 1.3 Nm / 12 lb.in	
Connection screw	M3.5 (Pozidriv 2)	

TA75DU thermal overload relays

18 ... 80 A



TA75DU-63

Description

The TA75DU 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

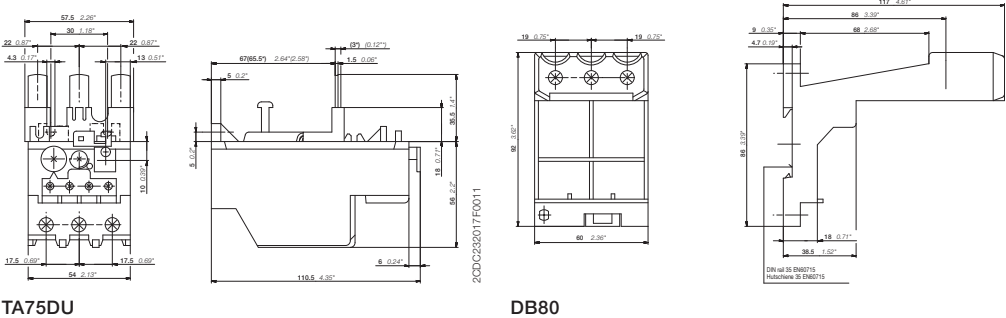
Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					
18 ... 25	63 A, Fuse type gG / 50 A aM	10A	TA75DU-25	1SAZ321201R1001	0.335
22 ... 32	80 A, Fuse type gG / 63 A aM	10A	TA75DU-32	1SAZ321201R1002	0.335
29 ... 42	100 A, Fuse type gG / 80 A aM	10A	TA75DU-42	1SAZ321201R1003	0.335
36 ... 52	125 A, Fuse type gG / 100 A aM	10A	TA75DU-52	1SAZ321201R1004	0.335
45 ... 63	160 A, Fuse type gG / 125 A aM	10A	TA75DU-63	1SAZ321201R1005	0.335
60 ... 80	200 A, Fuse type gG / 160 A aM	10A	TA75DU-80	1SAZ321201R1006	0.370

Ordering details accessories

For thermal overload relays	Description	Type	Order code	Weight (1 pce) kg
TA75DU	Single mounting kit	DB80	1SAZ301110R0001	0.155

Main dimensions mm, inches



TA75DU thermal overload relays

Technical data

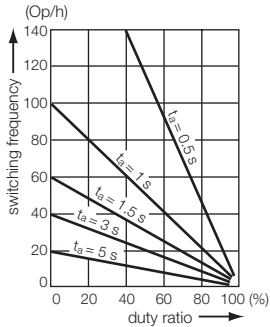
Main circuit – Utilization characteristics according to IEC/EN

Type	TA75DU
Standards	IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1
Rated operational voltage U_e	690 V AC
Rated frequency	DC, 50/60 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	TA75DU
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



TA75DU thermal overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	TA75DU
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	TA75DU
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 Short circuit rating RMS symmetrical	Fuse type	Listed circuit breaker
TA75DU-25	25 A	5 kA	80 A, K5 / RK5	80 A
TA75DU-32	32 A	5 kA	100 A, K5 / RK5	80 A
TA75DU-42	42 A	5 kA	150 A, K5 / RK5	80 A
TA75DU-52	52 A	5 kA	175 A, K5 / RK5	125 A
TA75DU-63	63 A	10 kA	200 A, K5 / RK5	125 A
TA75DU-80	80 A	10 kA	250 A, K5 / RK5	125 A

TA75DU thermal overload relays

Technical data

General technical data

Type	TA75DU	
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

6

Main circuit

Type	TA75DU	
Connecting capacity		
 Rigid	1 x	2.5 ... 25 mm ²
	2 x	2.5 ... 16 mm ²
 Flexible with insulated ferrule	1 x	2.5 ... 25 mm ²
	2 x	2.5 ... 10 mm ²
	1 x or 2 x	Stranded acc. to UL/CSA AWG 8-1
	1 x or 2 x	Flexible acc. to UL/CSA AWG 8-1
Stripping length	14 mm	
Tightening torques	4.5 Nm / 40 lb.in	
Connection screw	M6 (Pozidriv 2)	

Auxiliary circuit

Type	TA75DU	
Connecting capacity		
 Rigid	1 x or 2 x	0.75 ... 4 mm ²
 Flexible with ferrule	1 x or 2 x	0.75 ... 2.5 mm ²
 Flexible with insulated ferrule	1 x or 2 x	0.75 ... 2.5 mm ²
 Flexible	1 x or 2 x	0.75 ... 2.5 mm ²
	1 x or 2 x	Stranded acc. to UL/CSA AWG 18-14
	1 x or 2 x	Flexible acc. to UL/CSA AWG 18-14
Stripping length	9 mm	
Tightening torques	0.8 ... 1.3 Nm / 12 lb.in	
Connection screw	M3.5 (Pozidriv 2)	

TA80DU thermal overload relays



Description

The TA80DU 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

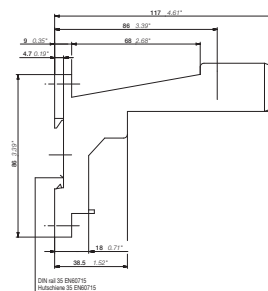
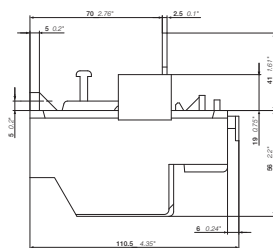
Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					
29 ... 42	100 A, Fuse type gG / 80 A aM	10A	TA80DU-42	1SAZ331201R1003	0.360
36 ... 52	125 A, Fuse type gG / 100 A aM	10A	TA80DU-52	1SAZ331201R1004	0.365
45 ... 63	160 A, Fuse type gG / 125 A aM	10A	TA80DU-63	1SAZ331201R1005	0.365
60 ... 80	200 A, Fuse type gG / 160 A aM	10A	TA80DU-80	1SAZ331201R1006	0.375

Ordering details accessories

For thermal overload relay	Description	Type	Order code	Weight (1 pce) kg
TA80DU	Single mounting kit	DB80	1SAZ301110R0001	0.155

Main dimensions mm, inches



TA80DU thermal overload relays

Technical data

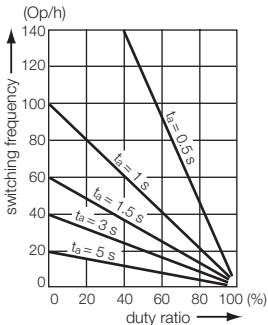
Main circuit – Utilization characteristics according to IEC/EN

Type	TA80DU
Standards	IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1
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	TA80DU
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



TA80DU thermal overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	TA80DU
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	TA80DU
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 Short circuit rating RMS symmetrical	Fuse type	Listed circuit breaker
TA80DU-42	42 A	5 kA	150 A, K5 / RK5	80 A
TA80DU-52	52 A	5 kA	175 A, K5 / RK5	125 A
TA80DU-63	63 A	10 kA	200 A, K5 / RK5	125 A
TA80DU-80	80 A	10 kA	250 A, K5 / RK5	125 A

TA80DU thermal overload relays

Technical data

General technical data

Type	TA80DU	
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

6

Main circuit

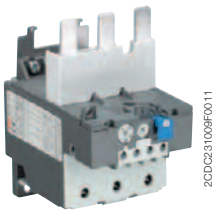
Type	TA80DU	
Connecting capacity		
 Rigid	1 x	2.5 ... 25 mm ²
	2 x	2.5 ... 16 mm ²
 Flexible with insulated ferrule	1 x	2.5 ... 25 mm ²
	2 x	2.5 ... 10 mm ²
	1 x or 2 x	Stranded acc. to UL/CSA AWG 8-1
	1 x or 2 x	Flexible acc. to UL/CSA AWG 8-1
Stripping length	14 mm	
Tightening torques	4.5 Nm / 40 lb.in	
Connection screw	M6 (Pozidriv 2)	

Auxiliary circuit

Type	TA80DU	
Connecting capacity		
 Rigid	1 x or 2 x	0.75 ... 4 mm ²
 Flexible with ferrule	1 x or 2 x	0.75 ... 2.5 mm ²
 Flexible with insulated ferrule	1 x or 2 x	0.75 ... 2.5 mm ²
 Flexible	1 x or 2 x	0.75 ... 2.5 mm ²
	1 x or 2 x	Stranded acc. to UL/CSA AWG 18-14
	1 x or 2 x	Flexible acc. to UL/CSA AWG 18-14
Stripping length	9 mm	
Tightening torques	0.8 ... 1.3 Nm / 12 lb.in	
Connection screw	M3.5 (Pozidriv 2)	

TA110DU thermal overload relays

66 ... 110 A



TA110DU-110

2CDC231009F0011

Description

The TA110DU 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

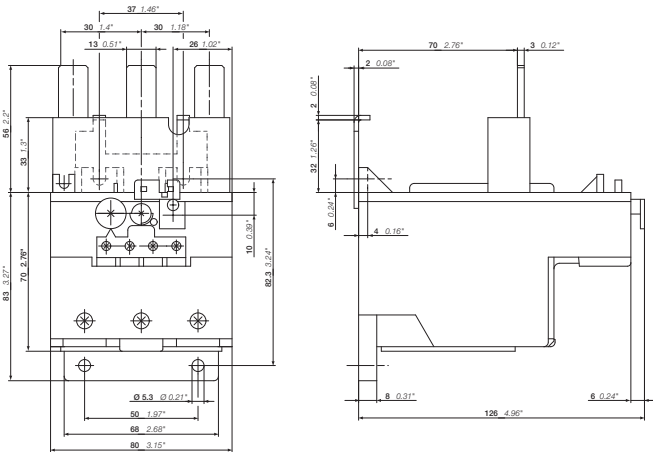
Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					
66 ... 90	200 A, Fuse type gG / 160 A aM	10A	TA110DU-90	1SAZ411201R1001	0.750
80 ... 110	224 A, Fuse type gG / 200 A aM	10A	TA110DU-110	1SAZ411201R1002	0.755

Ordering details accessories

For thermal overload relays	Description	Type	Order code	Weight (1 pce) kg
TA110DU	Single mounting kit	DB200	1SAZ401110R0001	0.225

Main dimensions mm, inches



TA110DU

2CDC23202F0011

2CDC106037C0201

TA110DU thermal overload relays

Technical data

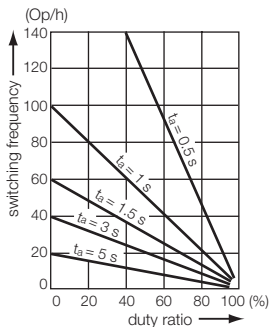
Main circuit – Utilization characteristics according to IEC/EN

Type	TA110DU
Standards	IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1
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	TA110DU
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



TA110DU thermal overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	TA110DU
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	TA110DU
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						
		Short circuit rating RMS symmetrical	Fuse type	Listed circuit breaker	Short circuit rating RMS symmetrical	Fuse type	Short circuit rating RMS symmetrical	Listed circuit breaker
TA110DU-90	90 A	10 kA	250 A, K5 / RK5	150 A	65 kA	200 A, Class J	65 / 25 kA	150 A
TA110DU-110	110 A	10 kA	250 A, K5 / RK5	250 A	65 kA	200 A, Class J	65 / 25 kA	150 A

TA110DU thermal overload relays

Technical data

General technical data

Type	TA110DU	
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	
Degree of protection	IP20	

Electrical connection

6

Main circuit

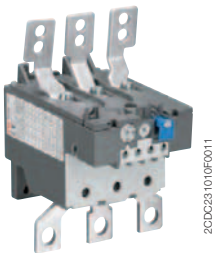
Type	TA110DU	
Connecting capacity		
 Rigid	1 x	16 ... 35 mm²
	2 x	-
 Flexible	1 x	16 ... 35 mm²
	2 x	-
	Stranded acc. to UL/CSA	1 x or 2 x AWG 6-2/0
	Flexible acc. to UL/CSA	1 x or 2 x AWG 6-2/0
Stripping length	25 mm	
Tightening torques	7.2 ... 9.6 Nm / 40 lb.in	
Connection screw	M8 (Hexagon)	

Auxiliary circuit

Type	TA110DU	
Connecting capacity		
 Rigid	1 x or 2 x	0.75 ... 4 mm²
 Flexible with ferrule	1 x or 2 x	0.75 ... 2.5 mm²
 Flexible with insulated ferrule	1 x or 2 x	0.75 ... 2.5 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)	

TA200DU thermal overload relays

66 ... 200 A



TA200DU-200

Description

The TA200DU 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

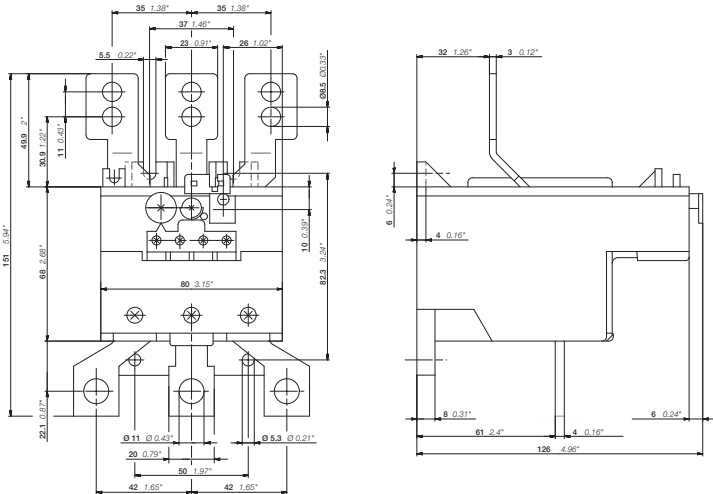
Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					
66 ... 90	200 A, Fuse type gG / 160 A aM	10A	TA200DU-90	1SAZ421201R1001	0.755
80 ... 110	224 A, Fuse type gG / 200 A aM	10A	TA200DU-110	1SAZ421201R1002	0.760
100 ... 135	224 A, Fuse type gG / 200 A aM	10A	TA200DU-135	1SAZ421201R1003	0.760
110 ... 150	250 A, Fuse type gG / 224 A aM	10A	TA200DU-150	1SAZ421201R1004	0.760
130 ... 175	315 A, Fuse type gG / 250 A aM	10A	TA200DU-175	1SAZ421201R1005	0.770
150 ... 200	315 A, Fuse type gG / 250 A aM	10A	TA200DU-200	1SAZ421201R1006	0.785

Ordering details accessories

For thermal overload relays	Description	Type	Order code	Weight (1 pce) kg
TA200DU	Terminal shroud	LT200/A	1SAZ401901R1001	0.090
TA200DU	Single mounting kit	DB200	1SAZ401110R0001	0.225

Main dimensions mm, inches



TA200DU

TA200DU thermal overload relays

Technical data

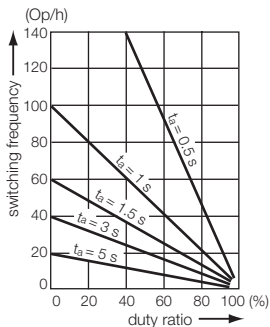
Main circuit – Utilization characteristics according to IEC/EN

Type	TA200DU
Standards	IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1
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	TA200DU
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



TA200DU thermal overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	TA200DU
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	TA200DU
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	Fuse type		Listed circuit breaker		Fuse type	
		Short circuit rating: RMS symmetrical			Short circuit rating: RMS symmetrical		Short circuit rating: RMS symmetrical	Listed circuit breaker
TA200DU-90	90 A	10 kA	250 A, K5 / RK5	225 A	-	-	-	-
TA200DU-110	110 A	10 kA	250 A, K5 / RK5	225 A	-	-	18 kA	125 A
TA200DU-135	135 A	10 kA	300 A, K5 / RK5	225 A	50 kA	400 A, Class J	35 / 18 kA	225 A
TA200DU-150	150 A	10 kA	300 A, K5 / RK5	225 A	65 kA	400 A, Class J	35 / 18 kA	225 A
TA200DU-175	175 A	10 kA	300 A, K5 / RK5	225 A	65 kA	400 A, Class J	35 / 18 kA	225 A
TA200DU-200	200 A	10 kA	400 A, K5 / RK5	400 A	65 kA	400 A, Class J	35 / 18 kA	225 A

TA200DU thermal overload relays

Technical data

General technical data

Type	TA200DU	
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	
Degree of protection	IP20	

Electrical connection

6

Main circuit

Type	TA200DU	
Connecting capacity		
 Rigid	1 x	25 ... 120 mm²
 Flexible	1 x	16 ... 35 mm²
 Lugs	L ≤ 12 mm / l > 6 mm	
Tightening torques	4 Nm	
Connection screw	M6	

Auxiliary circuit

Type	TA200DU	
Connecting capacity		
 Rigid	1 x or 2 x	0.75 ... 4 mm²
 Flexible with ferrule	1 x or 2 x	0.75 ... 2.5 mm²
 Flexible with insulated ferrule	1 x or 2 x	0.75 ... 2.5 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)	

TA450DU thermal overload relays



TA450DU-310

Description

The TA450DU 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

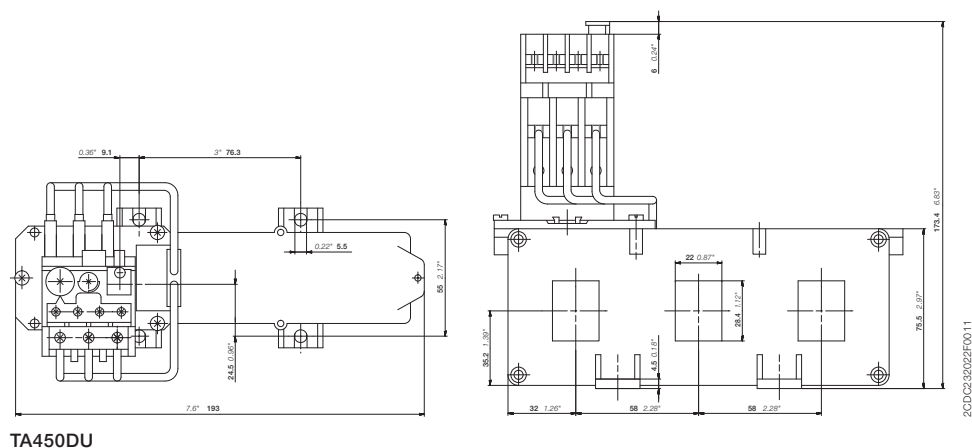
Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					
130 ... 185	not applicable	10A	TA450DU-185	1SAZ511201R1001	1.500
165 ... 235	not applicable	10A	TA450DU-235	1SAZ511201R1002	1.500
220 ... 310	not applicable	10A	TA450DU-310	1SAZ511201R1003	1.500

Ordering details accessories

For thermal overload relays	Description	Type	Order code	Weight (1 pce) kg
TA450DU	Terminal shroud	DT450/A185	1SAZ501901R1001	1.070
TA450DU	Terminal shroud	DT450/A300	1SAZ501902R1001	1.180

Main dimensions mm, inches



TA450DU

TA450DU thermal overload relays

Technical data

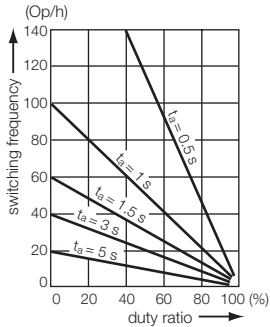
Main circuit – Utilization characteristics according to IEC/EN

Type	TA450DU
Standards	IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1
Rated operational voltage U_e	1000 V AC
Rated frequency	50/60 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}	8 kV
Rated insulation voltage U_i	1000 V AC

Auxiliary circuit according to IEC/EN

Type	TA450DU
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	500 V

Technical diagram – Intermittent periodic duty



t_s : Motor starting time

TA450DU thermal overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	TA450DU
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	TA450DU
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		
		Short circuit rating RMS symmetrical	Fuse type	Listed circuit breaker
TA450DU-185	185 A	10 kA	na	na
TA450DU-235	235 A	10 kA	na	na
TA450DU-310	310 A	18 kA	na	na

TA450DU thermal overload relays

Technical data

General technical data

Type	TA450DU	
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	
Degree of protection	IP20	

Electrical connection

Main circuit

Type	TA450DU	
Connecting capacity		
	Bar	Max. 21 x 28.4 mm

Auxiliary circuit

Type	TA450DU	
Connecting capacity		
 Rigid	1 x or 2 x	0.75 ... 4 mm ²
 Flexible with ferrule	1 x or 2 x	0.75 ... 2.5 mm ²
 Flexible with insulated ferrule	1 x or 2 x	0.75 ... 2.5 mm ²
 Flexible	1 x or 2 x	0.75 ... 2.5 mm ²
	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)	

E16DU, E45DU, E80DU, E140DU electronic overload relays

0.10 to 140 A



E16DU-1.0



E45DU-30



E80DU-80



E140DU-140

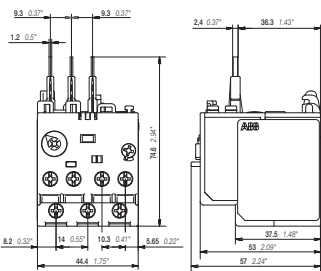
Description

The E16DU up to E140DU are self-supplied electronic overload relays, which means no extra external supply is needed. It offers reliable protection for motors in the event of overload or phase failure. Easy to use like a thermal overload relay and compatible with standard motor applications, the electronic overload relay is convincing, above all, due to its wide setting range, high accuracy, high operational temperature range and the possibility to select a trip class (10E, 20E, 30E). Further features are the temperature compensation, trip contact (N.C.), signal contact (N.O.), automatic or manual reset selectable, trip-free mechanism, STOP and TEST function and a trip indication. The overload relays are connected directly to the contactors. Single mounting kits are available as accessory.

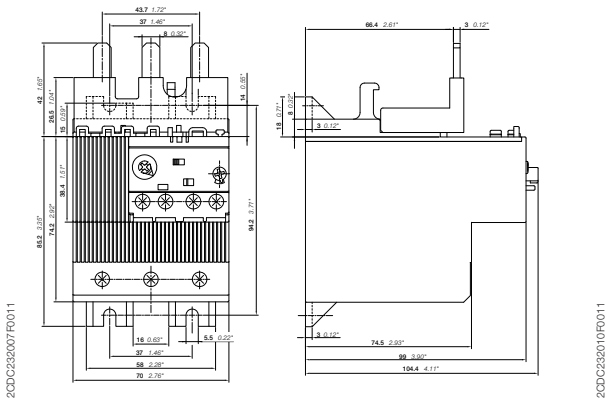
Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					
E16DU electronic overload relays					
0.10 ... 0.32	1 A, Fuse type gG	10E, 20E, 30E	E16DU-0.32	1SAX111001R1101	0.150
0.30 ... 1.00	4 A, Fuse type gG	10E, 20E, 30E	E16DU-1.0	1SAX111001R1102	0.150
0.80 ... 2.70	10 A, Fuse type gG	10E, 20E, 30E	E16DU-2.7	1SAX111001R1103	0.150
1.90 ... 6.30	20 A, Fuse type gG	10E, 20E, 30E	E16DU-6.3	1SAX111001R1104	0.150
5.70 ... 18.9	50 A, Fuse type gG	10E, 20E, 30E	E16DU-18.9	1SAX111001R1105	0.150
E45DU electronic overload relays					
9.00 ... 30.0	160 A, Fuse type gG	10E, 20E, 30E	E45DU-30	1SAX211001R1101	0.350
15.0 ... 45.0	160 A, Fuse type gG	10E, 20E, 30E	E45DU-45	1SAX211001R1102	0.350
E80DU electronic overload relay					
27.0 ... 80.0 A	250 A	10E, 20E, 30E	E80DU-80	1SAX311001R1101	0.770
E140DU electronic overload relay					
50.0 ... 140.0 A	400 A	10E, 20E, 30E	E140DU-140	1SAX321001R1101	0.915

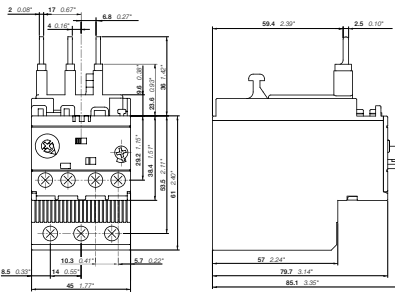
Main dimensions mm, inches



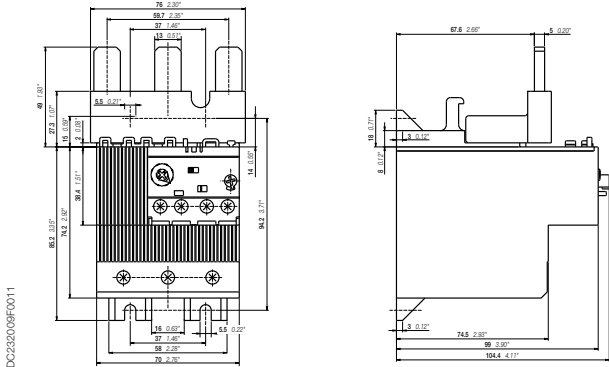
E16DU



E80DU



E45DU



E140DU

E16DU, E45DU, E80DU, E140DU electronic overload relays

Technical data

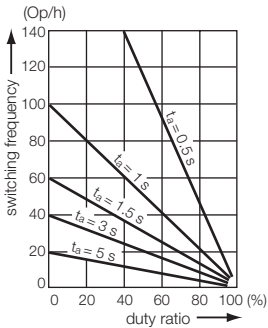
Main circuit – Utilization characteristics according to IEC/EN

Type	E16DU	E45DU	E80DU	E140DU
Standards	IEC 60947-1 / 60947-4-1 / 60947-5-1 and EN 60947-1 / 60947-4-1 / 60947-5-1			
Rated operational voltage U _e	690 V AC		1000 V AC	
Rated frequency	50/60 Hz			
Trip class	10E, 20E, 30E, selectable			
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		1000 V AC	

Auxiliary circuit according to IEC/EN

Type	E16DU	E45DU	E80DU	E140DU
Rated operational voltage U_e	600 V AC / DC			
Conventional free air thermal current I_n	6 A			
Rated frequency	DC, 50/60 Hz			
Number of poles	1 N.C. + 1 N.O.			
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category				
110-120 V	50/60 Hz	3.00 A		
220-230-240 V	50/60 Hz	3.00 A		
440 V	50/60 Hz	1.10 A		
480-500 V	50/60 Hz	0.72 A		
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category				
24 V		1.50 A		
60 V		0.55 A		
110-120-125 V		0.55 A		
250 V		0.27 A		
Minimum switching capacity	12 V / 3 mA			
Short-circuit protective device	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_a : Motor starting time

E16DU, E45DU, E80DU, E140DU electronic overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	E16DU	E45DU	E80DU	E140DU
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	E16DU	E45DU	E80DU	E140DU
Contact rating	B600, Q300			
Conventional thermal current	5 A			

Full load amps and short-circuit protective device

Type	Full load amps (FLA)	Short-circuit protective device					
		480 V AC		600 V AC			
		SCCR	Fuse type	SCCR	Fuse type	SCCR	Fuse type
E16DU-0.32	0.32 A	50 kA	2 A, Class J	5 kA	2 A, K5 / RK5	100 kA	2 A, Class J
E16DU-1.0	1.00 A	50 kA	2 A, K5 / RK5	5 kA	2 A, K5 / RK5	100 kA	2 A, Class J
E16DU-2.7	2.70 A	50 kA	4 A, K5 / RK5	5 kA	4 A, K5 / RK5	100 kA	4 A, Class J
E16DU-6.3	6.30 A	50 kA	15 A, K5 / RK5	5 kA	15 A, K5 / RK5	100 kA	15 A, Class J
E16DU-18.9	18.90 A	50 kA	30 A, K5 / RK5	5 kA	30 A, K5 / RK5	100 kA	30 A, Class J

Type	Full load amps (FLA)	Short-circuit protective device			
		600 V AC			
		SCCR	Fuse type	SCCR	Fuse type
E45DU-30	30 A	18 kA	150 A, K5 / RK5	100 kA	150 A, Class J
E45DU-45	45 A	18 kA	200 A, K5 / RK5	100 kA	200 A, Class J

Type	Full load amps (FLA)	Short-circuit protective device	
		600 V AC	
		SCCR	Fuse type
E80DU-80	80 A	18 kA	300 A, K5 / RK5

Type	Full load amps (FLA)	Short-circuit protective device	
		600 V AC	
		SCCR	Fuse type
E140DU-140	140 A	18 kA	400 A, K5 / RK5

E16DU, E45DU, E80DU, E140DU electronic overload relays

Technical data

General data

Type	E16DU	E45DU	E80DU	E140DU
Pollution degree	3			
Phase loss sensitive	Yes			
Ambient air temperature				
Operation	Open - compensated without derating	-25 ... +70 °C		
Storage		-50 ... +85 °C		
Ambient air temperature compensation	Continuous			
Maximum operating altitude permissible	2000 m			
Resistance to shock acc. to IEC 60068-2-27	15 g / 11 ms			
Resistance to vibrations acc. to IEC 60068-2-6	5 g / 3 ... 150 Hz			
Mounting position	Position 1-6			
Mounting	Mount on the contactor and tighten the screws of the main circuit terminals or with single mounting kit			
Degree of protection	IP20			

6

Electrical connection

Main circuit

Type	E16DU	E45DU	E80DU	E140DU
Connecting capacity				
 Rigid	1 x 1 ... 4 mm ² 2 x 1 ... 4 mm ²	2.5 ... 16 mm ² 2.5 ... 16 mm ²	6 ... 95 mm ² 6 ... 35 mm ²	6 ... 95 mm ² 6 ... 35 mm ²
 Flexible with insulated ferrule	1 x 0.75 ... 2.5 mm ² 2 x 0.75 ... 2.5 mm ²	2.5 ... 10 mm ² 2.5 ... 10 mm ²	6 ... 70 mm ² 6 ... 35 mm ²	6 ... 70 mm ² 6 ... 35 mm ²
Stranded acc. to UL/CSA	1 x AWG 16-10 2 x AWG 16-10	AWG 14-6 AWG 14-6	AWG 10-0 -	AWG 8-0 -
Flexible acc. to UL/CSA	1 x AWG 16-10 2 x AWG 16-10	AWG 14-6 AWG 14-6	AWG 10-0 -	AWG 8-0 -
Stripping length	9 mm	13 mm	-	-
Tightening torques	0.8 - 1.5 Nm / 7 lb.in	2.3 - 2.6 Nm / 22 lb.in	6 - 6.5 Nm / 53 lb.in	6 - 6.5 Nm / 53 lb.in
Connection screw	M3.5 (Pozidriv 2)	M5 (Pozidriv 2)	M8 (inbus 4)	M8 (inbus 4)

Auxiliary circuit

Type	E16DU	E45DU	E80DU	E140DU
Connecting capacity				
 Rigid	1 or 2 x 1 ... 4 mm ²			
 Flexible with ferrule	1 or 2 x 0.75 ... 2.5 mm ²			
 Flexible with insulated ferrule	1 or 2 x 0.75 ... 2.5 mm ²			
 Flexible	1 or 2 x 0.75 ... 2.5 mm ²			
Stranded acc. to UL/CSA	1 or 2 x AWG 16-10			
Flexible acc. to UL/CSA	1 or 2 x AWG 16-10			
Stripping length	9 mm			
Tightening torques	0.8 ... 1.2 Nm / 7 lb.in			
Connection screw	M3.5 (Pozidriv 2)			

E16DU, E45DU, E80DU, E140DU electronic overload relays

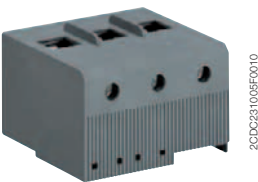
Accessories



DB16E



DB45E



DB80E



DB140E

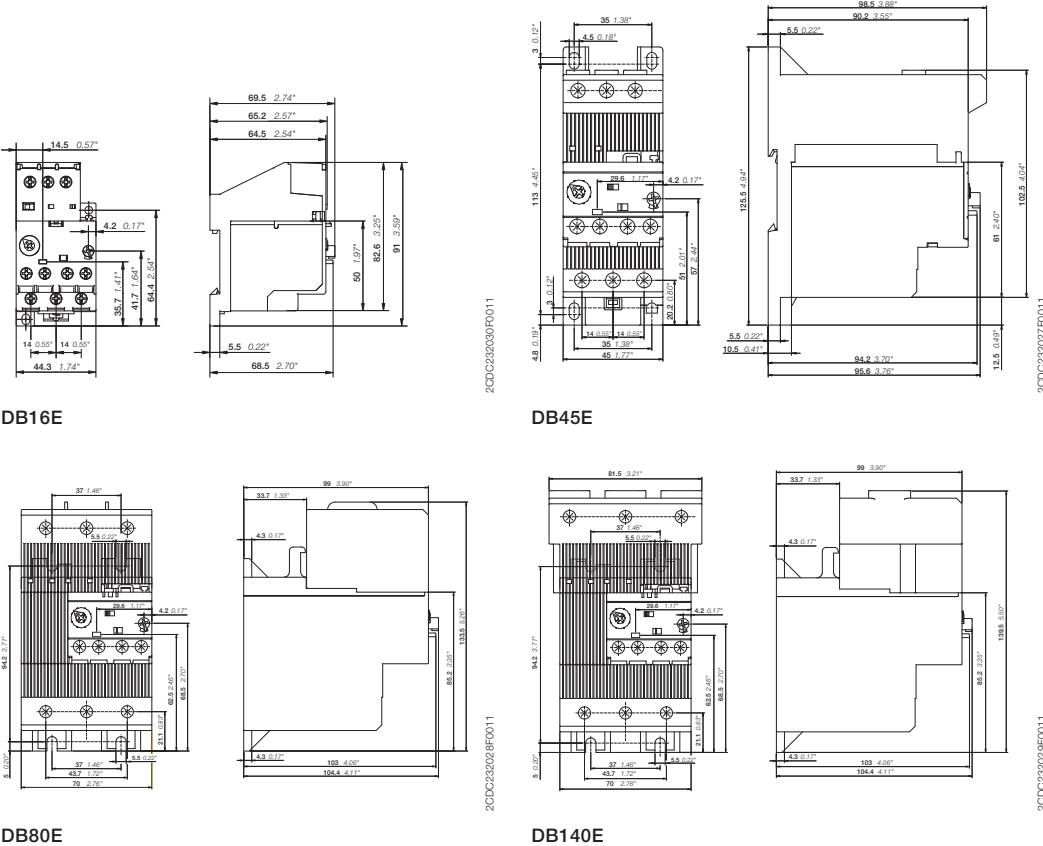
Description

Single mounting kits are available as accessory for E16DU, E45DU, E80DU, and E140DU. The single mounting kits offer the possibility to mount the overload relay separately from the contactor.

Ordering details

For electronic overload relays	Description	Type	Order code	Weight (1 pce) kg
Single mounting kits				
E16DU	Single mounting kit	DB16E	1SAX101110R0001	0.035
E45DU	Single mounting kit	DB45E	1SAX201110R1001	0.090
E80DU	Single mounting kit	DB80E	1SAX301110R1001	0.145
E140DU	Single mounting kit	DB140E	1SAX301110R1002	0.145

Main dimensions mm, inches



EF19, EF45 electronic overload relays

0.10 to 45.0 A



EF19-18.9



EF45-30

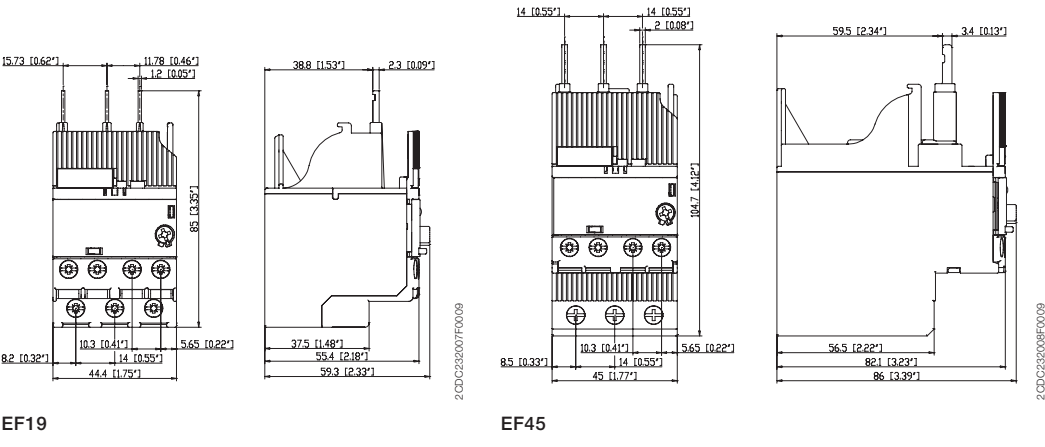
Description

The EF19 and EF45 are self-supplied electronic overload relays, which means no extra external supply is needed. It offers reliable protection for motors in the event of overload or phase failure. Easy to use like a thermal overload relay and compatible with standard motor applications, the electronic overload relay is convincing, above all, due to its wide setting range, high accuracy, high operational temperature range and the possibility to select a trip class (10E, 20E, 30E). Further features are the temperature compensation, trip contact (N.C.), signal contact (N.O.), automatic or manual reset selectable, trip-free mechanism, STOP and TEST function and a trip indication. The overload relays are connected directly to the contactors.

Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					
EF19 electronic overload relays					
0.10 ... 0.32	1 A, Fuse type gG	10E, 20E, 30E	EF19-0.32	1SAX121001R1101	0.158
0.30 ... 1.00	4 A, Fuse type gG	10E, 20E, 30E	EF19-1.0	1SAX121001R1102	0.158
0.80 ... 2.70	10 A, Fuse type gG	10E, 20E, 30E	EF19-2.7	1SAX121001R1103	0.158
1.90 ... 6.30	20 A, Fuse type gG	10E, 20E, 30E	EF19-6.3	1SAX121001R1104	0.158
5.70 ... 18.9	50 A, Fuse type gG	10E, 20E, 30E	EF19-18.9	1SAX121001R1105	0.158
EF45 electronic overload relays					
9.00 ... 30.0	160 A, Fuse type gG	10E, 20E, 30E	EF45-30	1SAX221001R1101	0.362
15.0 ... 45.0	160 A, Fuse type gG	10E, 20E, 30E	EF45-45	1SAX221001R1102	0.362

Main dimensions mm, inches



EF19, EF45 electronic overload relays

Technical data

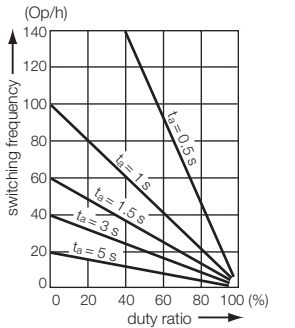
Main circuit – Utilization characteristics according to IEC/EN

Type	EF19	EF45
Standards	IEC 60947-1 / 60947-4-1 / 60947-5-1 and EN 60947-1 / 60947-4-1 / 60947-5-1	
Rated operational voltage U_o	690 V AC	
Rated frequency	50/60 Hz	
Trip class	10E, 20E, 30E, selectable	
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	EF19	EF45
Rated operational voltage U_o	600 V AC / DC	
Conventional free air thermal current I_{th}	6 A	
Rated frequency	DC, 50/60 Hz	
Number of poles	1 N.C. + 1 N.O.	
I_o / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category		
110-120 V	50/60 Hz	3.00 A
220-230-240 V	50/60 Hz	3.00 A
440 V	50/60 Hz	1.10 A
480-500 V	50/60 Hz	0.75 A
I_o / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category		
24 V		1.50 A
60 V		0.55 A
110-120-125 V		0.55 A
250 V		0.27 A
Minimum switching capacity	12 V / 3 mA	
Short-circuit protective device	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_a : Motor starting time

EF19, EF45 electronic overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	EF19	EF45
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	EF19	EF45
Contact rating	N.C., 95-96 N.O., 97-98	B600, Q600 B600, Q600
Conventional thermal current	5 A	

6

Full load amps and short-circuit protective device

Type	Full load amps (FLA)	Short-circuit protective device					
		480 V AC		600 V AC			
		SCCR	Fuse type	SCCR	Fuse type	SCCR	Fuse type
EF19-0.32	0.32 A	50 kA	2 A, Class J	5 kA	2 A, K5 / RK5	100 kA	2 A, Class J
EF19-1.0	1.00 A	50 kA	2 A, K5 / RK5	5 kA	2 A, K5 / RK5	100 kA	2 A, Class J
EF19-2.7	2.70 A	50 kA	4 A, K5 / RK5	5 kA	4 A, K5 / RK5	100 kA	4 A, Class J
EF19-6.3	6.30 A	50 kA	15 A, K5 / RK5	5 kA	15 A, K5 / RK5	100 kA	15 A, Class J
EF19-18.9	18.90 A	50 kA	30 A, K5 / RK5	5 kA	30 A, K5 / RK5	100 kA	30 A, Class J

Type	Full load amps (FLA)	Short-circuit protective device					
		480 V AC		600 V AC			
		SCCR	Fuse type	SCCR	Fuse type	SCCR	Fuse type
EF45-30	30 kA	18 kA	150 A, K5 / RK5	18 kA	150 A, K5 / RK5	100 kA	150 A, Class J
EF45-45	45 kA	18 kA	200 A, K5 / RK5	18 kA	200 A, K5 / RK5	100 kA	200 A, Class J

EF19, EF45 electronic overload relays

Technical data

General data

Type	EF19	EF45
Pollution degree	3	
Phase loss sensitive	Yes	
Ambient air temperature		
Operation	Open - compensated without derating	-25 ... +70 °C
Storage		-50 ... +85 °C
Ambient air temperature compensation	Continuous	
Maximum operating altitude permissible	2000 m	
Resistance to shock acc. to IEC 60068-2-27	15 g / 11 ms	
Resistance to vibrations acc. to IEC 60068-2-6	1 g / 3 ... 150 Hz	
Mounting position	Position 1-6	
Mounting	Mount on the contactor and tighten the screws of the main circuit terminals	
Degree of protection	IP20	

Electrical connection

Main circuit

Type	EF19	EF45
Connecting capacity		
 Rigid	1 or 2 x 1 ... 4 mm ²	2.5 ... 16 mm ²
 Flexible with insulated ferrule	1 or 2 x 0.75 ... 2.5 mm ²	2.5 ... 10 mm ²
Stranded acc. to UL/CSA	1 or 2 x AWG 16-10	AWG 14-6
Flexible acc. to UL/CSA	1 or 2 x AWG 16-10	AWG 14-6
Stripping length	9 mm	13 mm
Tightening torques	0.8 ... 1.5 Nm / 7 ... 13 lb.in	2.3 ... 2.6 Nm / 20 ... 22 lb.in
Connection screw	M3.5 (Pozidriv 2)	

Auxiliary circuit

Type	EF19	EF45
Connecting capacity		
 Rigid	1 or 2 x 1 ... 4 mm ²	
 Flexible with ferrule	1 or 2 x 0.75 ... 2.5 mm ²	
 Flexible with insulated ferrule	1 or 2 x 0.75 ... 2.5 mm ²	
 Flexible	1 or 2 x 0.75 ... 2.5 mm ²	
Stranded acc. to UL/CSA	1 or 2 x AWG 18-10	
Flexible acc. to UL/CSA	1 or 2 x AWG 18-10	
Stripping length	9 mm	
Tightening torques	0.8 ... 1.2 Nm / 7 ... 11 lb.in	
Connection screw	M3 (Pozidriv 2)	

E200DU, E320DU electronic overload relays

60 to 320 A



E200DU-200



E320DU-320

Description

The E200DU and E320DU are self-supplied electronic overload relays, which means no extra external supply is needed. It offers reliable protection for motors in the event of overload or phase failure. Easy to use like a thermal overload relay and compatible with standard motor applications, the electronic overload relay is convincing, above all, due to its wide setting range, high accuracy, high operational temperature range and the possibility to select a trip class (10E, 20E, 30E). Further features are the temperature compensation, trip contact (N.C.), signal contact (N.O.), automatic or manual reset selectable, trip-free mechanism, STOP and TEST function and a trip indication. The overload relays are connected directly to the contactors.

Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					

E200DU electronic overload relay

60.0 ... 200.0	800 A	10E, 20E, 30E	E200DU-200	1SAX511001R1101	1.210
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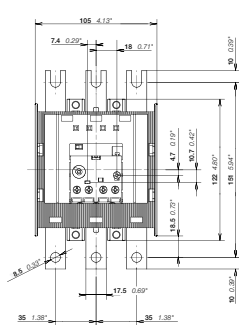
E320DU electronic overload relay

100.0 ... 320.0	630 A	10E, 20E, 30E	E320DU-320	1SAX521001R1101	1.430
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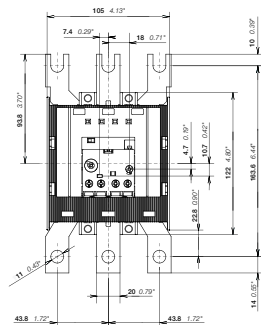
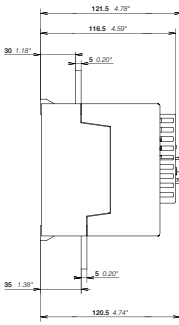
Terminal shrouds for E200DU and E320DU electronic overload relay

For electronic overload relays	Description	Type	Order code	Weight (1 pce) kg
E200DU	LT200E Terminal shroud for E200DU	LT200E	1SAX501904R0001	0.085
E320DU	LT320E Terminal shroud for E320DU	LT320E	1SAX601904R0001	0.105

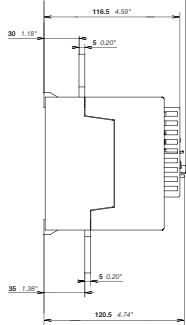
Main dimensions mm, inches



E200DU



E320DU



E200DU, E320DU electronic overload relays

Technical data

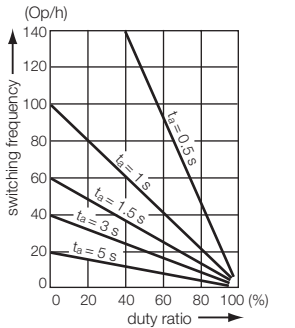
Main circuit – Utilization characteristics according to IEC/EN

Type	E200DU	E320DU
Standards	IEC 60947-1 / 60947-4-1 / 60947-5-1 and EN 60947-1 / 60947-4-1 / 60947-5-1	
Rated operational voltage U_o	1000 V AC	
Rated frequency	50/60 Hz	
Trip class	10E, 20E, 30E, selectable	
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}	8 kV	
Rated insulation voltage U_i	1000 V AC	

Auxiliary circuit according to IEC/EN

Type	E16DU	E45DU
Rated operational voltage U_o	600 V AC / DC	
Conventional free air thermal current I_{th}	6 A	
Rated frequency	DC, 50/60 Hz	
Number of poles	1 N.C. + 1 N.O.	
I_o / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category		
110-120 V	50/60 Hz	3.00 A
220-230-240 V	50/60 Hz	3.00 A
440 V	50/60 Hz	1.10 A
480-500 V	50/60 Hz	0.72 A
I_o / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category		
24 V		1.50 A
60 V		0.55 A
110-120-125 V		0.55 A
250 V		0.27 A
Minimum switching capacity	12 V / 3 mA	
Short-circuit protective device	6 A, Fuse type gG	
Rated impulse withstand voltage U_{imp}	8 kV	
Rated insulation voltage U_i	690 V	

Technical diagram – Intermittent periodic duty



t_a : Motor starting time

2CDC232005F0211

E200DU, E320DU electronic overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	E200DU	E320DU
Standards	UL 508, CSA 22.2 No. 14	
Maximum operational voltage	600 V AC	
Trip rating	125 % of FLA	

Auxiliary circuit according to UL/CSA

Type	E200DU	E320DU
Contact rating	N.C., 95-96	B600, Q300
	N.O., 97-98	B600, Q300
Conventional thermal current	5 A	

General data

Type	E200DU	E320DU
Pollution degree	3	
Phase loss sensitive	Yes	
Ambient air temperature		
Operation	Open - compensated without derating	-25 ... +70 °C
Storage		-50 ... +85 °C
Ambient air temperature compensation	Continuous	
Maximum operating altitude permissible	2000 m	
Resistance to shock acc. to IEC 60068-2-27	15 g / 11 ms	
Resistance to vibrations acc. to IEC 60068-2-6	5 g / 3 ... 150 Hz	
Mounting position	Position 1-6	
Mounting	Mount on the contactor and tighten the screws of the main circuit terminals	
Degree of protection	IP20	

Electrical connection

Auxiliary circuit

Type	E200DU	E320DU
Connecting capacity		
 Rigid	1 or 2 x	1 ... 4 mm²
 Flexible with ferrule	1 or 2 x	0.75 ... 2.5 mm²
 Flexible with insulated ferrule	1 or 2 x	0.75 ... 2.5 mm²
 Flexible	1 or 2 x	0.75 ... 2.5 mm²
Stranded acc. to UL/CSA	1 or 2 x	AWG 16-10
Flexible acc. to UL/CSA	1 or 2 x	AWG 16-10
Stripping length	9 mm	
Tightening torques	0.8 ... 1.2 Nm / 7 lb.in	
Connection screw	M3.5 (Pozidriv 2)	

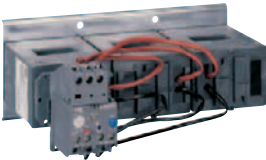
E500DU, E800DU, E1250DU electronic overload relays

150 to 1250 A



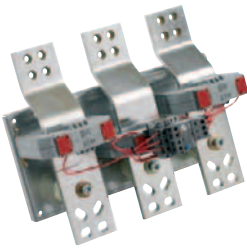
E500DU-500

2CDC2311003F0008



E800DU-800

2CDC2311004F0008



E1250DU-1250

1SFC101025F0201

Description

The E500DU up to E1250DU are self-supplied electronic overload relays, which means no extra external supply is needed. It offers reliable protection for motors in the event of overload or phase failure. Easy to use like a thermal overload relay and compatible with standard motor applications, the electronic overload relay is convincing, above all, due to its wide setting range, high accuracy, high operational temperature range and the possibility to select a trip class (10E, 20E, 30E). Further features are the temperature compensation, trip contact (N.C.), signal contact (N.O.), automatic or manual reset selectable, trip-free mechanism, STOP and TEST function and a trip indication. The overload relays are connected directly to the contactors. Busbar kits are available as accessory for contactor mounting.

Ordering details

Setting range	Short-circuit protective device	Trip class	Type	Order code	Weight (1 pce) kg
A					

E500DU electronic overload relay

150 ... 500	1000 A	10E, 20E, 30E	E500DU-500	1SAX711001R1101	1.170
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E800DU electronic overload relay

250 ... 800	1250 A	10E, 20E, 30E	E800DU-800	1SAX811001R1101	3.905
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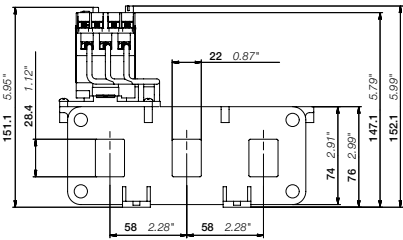
E1250DU electronic overload relay

375 ... 1250	-	10E, 20E, 30E	E1250DU-1250	1SFA739001R1000	12.181
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Terminal shrouds for E500DU and E800DU electronic overload relay

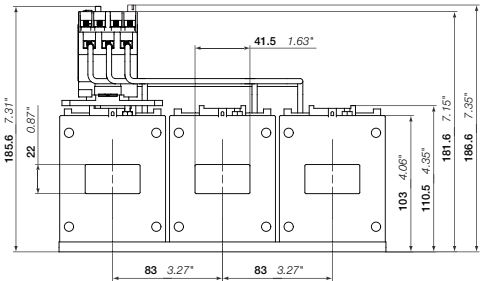
For electronic overload relays	Description	Type	Order code	Weight (1 pce) kg
E500DU	LT500E Terminal shroud for E500DU	LT500E	1SAX701904R0001	0.360
E800DU	LT800E Terminal shroud for E800DU	LT800E	1SAX801904R0001	0.105

Main dimensions mm, inches



E500DU

2CDC232013F0011



E800DU

2CDC232014F0011

2CDC107031C0201

E500DU, E800DU, E1250DU electronic overload relays

Technical data

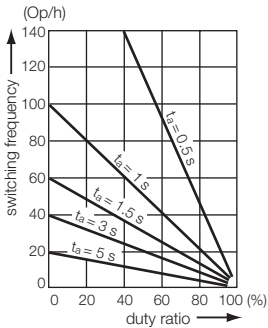
Main circuit – Utilization characteristics according to IEC/EN

Type	E500DU	E800DU	E1250DU
Standards	IEC 60947-1 / 60947-4-1 / 60947-5-1 and EN 60947-1 / 60947-4-1 / 60947-5-1		
Rated operational voltage U_e	1000 V AC		
Rated frequency	50/60 Hz		
Trip class	10E, 20E, 30E, selectable		
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}	8 kV		
Rated insulation voltage U_i	1000 V AC		

Auxiliary circuit according to IEC/EN

Type	E500DU		E800DU	E1250DU
Rated operational voltage U _e	600 V AC / DC			
Conventional free air thermal current I _n	6 A			
Rated frequency	DC, 50/60 Hz			
Number of poles	1 N.C. + 1 N.O.			
I _e / Rated operational current AC-15				
acc. to IEC/EN 60947-5-1 for utilization category				
110-120 V	50/60 Hz	3.00 A		
220-230-240 V	50/60 Hz	3.00 A		
440 V	50/60 Hz	1.10 A		
480-500 V	50/60 Hz	0.72 A		
I _e / Rated operational current DC-13				
acc. to IEC/EN 60947-5-1 for utilization category				
24 V		1.50 A		
60 V		0.55 A		
110-120-125 V		0.55 A		
250 V		0.27 A		
Minimum switching capacity	12 V / 3 mA			
Short-circuit protective device	6 A, Fuse type gG			
Rated impulse withstand voltage U _{imp}	8 kV			
Rated insulation voltage U _i	690 V			

Technical diagram – Intermittent periodic duty



t_s : Motor starting time

E500DU, E800DU, E1250DU electronic overload relays

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	E500DU	E800DU	E1250DU
Standards	UL 508, CSA 22.2 No. 14		
Maximum operational voltage	600 V AC		
Trip rating	125 % of FLA		

Auxiliary circuit according to UL/CSA

Type	E500DU	E800DU	E1250DU
Contact rating	N.C., 95-96	B600, Q300	
	N.O., 97-98	B600, Q300	
Conventional thermal current	5 A		

General data

Type	E500DU	E800DU	E1250DU
Pollution degree	3		
Phase loss sensitive	Yes		
Ambient air temperature			
Operation	Open - compensated without derating	-25 ... +70 °C	
Storage		-50 ... +85 °C	
Ambient air temperature compensation	Continuous		
Maximum operating altitude permissible	2000 m		
Resistance to shock acc. to IEC 60068-2-27	15 g / 11 ms		
Resistance to vibrations acc. to IEC 60068-2-6	5 g / 3 ... 150 Hz		
Degree of protection	IP20		

Electrical connection

Auxiliary circuit

Type	E500DU	E800DU	E1250DU
Connecting capacity			
 Rigid	1 or 2 x	1 ... 4 mm²	
 Flexible with ferrule	1 or 2 x	0.75 ... 2.5 mm²	
 Flexible with insulated ferrule	1 or 2 x	0.75 ... 2.5 mm²	
 Flexible	1 or 2 x	0.75 ... 2.5 mm²	
Stranded acc. to UL/CSA	1 or 2 x	AWG 16-10	
Flexible acc. to UL/CSA	1 or 2 x	AWG 16-10	
Stripping length	9 mm		
Tightening torques	0.8 ... 1.2 Nm / 7 lb.in		
Connection screw	M3.5 (Pozidriv 2)		