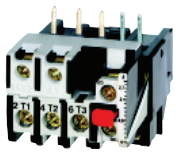
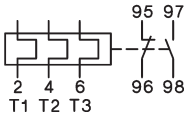
Thermal Overload Relays for Mini-Contactors K1-..



With Manual Reset, for contactors K1-..

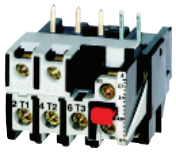
Setting Range D.O.L. (A)			Y/Δ (A)			Type	Order No	Pack pcs.	Weight kg/pc.
0,12	-	**0,18**		-		**U12/16E 0,18 K1**	**LA 100 300**	1	0,10
0,18	-	**0,27**		-		**U12/16E 0,27 K1**	**LA 100 301**	1	0,10
0,27	-	**0,4**		-		**U12/16E 0,4 K1**	**LA 100 302**	1	0,10
0,4	-	**0,6**		-		**U12/16E 0,6 K1**	**LA 100 303**	1	0,10
0,6	-	**0,9**		-		**U12/16E 0,9 K1**	**LA 100 304**	1	0,10
0,8	-	**1,2**		-		**U12/16E 1,2 K1**	**LA 100 305**	1	0,10
1,2	-	**1,8**		-		**U12/16E 1,8 K1**	**LA 100 306**	1	0,10
1,8	-	**2,7**		-		**U12/16E 2,7 K1**	**LA 100 307**	1	0,10
2,7	-	**4**		-		**U12/16E 4 K1**	**LA 100 308**	1	0,10
4	-	**6**	7	-	10,5	**U12/16E 6 K1**	**LA 100 309**	1	0,10
6	-	**9**	10,5	-	15,5	**U12/16E 9 K1**	**LA 100 310**	1	0,10
8	-	**11**	14	-	19	**U12/16E 11 K1**	**LA 100 311**	1	0,10
10	-	**14**	18	-	24	**U12/16E 14 K1**	**LA 100 312**	1	0,10

Wiring Diagram

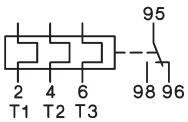


manual reset

With Auto Reset, for contactors K1-..

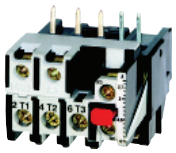


Setting Range D.O.L. (A)			Y/Δ (A)			Type	Pack pcs.	Weight kg/pc.
0,12	-	**0,18**		-		**U12/16A 0,18 K1**	1	0,10
0,18	-	**0,27**		-		**U12/16A 0,27 K1**	1	0,10
0,27	-	**0,4**		-		**U12/16A 0,4 K1**	1	0,10
0,4	-	**0,6**		-		**U12/16A 0,6 K1**	1	0,10
0,6	-	**0,9**		-		**U12/16A 0,9 K1**	1	0,10
0,8	-	**1,2**		-		**U12/16A 1,2 K1**	1	0,10
1,2	-	**1,8**		-		**U12/16A 1,8 K1**	1	0,10
1,8	-	**2,7**		-		**U12/16A 2,7 K1**	1	0,10
2,7	-	**4**		-		**U12/16A 4 K1**	1	0,10
4	-	**6**	7	-	10,5	**U12/16A 6 K1**	1	0,10
6	-	**9**	10,5	-	15,5	**U12/16A 9 K1**	1	0,10
8	-	**11**	14	-	19	**U12/16A 11 K1**	1	0,10
10	-	**14**	18	-	24	**U12/16A 14 K1**	1	0,10

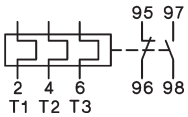


auto reset

With Quick Tripping Characteristic for EEx e motors and submersible pumps, f. contactors K1-..



Setting Range D.O.L. (A)			Y/Δ (A)			Type	Pack pcs.	Weight kg/pc.
0,4	-	**0,6**		-		**U12/16EQ 0,6 K1**	1	0,10
0,6	-	**0,9**		-		**U12/16EQ 0,9 K1**	1	0,10
0,8	-	**1,2**		-		**U12/16EQ 1,2 K1**	1	0,10
1,2	-	**1,8**		-		**U12/16EQ 1,8 K1**	1	0,10
1,8	-	**2,7**		-		**U12/16EQ 2,7 K1**	1	0,10
2,7	-	**4**		-		**U12/16EQ 4 K1**	1	0,10
4	-	**6**	7	-	10,5	**U12/16EQ 6 K1**	1	0,10
6	-	**9**	10,5	-	15,5	**U12/16EQ 9 K1**	1	0,10
8	-	**11**	14	-	19	**U12/16EQ 11 K1**	1	0,10
10	-	**14**	18	-	24	**U12/16EQ 14 K1**	1	0,10



manual reset

Thermal Overload Relays

Data according to IEC 947-4-1, IEC 947-5-1, VDE 0660, EN 60947-4-1, EN 60947-5-1

Type			U3/32	U12/16 [6]	U3/42	U3/74	U85	U180	U320	U800	UAT21	UAT22	UAT23
Rated insulation voltage U_i [1]		V~	690	690	690	690	750	690	1000	1000	690	690	690
Permissible ambient temperature													
operation	open	°C			-25 to +60					-25 to +55		-25 to +60	
storage		°C			-50 to +70					-40 to +70		-50 to +70	
Trip class according to IEC 947-1		10A	10A	10A	10A	10A	20	10A	10A	10	30	30	30
Cable cross-section													
main connector	solid or stranded	mm²	0,75-6	0,75-6+0,75-2,5 [2]	0,75-10	4-35 [2]	3)	7)	-	7)	0,5-10	0,5-16	0,5-25
	flexible	mm²	1-4	0,75-4+0,5-2,5 [2]	0,75-6	6-25 [2]					0,5-6	0,5-10	0,5-16
	flexible with multicore cable end	mm²	0,75-4	0,5-2,5+0,5-1,5	0,75-6	4-25					0,5-6	0,5-10	0,5-16
Cables per clamp	number		2	1+1	2	1					1	1	1
auxiliary connector	solid	mm²			0,75-2,5 [2]					1-2,5 [2]		0,75-2,5 [2]	
	flexible	mm²			0,5-2,5 [2]					1-2,5 [2]		0,5-2,5 [2]	
	flexible with multicore cable end	mm²			0,5-1,5					1-2,5 [2]		0,5-1,5	
Cables per clamp	number				2					2		2	

Type			U3/32	U12/16A	U12/16E U12/16EM	U12/16EQ	U3/42 U3/74	U85	U180 U320	U800	UAT21 UAT22 UAT23
Auxiliary contacts											
Rated insulation voltage U_i [1]											
same potential		V~	690	690	690	690	690	690	690	500	690
different potential		V~	440	-	440	440	250	440	440	500	440
Utilization category AC15											
Rated operational	24V	A	3	4	5	5	4	5	3	4 [5]	5
current I_e	230V	A	2	2,5	3	3	2,5	3	2	2,5	3
	400V	A	1	1,5	2	2	1,5	2	1	1,5	2
	690V	A	0,5	0,6	0,6	0,6	0,6	0,6	0,5	0,6	0,6
Utilization category DC13											
Rated operational	24V	A	1	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
current I_e	110V	A	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15
	220V	A	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Short circuit prot. (without welding 1kA)											
highest fuse rating	gL (gG)	A	4	4	6	6	6	6	4	6	6

Type	U3/32	U12/16	U12/16E	U3/42	U3/42	U3/74	U3/74	U85
Setting range	all	to 23A	22 - 30A	to 28A	28 - 42A	to 52A	52 - 65A	all
Power loss per current path (max.)								
minimum setting value W	1,1	1,1	1,7	1,3	1,3	2,0	2,9	1,1
maximum setting value W	2,3	2,3	3,7	2,6	3,3	3,7	4,5	2,5

Data according to cULus

Type		U3/32	U12/16A	U12/16E	U12/16EQ	U3/42	U3/74	U85
Rated insulation voltage	V~	600	600	600	600	600	600	600
Rated current	A	32	23	23	23	42	74	85
Auxiliary contacts								
Rated voltage								
same potential	V AC	600	600	600	600	600	600	600
different potential	V~	150	-	150	150	150	150	150
Switching capacity AC	VA	500	500	500	500	600	600	600
of aux. contacts	A	2	3	4	4	4	4	4

Temperature Compensation

In case of higher ambient temperature use the following formula:
(Ambient temperature - 20) x 0,125 = correction factor in % of the full load motor current

Example: Ambient temperature 70°C, full load motor current 7A
(70 - 20) x 0,125 = 6,25%
Setting value: 7A + 6,25% = 7,44A

1) Suitable for: earthed-neutral systems, overvoltage category I to III, pollution degree 3 (standard-industry): U_{imp} = 4kV (at 440V), 6kV (at 690V). Data for other conditions on request.
2) Maximum cable cross-section with prepared conductor
3) Without terminals, suitable for bushing one connector 70mm² (stranded) per phase
4) Switching capacity of the start contact: AC15 300VA, max. 1,5A, DC13 (max. 220V) 30W, max. 1,5A
5) Switching capacity of the make contact: AC15 400VA, max. 1,7A, DC13 (max. 220V) 10W, max. 1A
6) U12/16E 30: Cable cross-section for main connector like type U3/42, one connector only
7) Busbar sets see accessories page 105