



TECHNICAL MANUAL

Contactors KTE EKF

Contents

1. Description	3
2. Technical data	4
3. Overall and installation dimensions	6
4. Wiring diagrams	12
5. Safety requirements	13
6. Operation conditions	13
7. Transportation and storage	14
8. Manufacturer's warranty	14
9. Certificate of acceptance	15

1 DESCRIPTION

1.1 The contactors KTE EKF are designed to connect three-phase electric motors and general-purpose power circuits with voltage up to 690V AC. The contactors meet the requirements of IEC 60947-4-1:2018.

1.2 Degree of protection: IP00 according to IEC 60529:2013.

Distinguishing features of contactors KTE and KTE rev:

The contactor KTE features a quick-release replaceable 230V or 400V control coil, and two slots for connection of auxiliary contacts or devices as described herein.

The reversing contactor KTE (rev) comprises two contactors KTE with a mechanical interlock against accidental switch ON of both contactors. The power contacts are connected by copper busbars to enable reversing of three-phase squirrel-cage asynchronous motors.

The following accessories can be fitted to the contactors:

- Auxiliary contact block PKE is designed to increase the number of auxiliary contacts.
 - Surge arresters are used to suppress overvoltage on the control coils during switching operation (connected in parallel and mounted directly on the contactors).
 - Mechanical interlock is designed to prevent simultaneous disconnection of the contactors KTE on a common platform in reversing and ATS circuits. An electrical interlock can be installed together with the mechanical interlock. The mechanical interlock is mounted on the contactor side between the two contactors.
 - mounting rails are used to mount the contactors KTE to each other for assembling a reversing or ATS circuit and serve as a mounting plate.
 - set of copper busbars for assembling a reversing circuit with the contactors KTE.
 - set of power contacts includes spare power contacts to replace life-expired ones.
- Accessories for the contactors shall be ordered separately. Connection options with copper and aluminum wires are supported. Do not connect copper and aluminum wires to one terminal concurrently.

2 TECHNICAL DATA

Table 1

Characteristics		KTE 115A	KTE 150A	KTE 185A	KTE 225A	KTE 265A
Auxiliary contacts		1 NO				
Rated operating AC voltage Ue, V		230, 400, 660				
Rated operating current Ie, A	Ue 230 V	115	150	185	225	265
	Ue 400 V	115	150	185	225	265
	Ue 660 V	65	85	110	130	155
Conventional thermal current (t = 40°C), A	AC-1	200	250	275	315	350
Rated insulation voltage Ui, V		1000				
Rated pulse voltage Uimp, kV		8				
Maximum short-time load (t ≤ 1sec), A	A	920	1200	1480	1800	2120
Rated short-circuit current Inc, A		5000	10 000			
Intermittent service, operating cycles per hour		1200	1200	1200	1200	1200
Power dissipation at rated current, W/pole	AC-3	5	8	12	16	21
	AC-1	15	22	25	32	37
Technical data of control circuit						
Rated control coil AC voltage Uc, V		230, 400				
Control voltage range	Trip	[0,8 - 1,1] *Uc				
	Release	[0,3 - 0,6] *Uc				
Power consumption at Uc, VA	Trip	550	550	805	805	1180
	Hold	45	45	55	55	84
Response time, ms	Close	23-35	23-35	20-35	20-35	40-65
	Open	5-15	5-15	7-15	7-15	100-170
Power dissipation, W		12-16	12-16	18-24	18-24	8
Mechanical endurance, mln. cycles		1	1	1	1	1
Electrical endurance, mln. cycles	AC-3	0,5	0,5	0,5	0,4	0,4
	AC-1	0,3	0,3	0,3	0,3	0,3
Power circuit connection						
Copper busbar	mm	20x3	25x3	25x3	30x4	30x4
Flexible cable	mm ²	50	75	75	95	95
Tightening torque	N·m	10	18	18	35	35
Screw diameter	mm	6	8	8	10	10
Control circuit connection						
Flexible cable	mm ²	1-4				
Rigid cable	mm ²	1-4				
Tightening torque	N·m	1,5				
Accessories						
Auxiliary contact block PKE: 2NO; 2NC; NO+NC; 4NO; 4NC; 2NO+2NC						
Time delay attachment PKE: 0,1-30sec off delay; 0,1-30sec on delay; 0,1-3sec off delay; 0,1-3sec on delay; 10-180sec off delay; 10-180sec on delay						

Table 2

Characteristics		KTE 330A	KTE 400A	KTE 500A	KTE 630A
Auxiliary contacts		1 NO			
Rated operating AC voltage Ue, V		230, 400, 660			
Rated operating current Ie, A	Ue 230 V	330	400	500	630
	Ue 400 V	330	400	500	630
	Ue 660 V	195	232	293	370
Conventional thermal current (t=40°C), A	AC-1	400	500	700	1000
Rated insulation voltage Ui, V		1000			
Rated pulse voltage Uimp, kV		8			
Maximum short-time load (t<=1sec), A	A	2640	3200	4000	5040
Rated short-circuit current Inc, A		18 000			
Intermittent service, operating cycles per hour		600	600	600	600
Power dissipation at rated current, W/pole	AC-3	31	42	45	48
	AC-1	44	65	88	120
Technical data of control circuit					
Rated control coil AC voltage Uc, V		230, 400			
Control voltage range	Trip	[0,8 - 1,1]*Uc			
	Release	[0,3 - 0,6]*Uc			
Power consumption at Uc, VA	Trip	650	1075	1100	1650
	Hold	10	15	18	22
Response time, ms	Close	40-65	40-75	40-75	40-80
	Open	100-170	100-170	100-170	100-200
Power dissipation, W		8	14	18	20
Mechanical endurance, mln. cycles		1	0,8	0,8	0,8
Electrical endurance, mln. cycles	AC-3	0,4	0,3	0,3	0,3
	AC-1	0,25	0,25	0,2	0,15
Power circuit connection					
Copper busbar	mm	30x5	30x5	40x5	60x5
Flexible cable	mm ²	2x75	2x95	2x120	2x240
Tightening torque	N-m	35	35	35	58
Screw diameter	mm	10	10	10	12
Control circuit connection					
Flexible cable	mm ²	1-4			
Rigid cable	mm ²	1-4			
Tightening torque	N-m	1,5			
Accessories					
Auxiliary contact block PKE: 2NO; 2NC; NO+NC; 4NO; 4NC; 2NO+2NC					
Time delay attachment PKE: 0,1-30sec off delay; 0,1-30sec on delay; 0,1-3sec off delay; 0,1-3sec on delay; 10-180sec off delay; 10-180sec on delay					

3 OVERALL AND INSTALLATION DIMENSIONS

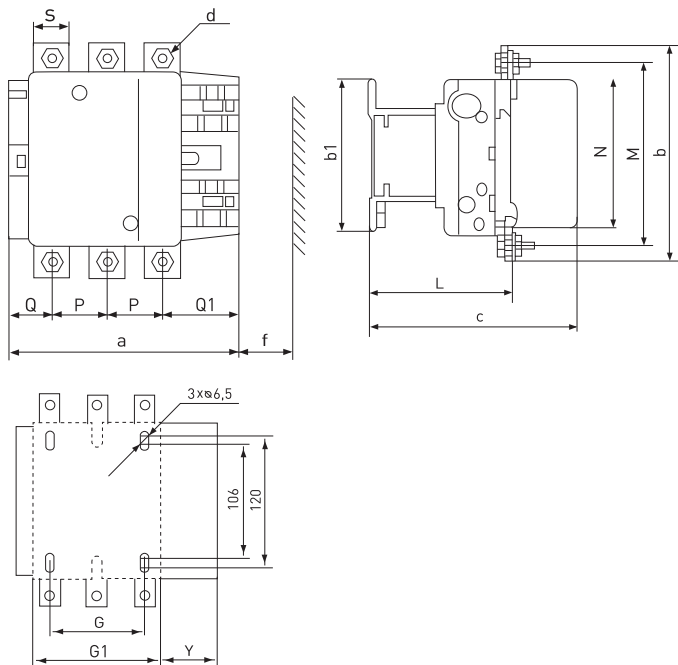
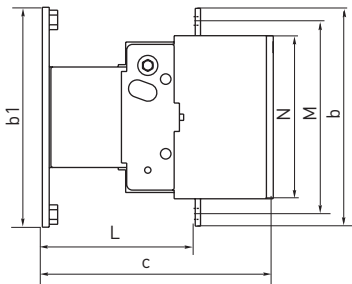
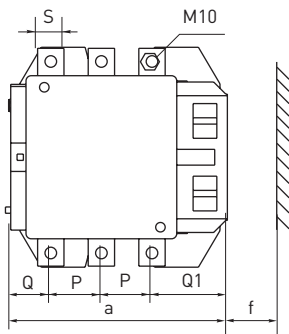


Fig. 1 - KTE 115A; KTE 150A; KTE 185A; KTE 225A; KTE 265A; KTE 330A

Table 3

Overall dimensions, mm	KTE 115 A	KTE 150 A	KTE 185 A	KTE 225 A	KTE 265 A	KTE 330 A
a	163,5	163,5	168,5	168,5	201,5	213
P	37	40	40	48	48	48
Q	29,5	26	29	21	39	43
Q1	60	57,5	59,5	51,5	66,5	74
S	20	20	20	25	25	25
d	M6	M8	M8	M10	M10	M10
f	131	131	130	130	147	147
b	162	170	174	197	203	206
b1	137	137	137	137	145	145
M	147	150	154	172	178	181
N	124	124	127	127	147	158
c	171	171	181	181	213	219
L	107	107	113,5	113,5	141	145
G	80	80	80	80	96	96
G1	106	106	111	111	140	154
Y	44	44	44	44	38	38



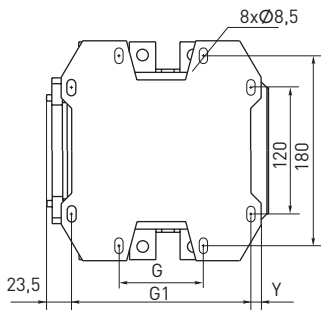
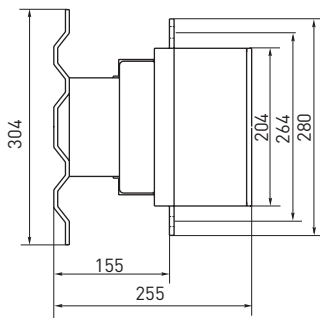
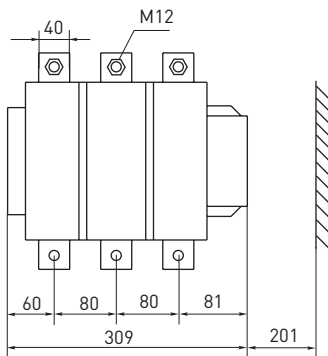


Fig. 2 - KTE 400A; KTE 500A

Table 4

Overall dimensions, mm	KTE 400 A	KTE 500 A
a	213	233
P	48	55
Q	43	46
Q1	74	77
S	25	30
d	-	-
f	151	169
b	206	238
b1	209	209
M	181	208
N	158	172
c	219	232
L	145	146
G	80	80
G1	170	170
Y	19,5	39,5



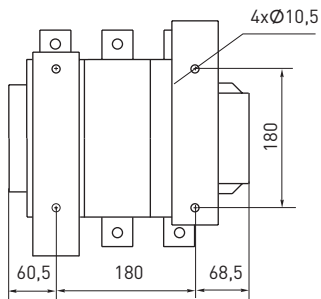


Fig. 3 - KTE 630 A

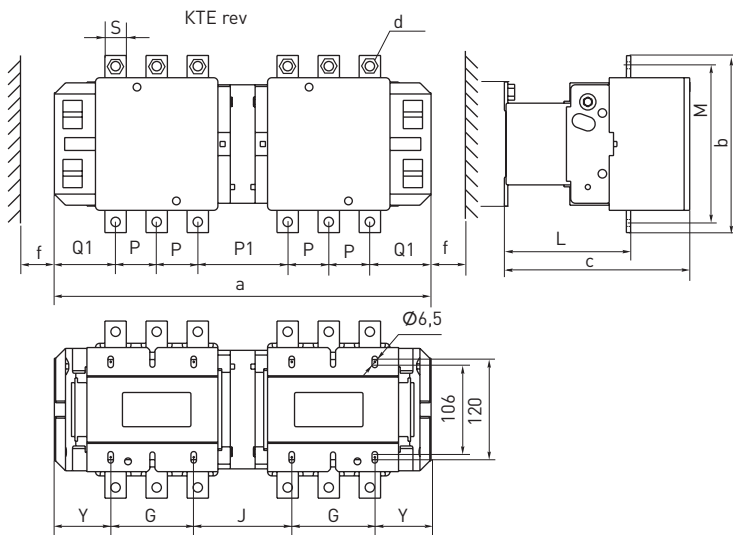


Fig. 4 - KTE rev 115A; KTE rev 150A; KTE rev 185A;
KTE rev 225A; KTE rev 265A; KTE rev 330A

Table 5

Overall dimensions, mm	KTE rev 115A	KTE rev 150A	KTE rev 185A	KTE rev 225A	KTE rev 265A	KTE rev 330A
a	346	346	357	357	424	445
P	37	40	40	48	48	48
P1	78	72	78	62	99	105
Q1	60	57,5	59,5	51,5	66,5	74
S	20	20	20	25	25	25
d	M6	M8	M8	M10	M10	M10
f	131	131	130	130	147	147
b	162	170	174	197	203	206
b1	137	137	137	137	145	145
M	147	150	154	172	178	181
c	171	171	181	181	213	219
L	107	107	113,5	113,5	141	145
G	80	80	80	80	96	96
J	72	72	78	78	109	122
Y	57	57	59,5	59,5	61,5	65,5

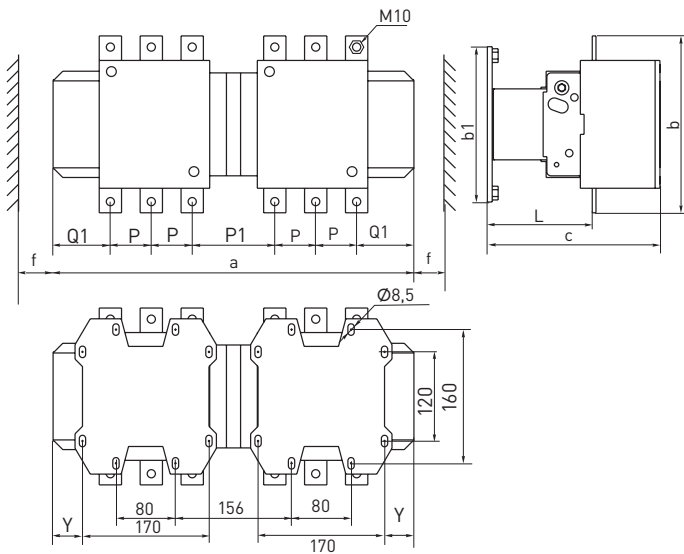


Fig. 5 - KTE rev 400A; KTE rev 500A

Table 6

Overall dimensions, mm	KTE rev 400A	KTE rev 500A
a	445	485
P	48	55
P1	105	111
Q1	74	77
S	25	30
d	-	-
f	151	169
b	206	238
b1	209	209
M	181	208
c	219	232
L	145	146
G	-	-
J	-	-
Y	19,5	39,5

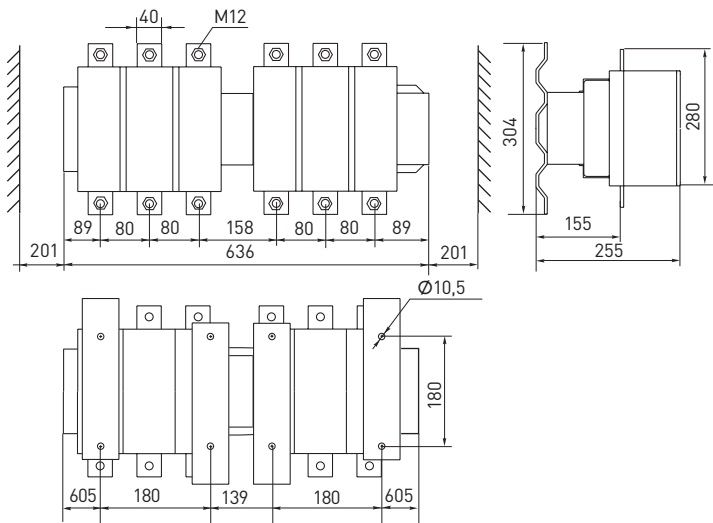
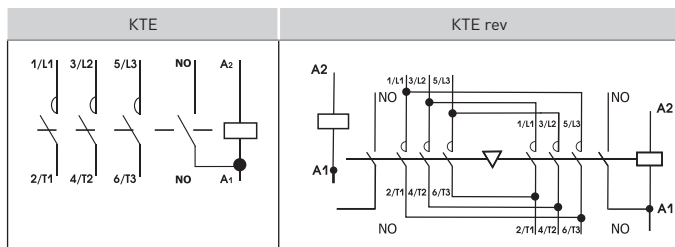


Fig. 6 - KTE rev 630A

4 WIRING DIAGRAMS

Table 7



5 SAFETY REQUIREMENTS

5.1 For contactors operation, follow national safety rules for operation of electrical Installations.

5.2 The contactors shall be operated with a series-connected fuse or circuit breaker of suitable rated current.

5.3 By protection method against electric shock, contactors belong to protection class «0» according to IEC 61140:2016.

6 OPERATION CONDITIONS

The rated operation conditions for contactors are as follows:

- ambient temperature: from – 40 °C to + 50 °C;
- altitude above sea level: max 3000 m without derating;
- Contactors can withstand vibration loads with a frequency of up to 100 Hz.
- operation position: contactors shall be mounted with screws on vertical plane with the coil terminals upwards. Deviation from the vertical position is tolerated up to 30° in the horizontal plane.

7 TRANSPORTATION AND STORAGE CONDITIONS

7.1 Contactors can be transported by any means of enclosed transport that ensures protection of packed products against mechanical and atmospheric impacts.

7.2 Contactors shall be stored indoors in the original package at the ambient temperature from -45°C to +50°C and relative humidity of max. 98% at +25°C.

8 DISPOSAL

Life-expired and failed products shall be disposed of in compliance with the national and local laws and regulations in force. To dispose of the product, send it to an authorized company for recycling in compliance with the effective national and local laws and regulations.

9 MANUFACTURER'S WARRANTY

The manufacturer guarantees contactors KTE comply with the declared characteristics, provided that consumers follow the operation, transportation and storage conditions.

Warranty period: 7 years from the date of sale specified in the sales receipt.

Shelf life: 7 years from the date of manufacture specified on the product package or housing.

Service life: 10 years.

Manufacturer: For information, refer to the product package.

Importer and EKF trademark service representative: EKF ELECTRICAL SOLUTION – FZCO, Dubai Silicon Oasis, DDP, Building A2, Dubai, United Arab Emirates.

Importer and EKF trademark service representative on the territory of the Russian Federation:

000 «Electroresheniya», Otradnaya st., 2b bld. 9, 5th floor, 127273, Moscow, Russia. Tel.: +7 (495) 788-88-15.

Importer and EKF trademark service representative on the territory of the Republic of Kazakhstan:

T00 «Energoresheniya Kazakhstan», Kazakhstan, Almaty, Bostandyk district, Turgut Ozal st., 247, apt 4.

10 CERTIFICATE OF ACCEPTANCE

The contactor KTE EKF complies with IEC 60947-4-1:2009 and has been approved for operation.

Date of manufacture:

For information, refer to the product package.

Technical control stamp



EAC



v3

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