EKF

TECHNICAL MANUAL

Modular contactors

KM PROXIMA EKF

1 DESCRIPTION

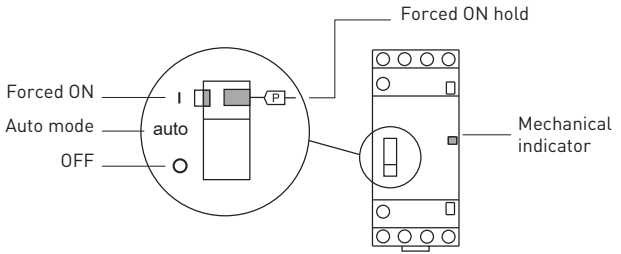
The modular contactors KM PROXIMA EKF are designed to switch and control lighting, heating and ventilation devices, pumps and other electrical installations in control and automation systems of residential, office and industrial buildings, used in 50/60 Hz AC circuits with rated voltage up to 415 V.
The modular contactors KM comply with IEC 60947-4-1, IEC 61095.

2 TYPE CODE

KM Manual X XX XX–24v**

- Modular contactor
- Manual — manual control
- Number of modules (18mm)
- Rated operating current
- Contact types
- **Voltage of control coil other than 220-240V AC

Front panel of modular contactors KM manual



The contactor will be locked in the 'I' position with a latch for the maintenance of the electrical installation.

3 TECHNICAL DATA

Table 1 — Characteristics of modular contactors KM (manual)

Characteristics			Value						
			KM-16	**KM-20**	**KM-25**	**KM-32**	**KM-40**	**KM-50**	**KM-63**
Thermal resistance current Ith, A			16	20	25	32	40	50	63
Rated insulation voltage Ui, V			415	440	440	500	500	500	500
Rated power, kW	AC-1/AC-7a (low-inductive loads)	Rated operating current Ie, A	16	20	25	32	40	50	63
		220-240 V	3	3,8	4,5	6,6	8,4	10,5	13
		380-415 V	10,5	13	16	20	25	33	40
	AC-7b (high-inductive loads)	Rated operating current Ie, A	6	7	9	18	22	27	30
		220-240 V	1	1	1,3	3	3,7	4,5	5
		380-415V	3	3,6	4,5	10	11,3	13,7	15
Rated operating voltage Ue, V			220-240/ 380-415						
Rated impulse withstand voltage Uimp, kV			6						
Rated conventional short-circuit current, kA			3						
Inrush current of control coil, mA			30 (KM-16, KM-20), 60 (KM-25, KM-32, KM-40), 95 (KM-50, KM-63)						
Holding current of control coil, mA			18 (KM-16, KM-20), 12 (others)						
Contact closing voltage, V			from 195 to 253						
Contact opening voltage, V			from 46 to 172						
Closing response time, ms			20						
Opening response time, ms			30						
Max. power of control coil, W			5						
Rated voltage of control coil Uc, V AC			24, 220-240						
Mechanical endurance, O-C cycles			1 000 000						
Electrical endurance, O-C cycles			150 000						
Operation environment			Non-explosive, dust-free						

Table 1 continued

Characteristics	Value						
	KM-16	KM-20	KM-25	KM-32	KM-40	KM-50	KM-63
Version	Fixed						
Position in space	Vertical						
Operating mode	Continuous						
Degree of protection	IP20						
Mounting	35 mm DIN rail						

Table 2 — Wiring

Contactor type	Cross-section of connected wires, mm²			
	Contacts		Coil	
	single-wire	flexible multi-wire	single-wire	flexible multi-wire
KM-16	1-2,5	1-2,5	1-2,5	1-2,5
KM-20, KM-25	1-4	1-4	1-2,5	1-2,5
KM-32, KM-40, KM-50, KM-63	1-25	1-16	1-4	1-2,5

4 INSTALLATION AND OVERALL DIMENSIONS

Table 3 — Overall dimensions of modular contactors KM

Number of modules	Width A, mm
1	18
2	36
3	54

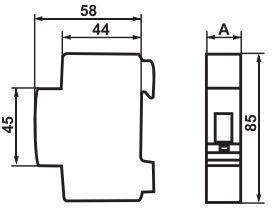


Figure 1. Overall dimensions of modular contactors KM

Table 4 — Overall dimensions of modular contactors KM manual

Number of modules	Width A, mm	Height, H
1	18	81
2	36	85
3	54	85

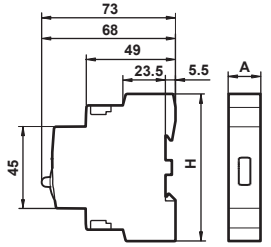


Figure 2. Overall dimensions of modular contactors KM manual

Table 5 — KM contactor wiring diagrams

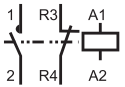
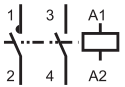
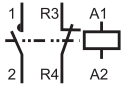
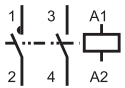
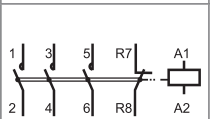
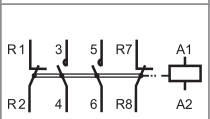
Item code	Diagram	Number of contacts		Number of modules	Net weight, kg
		NO	NC		
KM-1-16-11, KM-1-16-11-24v KM-1-20-11, KM-1-20-11-24v KM-1-25-11, KM-1-25-11-24v		1	1	1	0,18
KM-1-16-20, KM-1-16-20-24v KM-1-20-20, KM-1-20-20-24v KM-1-25-20, KM-1-25-20-24v		2	0		
KM-2-16-11, KM-2-16-11-24v KM-2-20-11, KM-2-20-11-24v KM-2-25-11, KM-2-25-11-24v KM-2-32-11, KM-2-32-11-24v KM-2-40-11, KM-2-40-11-24v KM-2-50-11, KM-2-50-11-24v KM-2-63-11, KM-2-63-11-24v		1	1	2	0,36
KM-2-16-20, KM-2-16-20-24v KM-2-20-20, KM-2-20-20-24v KM-2-25-20, KM-2-25-20-24v KM-2-32-20, KM-2-32-20-24v KM-2-40-20, KM-2-40-20-24v KM-2-50-20, KM-2-50-20-24v KM-2-63-20, KM-2-63-20-24v		2	0		
KM-3-16-31, KM-3-16-31-24v KM-3-20-31, KM-3-20-31-24v KM-3-25-31, KM-3-25-31-24v KM-3-32-31, KM-3-32-31-24v KM-3-40-31, KM-3-40-31-24v KM-3-50-31, KM-3-50-31-24v KM-3-63-31, KM-3-63-31-24v		3	1	3	0,54
KM-3-16-22, KM-3-16-22-24v KM-3-20-22, KM-3-20-22-24v KM-3-25-22, KM-3-25-22-24v KM-3-32-22, KM-3-32-22-24v KM-3-40-22, KM-3-40-22-24v KM-3-50-22, KM-3-50-22-24v KM-3-63-22, KM-3-63-22-24v		2	2	3	0,54

Table 5 continued

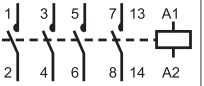
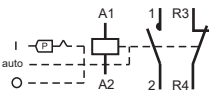
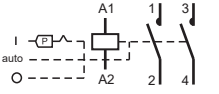
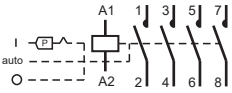
Item code	Diagram	Number of contacts		Number of modules	Net weight, kg
		NO	NC		
KM-3-16-40, KM-3-16-40-24v KM-3-20-40, KM-3-20-40-24v KM-3-25-40, KM-3-25-40-24v KM-3-32-40, KM-3-32-40-24v KM-3-40-40, KM-3-40-40-24v KM-3-50-40, KM-3-50-40-24v KM-3-63-40, KM-3-63-40-24v		4	0	3	0,54

Table 6 — KM manual contactor wiring diagrams

Item code	Diagram	Number of contacts		Number of modules	Net weight, kg
		NO	NC		
KM-1m-16-11 KM-1m-20-11 KM-1m-25-11		1	1	1	0,14
KM-2m-40-11 KM-2m-63-11				2	0,23
KM-1m-16-20 KM-1m-20-20 KM-1m-25-20		2	0	1	0,14
KM-2m-40-20 KM-2m-63-20				2	0,23
KM-3m-20-40 KM-3m-25-40 KM-3m-40-40 KM-3m-63-40		4	0	3	0,38

5 INSTALLATION AND OPERATION

The modular contactors KM must be installed and connected by qualified electrical personnel.
Before installation, make sure that:
• The device characteristics (KM marking) meet the required values.
• The device has no visible damage.
Connection options with copper and aluminum wires are supported. Do not connect copper and aluminum wires to one terminal concurrently.
Power supply can be connected from any side. Tightening torque is specified on the contactor.
For control circuit (A1, A2), tightening torque shall not exceed 0,8 N·m;
For power contacts:
– for one-module contactors, tightening torque shall not exceed 0,8 N·m;
– for two-module contactors, tightening torque shall not exceed 3,5 N·m.
Operating temperature: from -25 to 50°C.
Altitude above sea level: max. 2000m
The air relative humidity must not exceed 50% at maximum operating temperature. However, at lower temperatures, higher relative humidity levels are acceptable, e.g. 90% at +10 °C.
Modular contactors should only be used in non-explosive environments that are free from gases, liquids, and dust concentrations that may disrupt their operation.
When modular contactors are installed in a row, they must be fitted with DIN rail stoppers or locks to ensure proper cooling.
For the operation of contactors to be classified as normal, the temperature difference (Δt) between housing's and ambient temperatures shall not exceed 40°C.

6 DELIVERY SCOPE

The modular contactors KM are supplied in individual or group package. For all available documentation, scan the QR-code on the insert or on the inside of the package.

7 SAFETY REQUIREMENTS

Do not operate contactors with visible mechanical damage.
Modular contactors conform to IEC 61140 Class 0 for protection against electrical shock.

8 MAINTENANCE

For maintenance, follow national safety rules for operation of electrical Installations.
Under normal operating conditions, visually inspect the contactor and tighten screw terminals every 6 months.

9 TRANSPORTATION AND STORAGE

The contactors can be transported by any means of enclosed transport that ensures protection of packed products from mechanical mechanical impacts and weather exposure.The contactors shall be stored in the original package indoors at the ambient temperature from –40°C to +50°C and relative humidity of max. 85% at +25°C.

10 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 national and local laws and regulations in force.

11 MANUFACTURER'S WARRANTY

Warranty period: 7 years from the date of sale of the product specified in the sales receipt. Shelf life: 7 years from from the date of manufacture specified on the product package or housing. Service life: 10 years.
Manufacturer: OOO Electroresheniya, Otradnaya st., 2b/9, 127273, Moscow, Russia, tel. +7 (495) 788-88-15.
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 Republic of Kazakhstan: TOO «Energoresheniya Kazakhstan», Kazakhstan, Almaty, Bostandyk district, Turgut Ozal st., 247, apt 4.

12 CERTIFICATE OF ACCEPTANCE

The modular contactors KM PROXIMA EKF have been approved for operation.
Date of manufacture: for information, refer to the product package.
Stamp of technical control

EAC

V3

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