

LKM4 Series Moulded Case Circuit Breaker



LKM4-125A



LKM4-160A



LKM4-250A



LKM4-400A

1. Application

LKM4 series moulded case circuit breaker, it's applicable circuit of AC 50/60Hz, rated insulation voltage 690V(LKM4-125 500V), rated operating voltage AC 690V or below, rated operating current 12.5-1600A, for distribute energy of electric and infrequent making and breaking circuit in normal condition. The circuit-breakers are provided with the function of the protection against overload and short circuit and under-voltage. The circuit breakers comply with standard of IEC60947-2. The circuit-breakers are double insulating ($I_{nm}=250A$ or above), the control circuit of the accessories is set apart with the main circuit, and doesn't need to open the cover of the circuit breaker when install the accessories.

2. Specification

Table 1

| Type | Pole number | Rated insulating voltage (V) | Rated operating voltage (v) | Ultimate short circuit breaking capacity Icu(KA) | | Rated short-circuit service breaking capacity Ics(%Icu) | Utilization category |
|------------|-------------|------------------------------|-----------------------------|--|--------------|---|----------------------|
| | | | | AC380V (400) | AC660V (690) | | |
| LKM4-125L | 1,2,3,4 | 500 | 500 | 25 | - | 50% | A |
| LKM4-160L | 3,4 | 690 | 690 and below | 35 | 8 | 75% | |
| LKM4-160M | | | | 50 | 10 | 75% | |
| LKM4-250L | | | | 35 | 14 | 100% | |
| LKM4-250M | | | | 65 | 18 | 75% | |
| LKM4-250H | | | | 85 | 20 | 75% | |
| LKM4-250L | | | | 35 | 18 | 100% | |
| LKM4-400L | | | | 65 | 22 | 100% | |
| LKM4-400M | | | | 100 | 30 | 75% | |
| LKM4-400L | | | | 35 | 20 | 100% | |
| LKM4-630M | | | | 50 | 22 | 100% | |
| LKM4-630H | 65 | 25 | 100% | | | | |
| LKM4-800L | 35 | 20 | 100% | | | | |
| LKM4-800M | 50 | 22 | 100% | | | | |
| LKM4-800H | 65 | 25 | 100% | | | | |
| LKM4-1250L | 3 | | | 50 | 20 | 100% | |
| LKM4-1600L | | | | | | | |

3. Trip Units Main Technical Parameter (See Table 2)

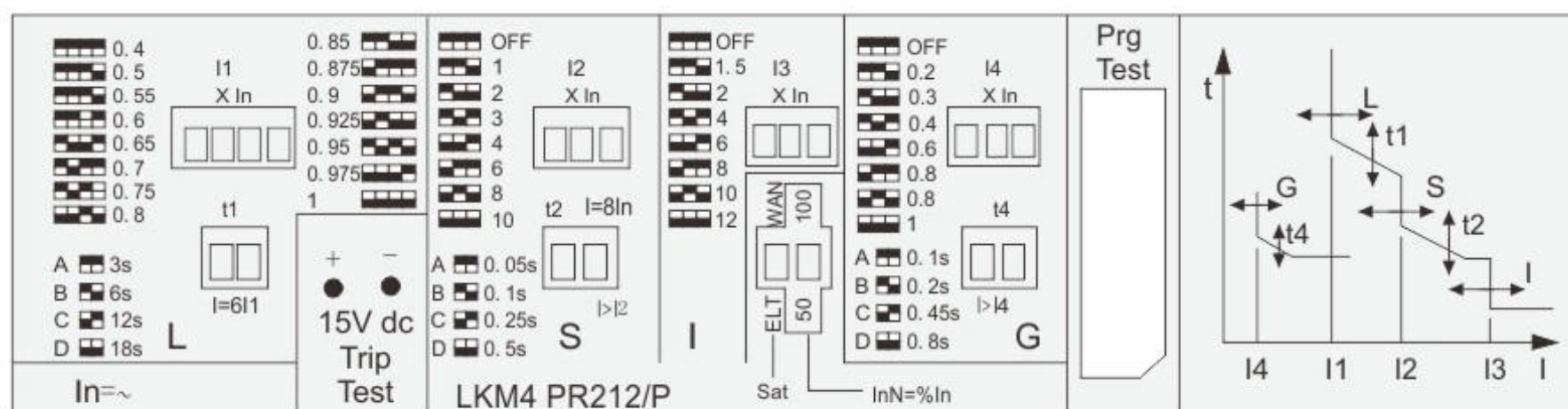
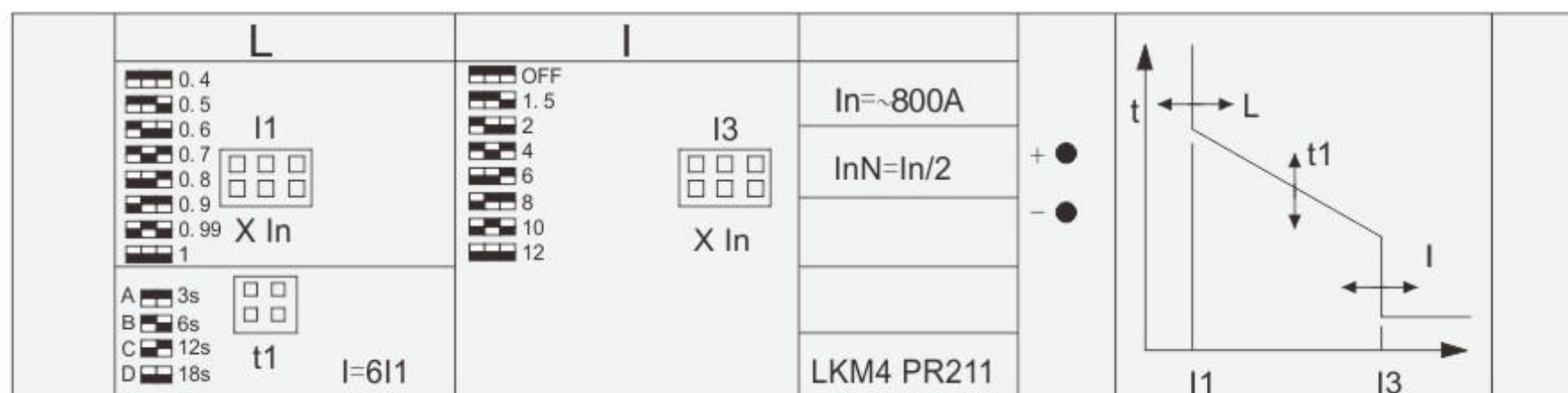


Table 2



LKM4-630A



LKM4-800A



LKM4-1250A

| Type | Thermal magnetic release | | Electronic release | |
|-----------|--|---|-------------------------|---|
| | Rated current (A) | Note | Rated current I_n (A) | Note |
| LKM4-125 | 12.5,16,20,25,32,40, 50,63,80,100,125 | T fixed M fixed | - | |
| LKM4-160 | 16,20,25,32,40,50, 63,80,100,125,160 | T adjustable (0.7~1 I_n) M fixed | - | |
| LKM4-250 | 100,125,160,180, 225,250 | T adjustable (0.7~1 I_n) M fixed | - | |
| LKM4-400 | 225,250,315, 350,400 | T fixed or adju stable (0.7-1 I_n) M fixed | 320,400 | $I_{11}=0.4-1 \times I_n$ LKM4PR211(L-LI) $I_{11}=0.4 \dots 1 \times I_n$ LKM4 PR212(LSI-LSIG) Tripping between 1.05 -1.3 % U (IEC60947-2) $I_{2t}=\text{constant}$ (Long-time overload protection) |
| LKM4-630 | 400,500,630 | T fixed M fixed | 630 | $I_{12}=1-2-3-4-6-8-10 \times I_n$ $t_2=0.05s, 0.1s, 0.25s, 0.5s$ adjustable (Short-circuit short time delay protection) |
| LKM4-800 | 630,700,800 | T fixed M fixed | 800 | $I_{13}=1.5-2-4-6-8-10-12 \times I_n$ (Instantaneous short-circuit protection) |
| LKM4-1250 | 800,1000,1250 | Electronic | 800,1000, 1250 | $I_{14}=0.2-0.3-0.4-0.6-0.6-0.9-1 \% I_n$ $t_4= 0.1s, 0.2s, 0.4s, 0.8s$ adjustable (Earth fault protection) |
| LKM4-1600 | 1000,1250,1600 | Electronic | 1000,1250, 1600 | |

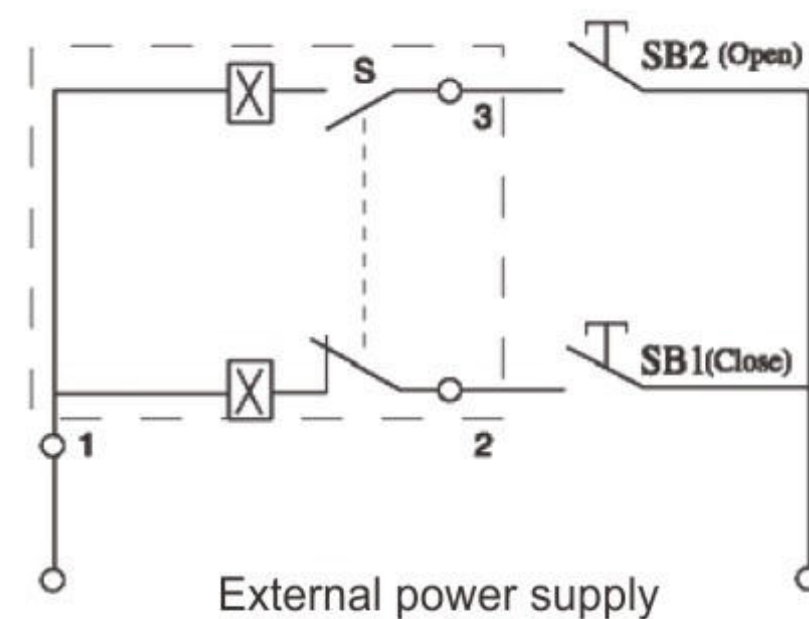
Note: T-thermal M-magnetic L-long time S-short time relay Instantaneous G-earth fault
LKM4-125/160 $I_n=12.5,16,20,32,40$ magnetic protection that is fixed at 500A.

4. Accessories

4.1 The external accessories of the breaker

Motor-driven operation device

1) Wiring diagram of type CDM electromagnetic operation device(fitting LKM4-125.160,250) see the following drawing (wiring diagram of the external accessories of the breaker in the dotted frame).



Code description: SB1 SB2 stand for push button.(provided by users themselves)

Number "1"、"2"、"3" stand for number of wiring terminals.

Voltage rating: AC50Hz 230V、400V,DC 220V

2) Wiring diagram of type CD motor-driven operation device (fitting LKM4-400、630、800) see belows (wiring diagram of the external accessories of the breaker in the dotted frame)



Plug-in base



Electromagnetic operation device



Motor-driven operation device



Rotary handle



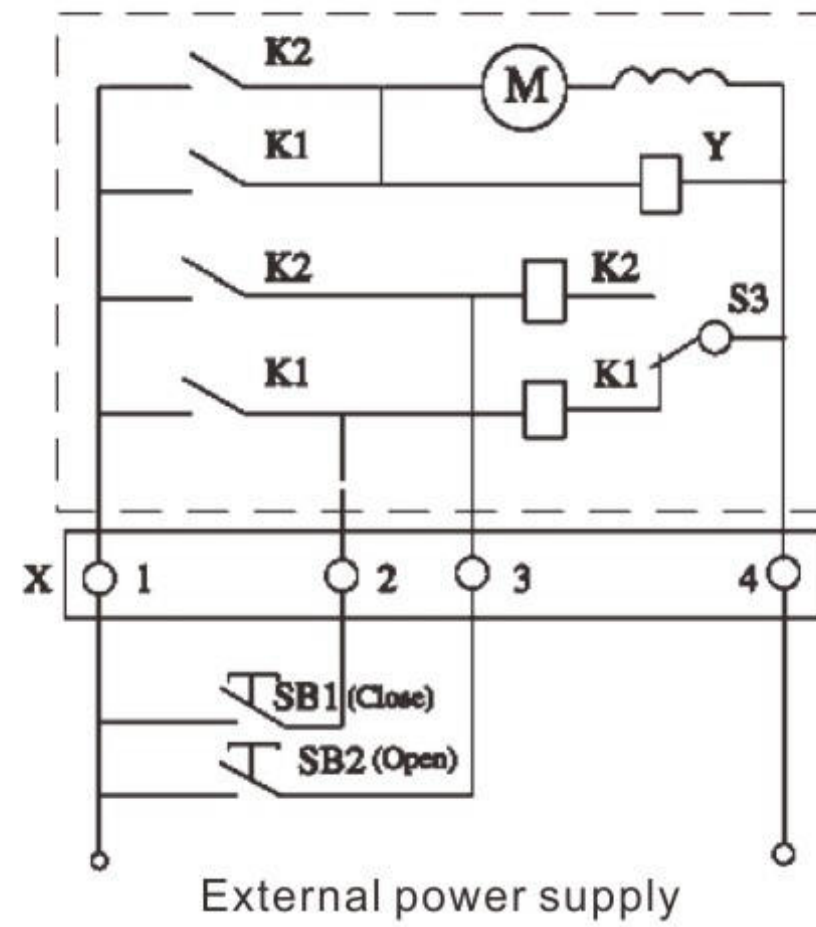
Shunt release



Under-voltage release



Alarm contact



Code description: SB1 SB2 stand for push button, (provided by users themselves)

"X" stands for line connection terminals

Voltage rating: AC50Hz 230V、400V; DC220V

Rotary handle

Economic extended rotary handle

Degree of protection:IP30

Function: 1) With indication of isolation

2)Indication of three positions 0(off) I(on) and tripped

3)Door opening prevented when circuit breaker is on

4.2 The internal accessories of the breaker

Under-voltage release

Us: AC50/60HZ 400V, 230V

When the operation voltage is 35%~70% of the rated voltage, the under-voltage release should make the breaker trip correctly.

When the operation voltage is 85%~110% of the rated voltage, the under-voltage release should make the breaker close.

In case of the operation voltage less than 35% of the rated voltage, the under-voltage should prevent the breaker from closing.

Note: Only the under-voltage release should be energized in advanced, the breaker could be re-cramped and turned-on, otherwise the breaker will be damaged.

Shunt release

Us: AC50/60HZ 230V 400V; DC110V 220V

The shunt release should make the breaker trip reliably when the operation voltage is 70%-110% of the rated control voltage

Auxiliary Contact

| | | |
|-------------------------------------|--|---|
| <p>When the breaker is in "off"</p> | | <p>Size 2N/O+2N/C 1N/O+1N/C</p> |
| <p>When the breaker is in "on"</p> | <p>When the breaker is in "on", the contacts switch from "close" to "open". When the breaker is in "off", the contacts switch from "open to close"</p> | |



Auxiliary Contact

Alarm contact

| | |
|---|--|
| The position of the breaker in "off" or "on" | |
| The position of the breaker in "free release" (alarm) | B ₁₁ and B ₁₂ switch from "close" to "open", status of B ₁₁ and B ₁₂ switch from "open" to "close" |

Auxiliary contact and Alarm contact: Auxiliary contact is as same as Alarm contact, the technical -parameter(see table 3)

Table 3

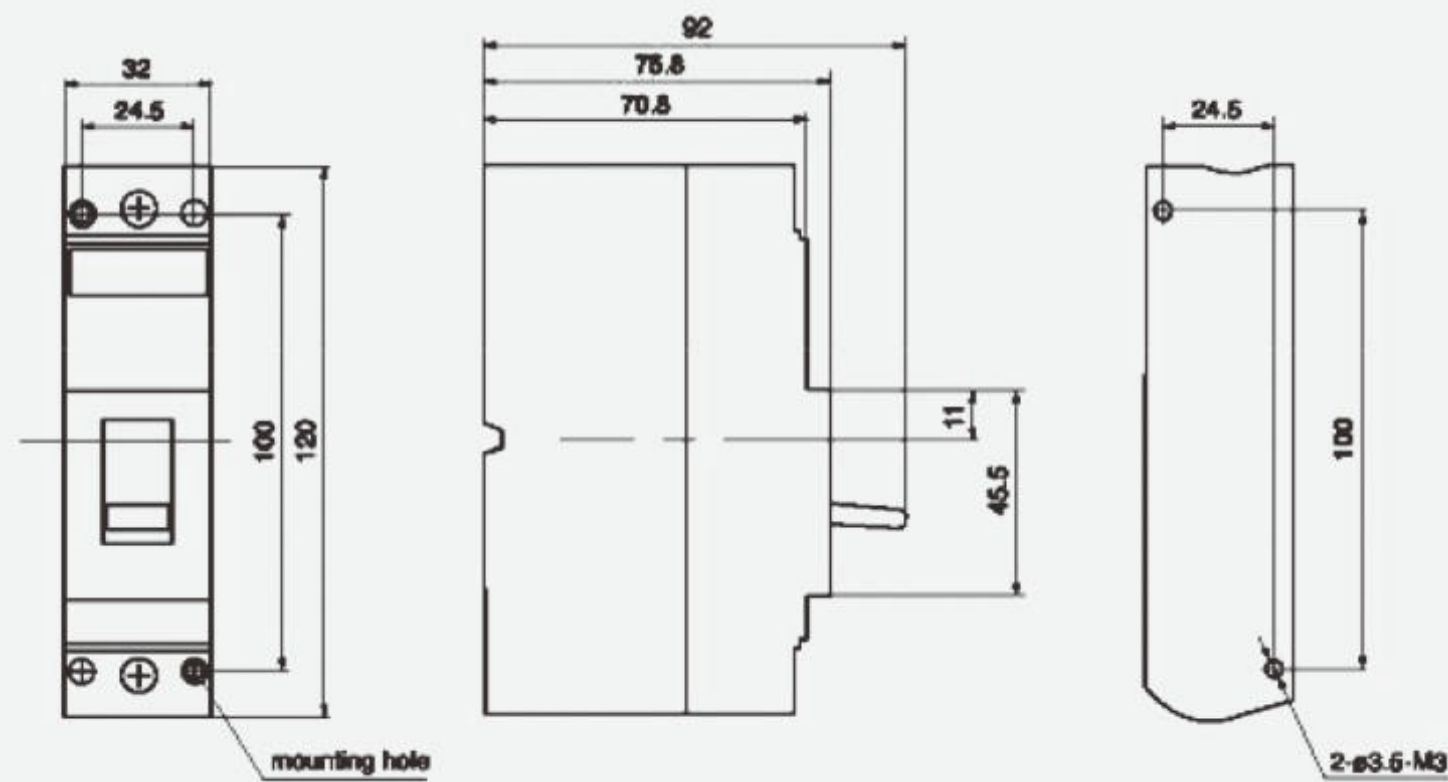
| Rated heating current Lth (A) | Rated operating current Ie (A) | | Suited Frame Inm(A) |
|-------------------------------|--------------------------------|--------|---------------------|
| | AC380V | DC220V | |
| 3 | 0.3 | 0.15 | 125,160 |
| 3 | 0.4 | 0.15 | 250,400 |
| 3 | 0.4 | 0.15 | 630,800,1250,1600 |

5.Installation: Circuit breaker maybe mounted vertically, horizontally or flat on their back without any derating of characteristics.

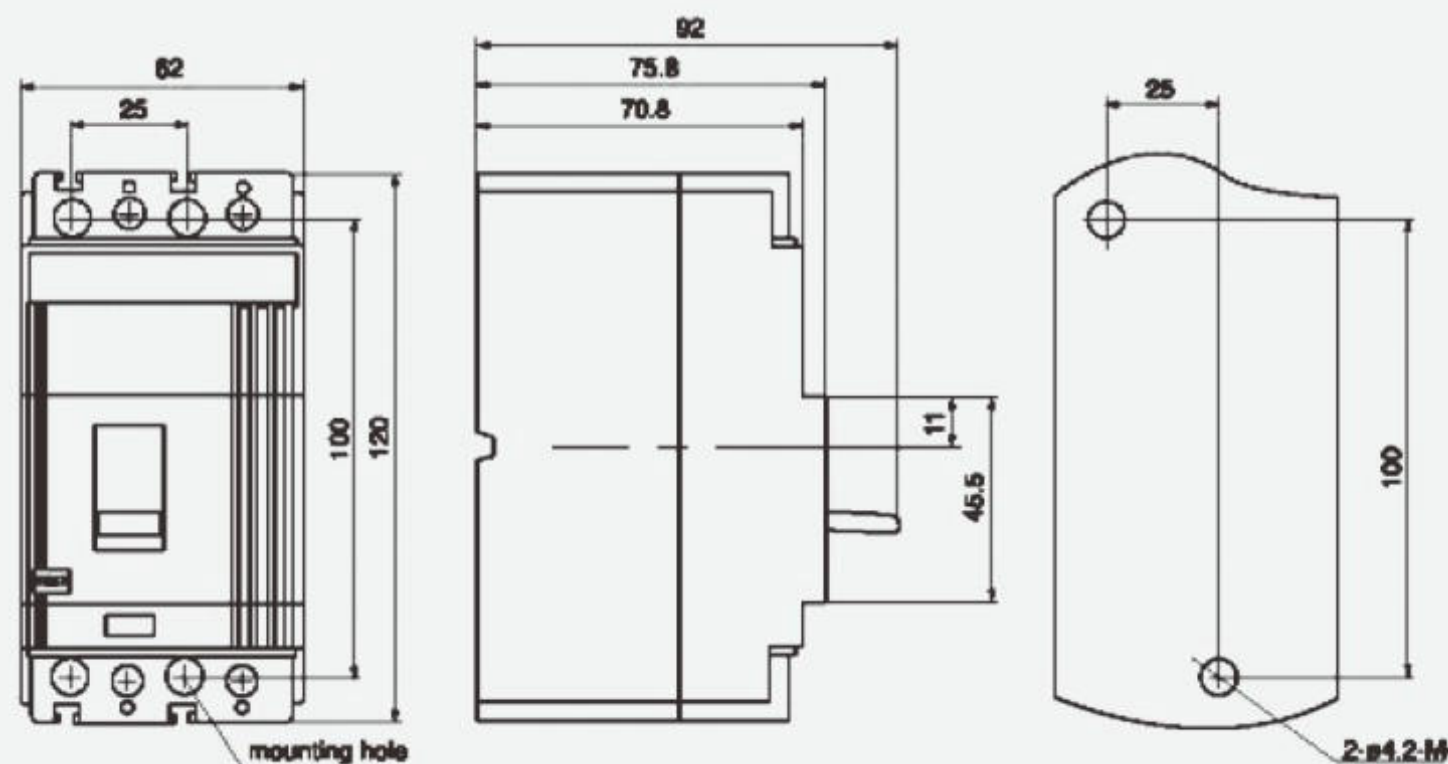
6.Fix: Mounting on back plate.

7.Connection: Front panel connection , black panel connection , plug-in connection

8.Outline and Installation Dimension



LKM4-125 1P



LKM4-125 2P

8. Outline and Installation Dimension

