

# DIGITAL CATALOG

## EKM1-63H 10KA MCB

**ETЭК®**

Mini Circuit Breaker

Standard\_ IEC60898-1

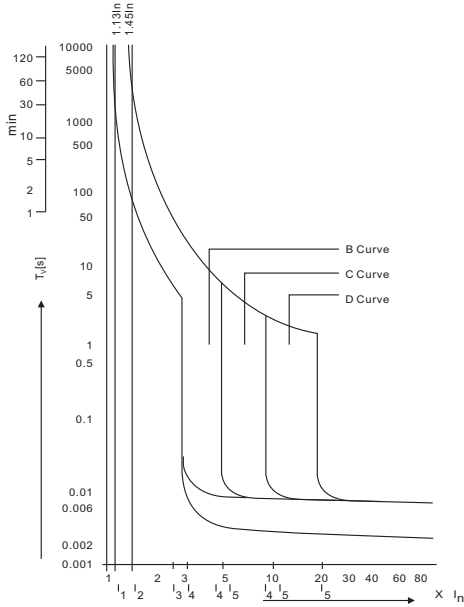


### Technical Data

<b>Electrical Features</b>	Rated current In	1,2,3,4,5,6,8,10,13,16,20,25,32,40,50,63A
	Poles	1P, 1P+N, 2P, 3P, 3P+N,4P
	Rated voltage Ue	230/400V~,120-240V
	Insulation voltage Ui	500V
	Rated frequency	50/60Hz
	Rated breaking capacity	10,000A
	Energy limiting class	3
	Rated impulse withstand voltage Uimp	6,000V
	Dielectric test voltage at ind. Freq. for 1 min	2kV
	Pollution degree	2
	Thermo-magnetic release characteristic	B,C,D
	Firing unit	Thermal magnetic
	<b>Mechanical Features</b>	Electrical life
Mechanical life		10,000 Cycles
Contact position indicator		Yes
Protection degree		IP20
Reference temperature for setting of thermal element		30°C
Ambient temperature (with daily average ≤35°C)		-5°C~+40°C
Storage temperature		-25°C~+70°C
<b>Installation</b>	Over tension catagory	III
	Terminal connection type	Cable/Pin-type busbar/U-type busbar
	Terminal size top/bottom for cable	25mm <sup>2</sup> 18-4AWG
	Terminal size top/bottom for busbar	25mm <sup>2</sup> 18-4AWG
	Tightening torque	2.0Nm 22In-lbs
	Mounting	On DIN rail EN60715(35mm) by means of fast clip device
<b>Combination with accessories</b>	Connection	Power supply in both directions
	Auxiliary contact	Yes
	Alarm contact	Yes
	Shunt release	Yes
Over/Under voltage release	Yes	

### MCB Characteristics

#### Characteristics Curves



As per IEC60898	Thermal Tripping			Magnetic Tripping		
	No tripping current	Tripping current $I_2$	Time Limits t	Hold current $I_4$	Trip current $I_5$	Time Limits t
B Curve	$1.13 \times I_N$	$1.45 \times I_N$	$\geq 1h$	$3 \times I_N$	$5 \times I_N$	$\geq 0.1s$
			$< 1h$			$< 0.1s$
C Curve	$1.13 \times I_N$	$1.45 \times I_N$	$\geq 1h$	$5 \times I_N$	$10 \times I_N$	$\geq 0.1s$
			$< 1h$			$< 0.1s$
D Curve	$1.13 \times I_N$	$1.45 \times I_N$	$\geq 1h$	$10 \times I_N$	$20 \times I_N$	$\geq 0.1s$
			$< 1h$			$< 0.1s$

#### Tripping characteristics

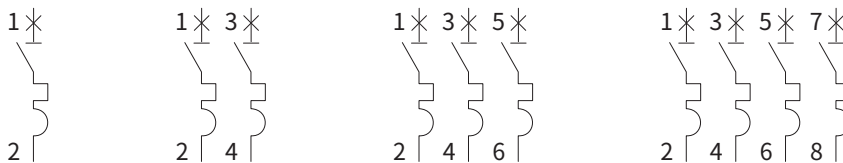
Based on the Tripping Characteristics, MCB are available in “B” , “C” and “D” curve to suit different types of applications.

“B” Curve for protection of electrical circuits with equipment that does not cause surge current (lighting and distribution circuits) Short circuit release is set to  $(3-5)I_n$ .

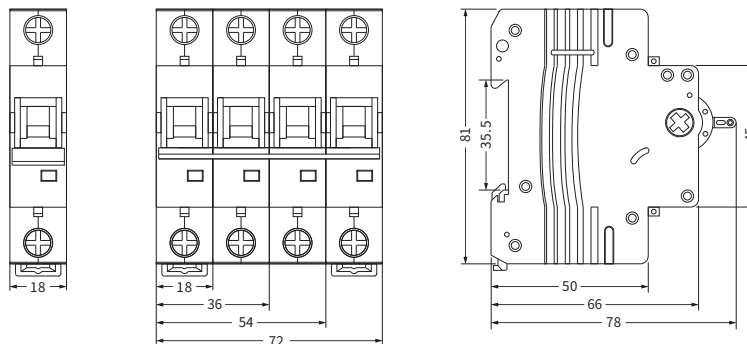
“C” Curve for protection of electrical circuits with equipment that cause surge current (inductive loads and motor circuits) Short circuit release is set to  $(5-10)I_n$ .

“D” Curve for protection of electrical circuits with cause high inrush current ,typically 12-15 times the thermal rated

### Circuit Diagram



### Overall and Installation Dimension(mm)



### MATERIAL COMPONENTS EKM1-63H

Our ETEK products, model EKM1-63H 10KA, EKM1-63 6KA, EKM2-63H 10KA, EKM2-63 6KA, for DIN rail switches, is made of nylon (PA66), high quality virgin materials and comply with the following technology:

TEST ITEM	SANDARD	EXPERIMENTAL CONDITION	UNIT	RESULT
ASH	ISO1172	800 °C	%	20
TENSILE STRENGTH	ISO527	50mm/min	Mpa	145
FLEXURAL STRENGTH	ISO178	2mm/min	Mpa	190
MOISTURE CONTENT	ISO62	23 °C - 24 H	%	3
THERMAL DEFORMATION	ISO306	0.46 Mpa	°C	230
FLEXURAL MODULUS	ISO178	2mm/min	Mpa	5400
IZODIMPACT STRENGTH	ISO0180	5.5J	KJ/m3	11
SPECIFIC GRAVITY	ISO1183	25 °C	g/CMM	1.25
MELT MASSFLOW RATE	ISO1133	275 °C 2.16 Kg	g/min	24
CTI	GB/T4207	3mm	V	400
GWIT	GB/T5169	850 °C 1.5	S	OS

### ADDITIONAL COMPONENTS EKM1-63H

Part name	Material name	Coating
Arc Extinguisher	0.6mm red steel paper	
	0.7mm cold-roll steel sheets Q235-A	Zinc coat
Screw	Dia. 7.5 round steel Q235-A	Zinc coat
Wire frame	1.5mm cold-roll steel sheets Q235-A	Zinc coat
Terminal plate (left)	1.2mm brass H62	Tin coat
Terminal plate (right)	1.2mm brass H62	Tin coat
Arc initiating device	steel 08F	Copper coat
Moving Contact	1.4mm brass H62	Silver coat

Contact bracket	0.8mm cold-roll steel sheets45	Nickel coat
bracket	1.0mm steel plate Q235-A	Nickel coat
Tie Strap	0.8mm steel plate Q235-A	Color coat
Adjustment screw assembly	Dia. 3mm round steel08F	
	1.5mm cold-roll steel sheetsQ235-A	Copper coat
Shaft pin(thick)	Dia.2.0mm Stainless steel wire201	
Shaft pin(thin)	Dia.1.5mm Stainless steel wire201	
Flat shaft	Dia.1.5mm Stainless steel wire201	
U-Dowel	Dia.1.6mm Stainless steel wire201	
Spring(Handle)	Dia. 0.55mm Stainless spring steel wire304	
Spring ( contact )	Spring steel wire T9A	Nickel coat
Spring(Returnning)	Spring steel wire T9A	Nickel coat
Spring(antenna)	Dia.0.2mm Stainless steel wire1Cr18Ni19	
Spring(iron core )	Spring steel wire T9A	Nickel coat
Moving iron core	Dia.6.0mm Round steelQ235-A	Color coat

Static iron core	Dia.7.0mm Round steelQ235-A	Color coat
Mandril	Dia.1.4mm aluminium wire	
Inductor form	Flame-retardent nylon PA66	
Handle	Flame-retardent nylon PA66	
Tripping	Flame-retardent nylon PA66	
Lever	Reinforced polyamide 66	
Padlocking	Flame-retardent nylon PA66	
Flash-barrier	Melamine formaldehyde glass powder	
Mounting Clip	ABS	
Plug	Flame-retardent nylon PA66	
3*3mm Contact for 6-25A/ 4*mm for 32-63A	Copper/Silver Aolly	
Rivet	ø2.0×0.2 brass pipe H62	
Bimetal component	Nickel-iron alloy	
1.5*28Soft connecting	Special soft copper stranded wire TTJR/0.05	
2*20Soft connecting	Special soft copper stranded wire TTJR/0.05	

Coil	Polyester enamelled copper wire	
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