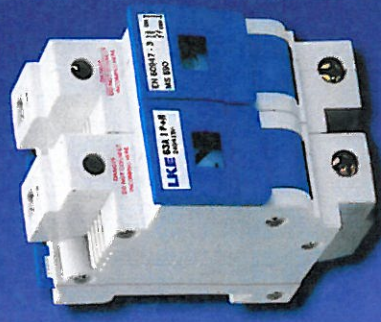
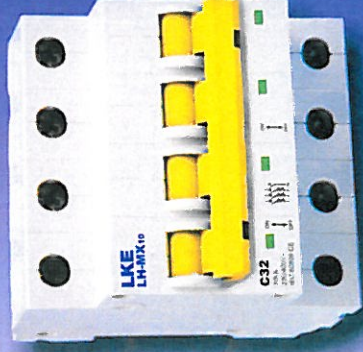
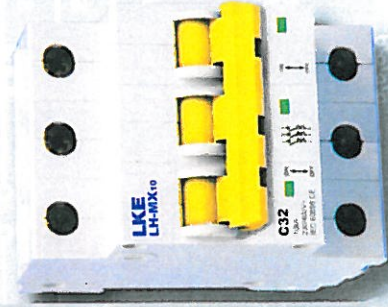
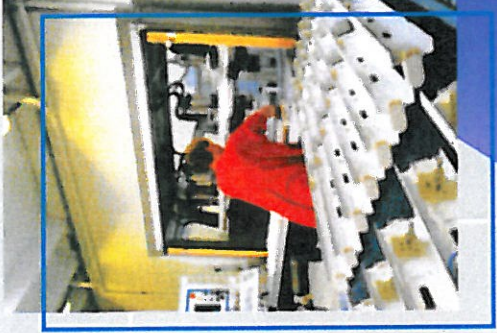
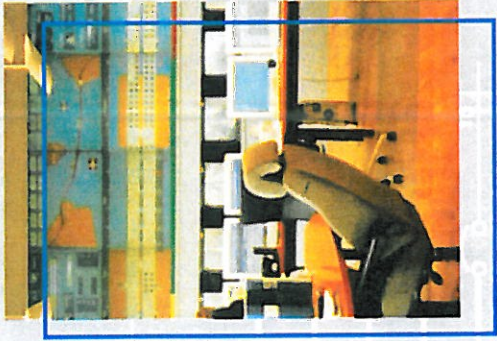


LKE

MCB & SF

miniature circuit breakers & switch fuse



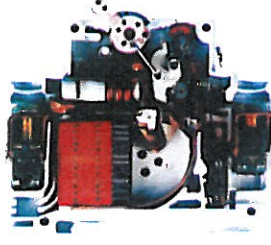
Low Voltage miniature circuit breakers

Applications

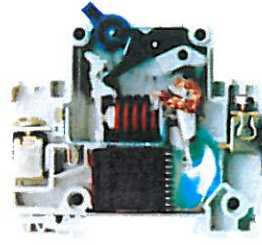
The function of the Miniature Circuit Breaker (MCB) is to protect cables and conductors against overloads and short circuits, and electrical equipment from overheating. Under certain fault conditions, the MCB can protect against shock currents caused by excessive touch voltage due to insulation failure. Designed according to IEC 60898 and EN60898 standards, the MCB also conforms to other international standards which has the equivalent requirements of tripping characteristics.

Features

- High-rated breaking capacity up to 6kA & 10kA, according to IEC 60898, BS 3871. Also approved by CB, CE, JKR (Malaysia), PSB (Singapore), SIRIM (Malaysia) and Suruhanjaya Tenaga (Malaysia).
- Excellent current limiting and selectivity.
- Type A, B, C & D curve tripping characteristics, suitable for most applications.
- Add-on accessories for added flexibility.
- Combined terminal allows busbar and feeder cable to be simultaneously connected.
- Finger-safe shield to protect accidental contact between user and live terminals.
- Fire-retardant material used for the base and covers.
- Terminals allow easy termination of up to 25mm cables.
- Degree of protection: IP40.



LK-MX-10 MCB 10kA construction.



LK-MX-6 MCB 6kA construction.

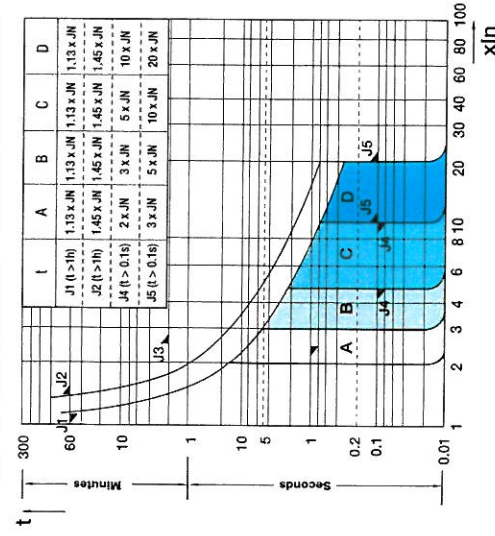
Tripping Characteristics

At higher operating temperatures of more than 40° C, the currents of the delayed tripping have to be de-rated by 5% for each 10K temperature difference. The decrease in operating temperature means an increase in the rated current. The table below shows the tripping performance of the MCB in accordance to IEC 60898 standards.

Type	Thermal Test Current		Tripping Time 63A ≤ In < 125A	Electromagnetic Test Current	Tripping Time (t)
	Low	High			
A	1.13	1.45	> 1h < 1h	2 x In	≥ 0.1s < 0.1s
B	1.13	1.45	> 1h < 1h	3 x In	≥ 0.1s < 0.1s
C	1.13	1.45	> 1h < 1h	5 x In	≥ 0.1s < 0.1s
D	1.13	1.45	> 1h < 1h	10 x In	≥ 0.1s < 0.1s



Tripping Characteristic – Time Current Curve



Derating Factors

In (A)	45°C	50°C	55°C	60°C
0.5	0.4	0.38	-	-
1	0.8	0.7	0.6	0.5
2	1.6	1.5	1.4	1.3
3	2.4	2.3	2.1	1.9
4	3.3	3	2.8	2.5
6	5	4.6	4.2	3.8
10	8	7.5	7	6.4
16	13	12	11	10
20	16.5	15	14	13
25	20.5	19	17.5	16
32	26	24	22	20
40	33	30	28	25
50	41	38	35	32
63	51	48	44	40

The LH-MX₆ miniature circuit breaker, type A, B, C, D, 6kA

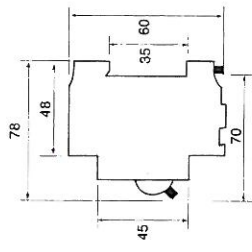
Description The LH-MX₆ MCB protects and controls a circuit against overloads and short circuits.






Connection Capacity Rigid conductor – 25mm² Flexible conductor – 16mm²

Technical Data

- Type A, B, C & D tripping characteristics, according to IEC 60898 standards.
- Calibration temperature at 40° C and breaking capacity of 6kA.
- Has a voltage rating of 230V - 415V A.C at 50/60 Hz.
- Has a current rating from 6A to 63A, 80A to 100A upon special request.
- Mechanical life cycle to withstand 20,000 times of operation.
- Ambient operating temperature ranges from -5° C to +60° C.
- 1P, 1P+N, 2P, 3P, 3P+N and 4P configurations are available.
- Magnetic trip setting are 2-3 In (A curve), 3~5 In (B curve), 5~10 In (C curve) and 10 ~ 20 In (D curve).

Dimension (mm)



LH-MX ₆	Description	In (A)	Module width (17.5mm)	Quantity (per box)	Weight (gm)	Category Reference
	Single Pole MCB	6	1	12	109	LH-MX06-1-06A/B/C/D
		10	1	12	109	LH-MX06-1-10A/B/C/D
		16	1	12	109	LH-MX06-1-16A/B/C/D
		20	1	12	109	LH-MX06-1-20A/B/C/D
		25	1	12	109	LH-MX06-1-25A/B/C/D
		32	1	12	109	LH-MX06-1-32A/B/C/D
		40	1	12	109	LH-MX06-1-40A/B/C/D
		50	1	12	109	LH-MX06-1-50A/B/C/D
		63	1	12	109	LH-MX06-1-63A/B/C/D
	Single Pole + Neutral MCB	6	2	6	220	LH-MX06-1N-06A/B/C/D
		10	2	6	220	LH-MX06-1N-10A/B/C/D
		16	2	6	220	LH-MX06-1N-16A/B/C/D
		20	2	6	220	LH-MX06-1N-20A/B/C/D
		25	2	6	220	LH-MX06-1N-25A/B/C/D
		32	2	6	220	LH-MX06-1N-32A/B/C/D
		40	2	6	220	LH-MX06-1N-40A/B/C/D
		50	2	6	220	LH-MX06-1N-50A/B/C/D
		63	2	6	220	LH-MX06-1N-63A/B/C/D
	Double Pole MCB	6	2	6	221	LH-MX06-2-06A/B/C/D
		10	2	6	221	LH-MX06-2-10A/B/C/D
		16	2	6	221	LH-MX06-2-16A/B/C/D
		20	2	6	221	LH-MX06-2-20A/B/C/D
		25	2	6	221	LH-MX06-2-25A/B/C/D
		32	2	6	221	LH-MX06-2-32A/B/C/D
		40	2	6	221	LH-MX06-2-40A/B/C/D
		50	2	6	221	LH-MX06-2-50A/B/C/D
		63	2	6	221	LH-MX06-2-63A/B/C/D
	Three Pole MCB	6	3	4	322	LH-MX06-3-06A/B/C/D
		10	3	4	322	LH-MX06-3-10A/B/C/D
		16	3	4	322	LH-MX06-3-16A/B/C/D
		20	3	4	322	LH-MX06-3-20A/B/C/D
		25	3	4	322	LH-MX06-3-25A/B/C/D
		32	3	4	322	LH-MX06-3-32A/B/C/D
		40	3	4	322	LH-MX06-3-40A/B/C/D
		50	3	4	322	LH-MX06-3-50A/B/C/D
		63	3	4	322	LH-MX06-3-63A/B/C/D
	Three Pole + Neutral MCB	6	4	3	420	LH-MX06-3N-06A/B/C/D
		10	4	3	420	LH-MX06-3N-10A/B/C/D
		16	4	3	420	LH-MX06-3N-16A/B/C/D
		20	4	3	420	LH-MX06-3N-20A/B/C/D
		25	4	3	420	LH-MX06-3N-25A/B/C/D
		32	4	3	420	LH-MX06-3N-32A/B/C/D
		40	4	3	420	LH-MX06-3N-40A/B/C/D
		50	4	3	420	LH-MX06-3N-50A/B/C/D
		63	4	3	420	LH-MX06-3N-63A/B/C/D

The LH-MX₁₀ miniature circuit breaker, type A, B, C, D, 10kA

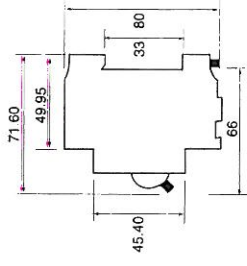
Description The LH-MX₁₀ MCB protects and controls a circuit against overloads and short circuits.






Connection Capacity Rigid conductor – 25mm² Flexible conductor – 16mm²

Technical Data

- Type A, B, C & D tripping characteristics, according to IEC 60898 standards.
- Calibration temperature at 40° C and breaking capacity of 10kA.
- Has a voltage rating of 230V - 415V A.C at 50/60 Hz.
- Has a current rating from 6A to 63A, 80A to 100A upon special request.
- Mechanical life cycle to withstand 20,000 times of operation.
- Ambient operating temperature ranges from -5° C to +60° C.
- 1P, 1P+N, 2P, 3P, 3P+N and 4P configurations are available.
- Magnetic trip setting are 2~3 In (A curve), 3~5 In (B curve), 5~10 In (C curve) and 10 ~ 20 In (D curve).

Dimension (mm)



LH-MX ₁₀	Description	In (A)	Module width (17.5mm)	Quantity (per box)	Weight (gm)	Category Reference
	Single Pole MCB	6	1	12	119	LH-MX10-1-06A/B/C/D
		10	1	12	119	LH-MX10-1-10A/B/C/D
		16	1	12	119	LH-MX10-1-16A/B/C/D
		20	1	12	119	LH-MX10-1-20A/B/C/D
		25	1	12	119	LH-MX10-1-25A/B/C/D
		32	1	12	119	LH-MX10-1-32A/B/C/D
		40	1	12	119	LH-MX10-1-40A/B/C/D
		50	1	12	119	LH-MX10-1-50A/B/C/D
		63	1	12	119	LH-MX10-1-63A/B/C/D
	Single Pole + Neutral MCB	6	2	6	212	LH-MX10-1N-06A/B/C/D
		10	2	6	212	LH-MX10-1N-10A/B/C/D
		16	2	6	212	LH-MX10-1N-16A/B/C/D
		20	2	6	212	LH-MX10-1N-20A/B/C/D
		25	2	6	212	LH-MX10-1N-25A/B/C/D
		32	2	6	212	LH-MX10-1N-32A/B/C/D
		40	2	6	212	LH-MX10-1N-40A/B/C/D
		50	2	6	212	LH-MX10-1N-50A/B/C/D
		63	2	6	212	LH-MX10-1N-63A/B/C/D
	Double Pole MCB	6	2	6	238	LH-MX10-2-06A/B/C/D
		10	2	6	238	LH-MX10-2-10A/B/C/D
		16	2	6	238	LH-MX10-2-16A/B/C/D
		20	2	6	238	LH-MX10-2-20A/B/C/D
		25	2	6	238	LH-MX10-2-25A/B/C/D
		32	2	6	238	LH-MX10-2-32A/B/C/D
		40	2	6	238	LH-MX10-2-40A/B/C/D
		50	2	6	238	LH-MX10-2-50A/B/C/D
		63	2	6	238	LH-MX10-2-63A/B/C/D
	Three Pole MCB	6	3	4	352	LH-MX10-3-06A/B/C/D
		10	3	4	352	LH-MX10-3-10A/B/C/D
		16	3	4	352	LH-MX10-3-16A/B/C/D
		20	3	4	352	LH-MX10-3-20A/B/C/D
		25	3	4	352	LH-MX10-3-25A/B/C/D
		32	3	4	352	LH-MX10-3-32A/B/C/D
		40	3	4	352	LH-MX10-3-40A/B/C/D
		50	3	4	352	LH-MX10-3-50A/B/C/D
		63	3	4	352	LH-MX10-3-63A/B/C/D
	Three Pole + Neutral MCB	6	4	3	446	LH-MX10-3N-06A/B/C/D
		10	4	3	446	LH-MX10-3N-10A/B/C/D
		16	4	3	446	LH-MX10-3N-16A/B/C/D
		20	4	3	446	LH-MX10-3N-20A/B/C/D
		25	4	3	446	LH-MX10-3N-25A/B/C/D
		32	4	3	446	LH-MX10-3N-32A/B/C/D
		40	4	3	446	LH-MX10-3N-40A/B/C/D
		50	4	3	446	LH-MX10-3N-50A/B/C/D
		63	4	3	446	LH-MX10-3N-63A/B/C/D



OPTIMAL SOLUTIONS

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As standards, applications and designs may change from time to time, please contact our nearest agent for the latest information. For further technical references, please refer to the respective product catalogue.

LK-Electric Co Pte Ltd

Blk 219 Henderson Industrial Park

#06-03 Henderson Rd, 159546 SINGAPORE

telephone 65 271 5388

facsimile 65 271 5088

LKE Electric (M) Sdn Bhd

1 & 3 Jalan SS13/3C, Subang Jaya Industrial Estate
47500 Petaling Jaya, Selangor D.E., MALAYSIA

telephone 603 5633 7010/7011

facsimile 603 5633 8368, 5632 3014

LK-Electric (Zhuhai) Co Ltd

No 4, North of Industrial Area Xiangzhou
Zhuhai, 519000 P.R. of CHINA

telephone 86 756 226 7005

facsimile 86 756 226 7007

LKE-Electric Europe Office

Rungsted Strandvej 296

DK 2970, Horsholm, DENMARK

telephone 45 45 86 9952

facsimile 45 45 86 9916

Scandinavian Representatives

LKE Electric Europe A/S

Egestubben 16-26

DK 5270, Odensen, DENMARK

telephone 45 63 18 1560

facsimile 45 63 18 1590

info@lke-electric.com

WWW.LKE-ELECTRIC.COM