

UL 489 Miniature Circuit Breakers

IMO

Technical Datasheet

The IMO range of UL 489 Approved Miniature Circuit Breakers have been designed for protection of electrical installations against overload and short circuits and are manufactured in accordance with UL 489.

UL 489 MCB Features

- UL 489, IEC 60947-2 & IEC 60898-1 Compliant
- DIN Rail Mountable
- 10kA Short Circuit Capacity
- Available from 0.5Amps to 63Amps
- Suitable for Branch Circuit Device Protection
- Thermo-Magnetic Overcurrent Protection
- B, C & D Type Tripping Curve
- Contact Position Indicator
- RoHS Compliant

Tripping characteristics in accordance with B, C and D type curves

- Curve B: 3-5 I_n
- Curve C: 5-10 I_n
- Curve D: 10-20 I_n



Options & Ordering Codes

UB10		B		10		16A	
Series						Rated Current Amps	
UL MCB 10kA		UB10					
Operating Characteristic						Poles	
B Curve		B		10		Single Pole	
C Curve		C		20		Two Pole	
D Curve		D		30		Three Pole	

Specifications

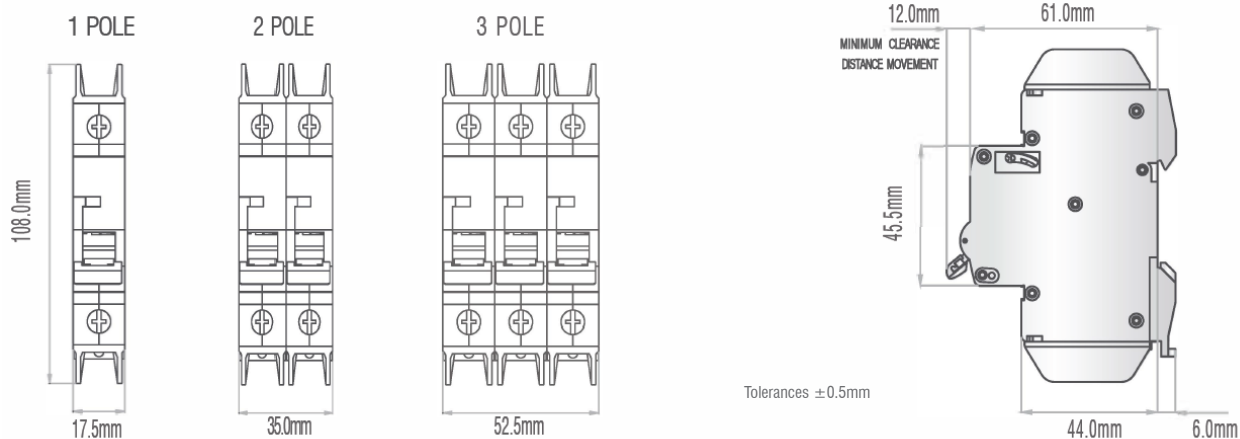
In accordance with	UL 489, IEC 60947-2 & IEC 60898-1
Pole composition	1P, 2P, 3P
Tripping curve	B, C, D
Calibration temperature	+104°F (+40°C)
Rated operational current	0.5 to 63A
UL AC rated operational voltage	1P: 277V AC, 2P/3P: 480Y/277V AC
IEC AC rated operational voltage	1P: 230V AC, 2P/3P: 415V AC
DC rated operational voltage	1P: 48V DC, 2P: 96V DC
Rated operational frequency	50/60Hz
Rated short circuit breaking capacity	10kA
Mechanical lifetime	20,000 operations
Electrical lifetime	6,000 operations
Vibration resistance acc. IEC 60068-2-6	±1mm @ 5-25Hz; 50m/s² @ 25-150Hz
Fastening torque	2.5 Nm (22.2 lb/in)
Wire range	AWG 18-3 (0.82 to 26.7mm²)
Mounting	DIN Rail EN 60715 (EN 50022)
Protection degree	NEMA 1 (IP20)
Pollution degree	3
Operating temperature	-13°F to +131°F (-25°C to +55°C)

Selection Chart

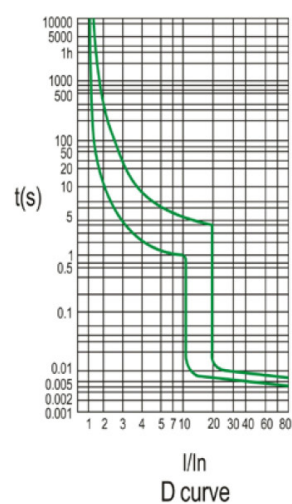
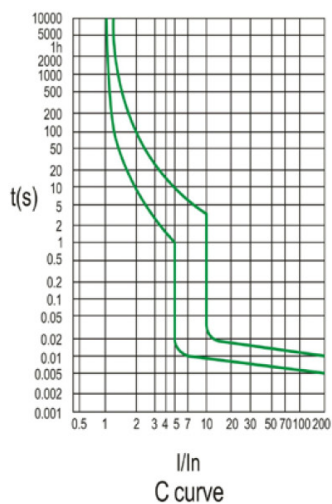
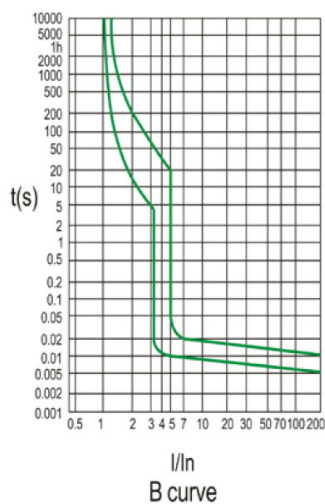
Type		B Operating Characteristics			C Operating Characteristics			D Operating Characteristics		
Poles		1	2	3	1	2	3	1	2	3
Rated Current (Amps)	0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1.6	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓
	8	✓	✓	✓	✓	✓	✓	✓	✓	✓
	10	✓	✓	✓	✓	✓	✓	✓	✓	✓
	13	✓	✓	✓	✓	✓	✓	✓	✓	✓
	15	✓	✓	✓	✓	✓	✓	✓	✓	✓
	16	✓	✓	✓	✓	✓	✓	✓	✓	✓
	20	✓	✓	✓	✓	✓	✓	✓	✓	✓
	25	✓	✓	✓	✓	✓	✓	✓	✓	✓
	30	✓	✓	✓	✓	✓	✓	✓	✓	✓
	32	✓	✓	✓	✓	✓	✓	✓	✓	✓
	40	✓	✓	✓	✓	✓	✓	✓	✓	✓
	50	✓	✓	✓	✓	✓	✓	✓	✓	✓
	60	✓	✓	✓	✓	✓	✓	✓	✓	✓
	63	✓	✓	✓	✓	✓	✓	✓	✓	✓
Weight (lb/pc)		0.275	0.55	0.825	0.275	0.55	0.825	0.275	0.55	0.825
Weight (kg/pc)		0.125	0.25	0.37	0.125	0.25	0.37	0.125	0.25	0.37
Packing (Qty)		12	6	4	12	6	4	12	6	4

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Dimensions (mm) Miniature Circuit Breakers



B, C & D Tripping Curve



Amps	-30°C	-20°C	-10°C	0°C	10°C	20°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
0.5	0.6	0.6	0.58	0.56	0.54	0.52	0.5	0.5	0.49	0.48	0.46	0.45	0.42
1	1.3	1.2	1.2	1.12	1.1	1	1	1	0.99	0.97	0.95	0.92	0.88
1.6	2	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.1
2	2.6	2.4	2.3	2.2	2.2	2.1	2	2	2	1.9	1.9	1.8	1.5
3	3.8	3.6	3.5	3.4	3.3	3.1	3	3	3	2.9	2.8	2.6	2.1
4	5	4.8	4.7	4.5	4.3	4.2	4	4	3.9	3.8	3.7	3.6	3.2
5	6.2	6.1	5.8	5.6	5.4	5.2	5	5	4.9	4.8	4.7	4.5	4
6	7.5	7.2	7	6.7	6.5	6.3	6	6	5.9	5.8	5.5	5.4	5
7	8.8	8.5	8.2	7.8	7.6	7.4	7	7	6.9	6.8	6.6	6.3	5.6
8	10	9.7	9.4	9	8.7	8.4	8	8	7.8	7.6	7.4	7.3	7
10	12.5	12	12	11	11	10.2	10	10	9.8	9.7	9.5	9.2	8.5
13	16.5	16	15	15	14	14	13	13	13	12.2	12	12	11.5
15	19	18	17	17	16	16	15	15	15	14.5	14.2	14	13.5
16	20.5	19.5	19	18	17	17	16	16	16	15.5	15	14.2	12.5
20	25	24.5	24	23	22	21	20	20	20	19.5	19	18.2	17
25	31.5	30	29	28	27	26.5	25	25	24.5	24.5	23.5	23	22
30	36	35	33.8	32.4	33.2	32.2	31	30	29.5	29	28.8	28.5	28
32	40	38.5	37.5	36.5	35	33.5	32	32	31.5	30.5	30	29	26
40	50	48.5	47.5	45.5	43.5	42	40	40	39.5	38	37	36	33
50	62	60.5	59.5	57	55	52.5	50	50	49.5	47	46	45	42
60	70	70	69.5	67	65	62	60	60	60	56	55	54	51
63	78.5	76	74	71.5	69	66	63	63	62.5	60	58	57	54

Auxiliary Contact	UB10-AC11
For monitoring the status of the protection device (open/closed)	
1 pole changeover	
Rated current: 6A @ 240VAC & 24VDC, 2A @ 48VDC, 1A @ 125VDC	

Shunt Trip	UB10-SH-230
Shunt Trip to remotely switch off the protection device	
Rating voltage Ue: AC 230V	

Alarm Contact	UB10-AL11
To facilitate the ability to have an audible alarm when the MCB trips	
Rated Current: 3A @ 400VAC, 6A @ 230VAC	

