

# UL 1077 Miniature Circuit Breakers



The IMO range of UL 1077 Approved Miniature Circuit Breakers have been designed for protection of electrical installations against overload and short circuits and are manufactured in accordance with UL 1077.

## UL 1077 MCB Features

- UL1077, IEC 60947-2 & IEC 60898-1 Compliant
- DIN Rail Mountable
- 10kA Short Circuit Capacity
- Available from 0.5Amps to 63Amps
- Suitable for Supplementary 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

<b>US10</b>	<b>C</b>	<b>10</b>	<b>16A</b>
Series			Rated Current Amps
UL MCB 10kA	US10		
Operating Characteristic			Poles
B Curve	B	10	Single Pole
C Curve	C	20	Two Pole
D Curve	D	30	Three Pole

## Specifications

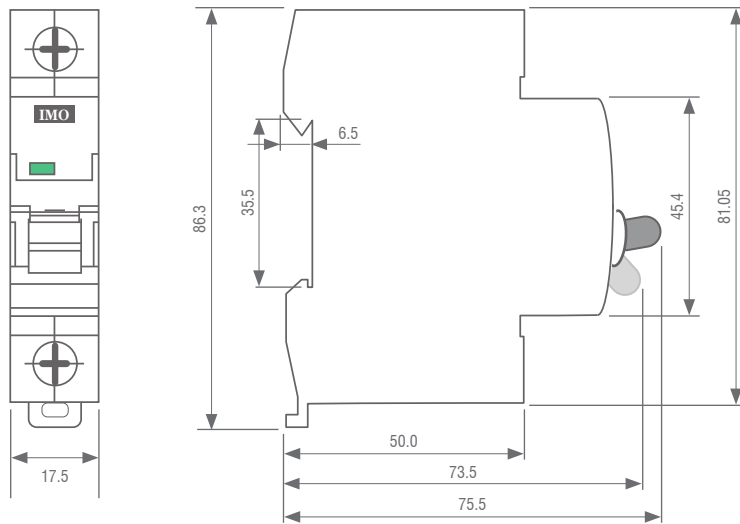
In accordance with	UL 1077, IEC 60947-2 & IEC 60898-1
Pole composition	1P, 2P, 3P
Tripping Curve	B, C, D
Calibration temperature	+104°F (+40°C)
Rated operational current	0.5 to 63A
UL AC rated operational voltage	1P: 277V AC, 2P/3P: 480Y/277V AC
IEC AC rated operational voltage	1P: 230V AC, 2P/3P: 415V 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
Fastening torque	2.5 Nm (22.2 lb/in)
Wire Range	AWG 18-3 (0.82 to 26.7mm <sup>2</sup> )
Mounting	DIN Rail EN 60715 (EN 50022)
Protection degree	NEMA 1 (IP20)
Operating temperature	-13°F to +131°F (-25°C to +55°C)

## Selection Chart

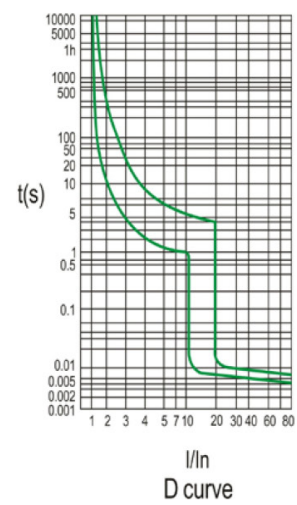
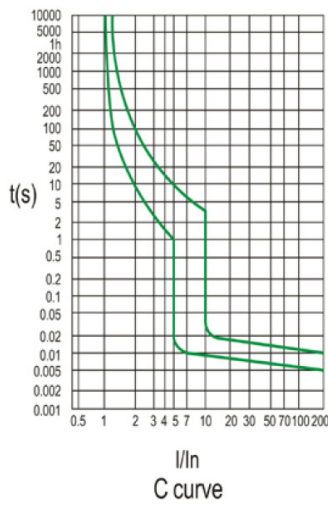
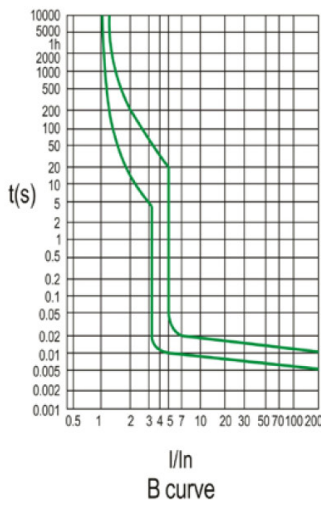
Type	B Operating Characteristics			C Operating Characteristics			D Operating Characteristics		
	1	2	3	1	2	3	1	2	3
Rated Current (Amps)	0.5	✓	✓	✓	✓	✓	✓	✓	✓
	1	✓	✓	✓	✓	✓	✓	✓	✓
	1.6	✓	✓	✓	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓	✓	✓	✓
	5	✓	✓	✓	✓	✓	✓	✓	✓
	6	✓	✓	✓	✓	✓	✓	✓	✓
	7	✓	✓	✓	✓	✓	✓	✓	✓
	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

# UL 1077 Miniature Circuit Breakers

## Dimensions (mm) Miniature Circuit Breakers



## B, C & D Tripping Curve



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## Derating 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
63	78.5	76	74	71.5	69	66	63	63	62.5	60	58	57	54

## Accessories

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

<b>Shunt Trip</b>	<b>UB10-SH-110</b>
Shunt Trip to remotely switch off the protection device	
Rating voltage Ue: AC 110V	

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

<b>Undervoltage Trip</b>	<b>UB10-UV-110V</b>
For protection of the device when the rated voltage drops below 50%	
Rating voltage Ue: AC 110V	

<b>Undervoltage Trip</b>	<b>UB10-UV-230V</b>
For protection of the device when the rated voltage drops below 50%	
Rating voltage Ue: AC 230V	

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

<b>Locking Device</b>	<b>UBLO</b>
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## Shunt Trip - Wiring Diagram

