DIN Series

MINIATURE CIRCUIT BREAKERS,

RESIDUAL CURRENT CIRCUIT BREAKERS

Introducing the DIN Series…

High-quality, high-performance circuit breakers

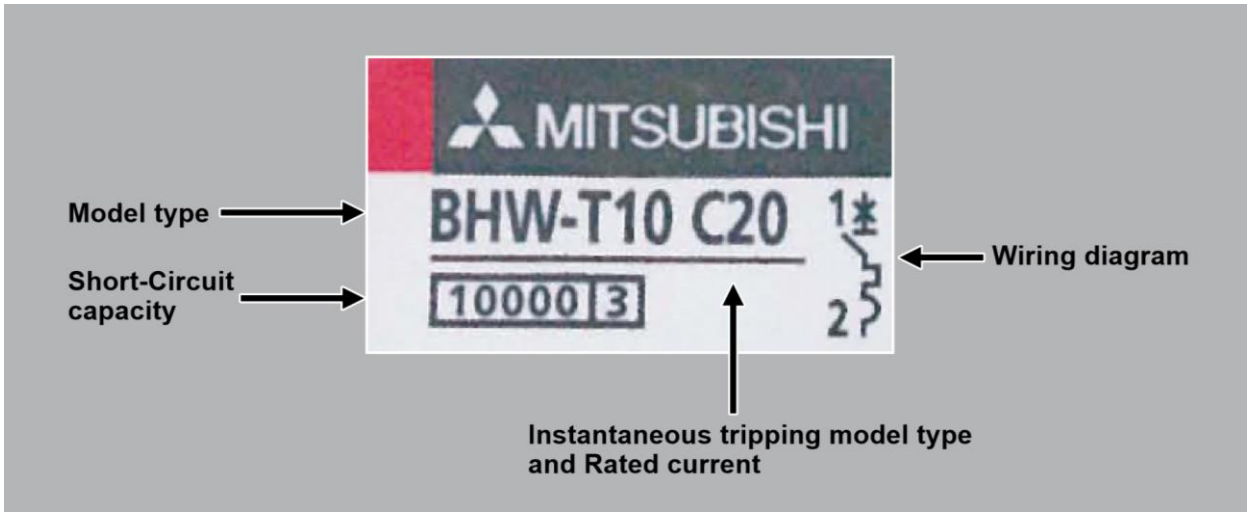
Features

(1) All models fully comply with IEC regulations
(2) Units can be mounted on a standard IEC 35mm rail
(3) High current-limiting performance
(4) Compliance with IP2X protection rating (front surface)
(5) All models are compatible with reverse connection

Product Line-up

Model type		No of poles (P)	Rating	Instantaneous tripping	Voltage (V)	Short-Circuit capacity (kA)	Compliance standard
MCB	**BHW-T10**	1, 2, 3, 4	6 to 63A	TYPE B	240/415AC	10	IEC 60898-1
			0.5 to 63A	TYPE C, D			
RCCB	**BVW-T**	2(1+N), 4(3+N)	16 to 63A	–	240/415AC	–	IEC 61008-1

Explanation of Markings (Example Model Type : BHW-T10)



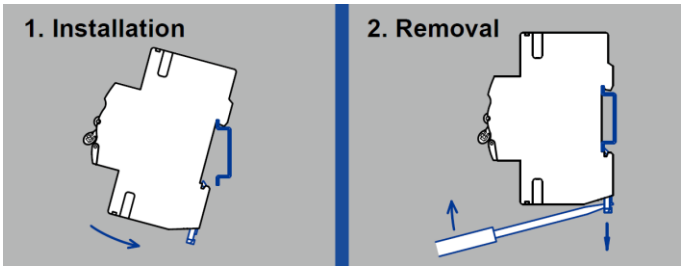
Technical Specifications

Ambient temperature range	-10 to +40ºC
Frequency	50/60Hz

Points to Note

1 Installation

Standard IEC 35mm rail installation is possible.
Fix by attaching a slip stopper.
Fig-1



2 Connection

At the time of wire connection, fasten the terminal screws with the torque stated in the table below. Fig-1
Fastening torque

Screw diameter	Fastening torque (N·m)	Model type
M5	2	BHW-T10, BVW-T, KBW-T(25 to 63A), Shunt trip

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3 Opening, Closing and Tripping Operations

Move the handle up/down to turn power On/Off. Tripping operation refers to automatic opening (breaking) of circuits.

4 Earth-leakage Test

Earth-leakage test steps:

(1) Move the handle to the On position under rated voltage.
(2) Push the yellow test button.
*Please conduct the above test regularly.
*Do not use the test button to switch off the RCCB.
(3) At this time, the RCCB must be tripped within the specified time.
(4) The handle will move to the Off position.

5 Withstand Voltage Test

(1) Withstand voltage test: The voltage applied to the main circuit during the withstand voltage test is 2,000VAC (effective for 1min). Do not conduct a withstand voltage tests using voltages exceeding 2,000VAC.
(2) Measurement of insulation resistance and withstand voltage test Please note the following restrictions (**1** and **2** below) that apply when using earth-leakage circuit breakers.
1 Measuring insulation resistance: - Do not use a 1000V insulation resistance tester. Please use a 500V insulation resistance tester. - The "▲" marks in the table are based on minimum insulation resistance values.
2 Testing withstand voltage: The "×" marks in the table below indicate that the test voltage is not to be applied to that model. (If a test voltage is accidently applied to one of these models, do not reuse the product regardless of whether or not they were tripped.)

Measuring position / Test				Insulation resistance measurement		Withstand voltage test	
Handle position				ON	OFF	ON	OFF
Between main circuit live part and ground				○	○	○	○
Between different poles	On line side	BVW-T 2P		▲	○	×	○
		BVW-T 4P	Between right pole (terminal symbol 6) and N pole	▲	○	×	○
			Between poles other than above	○	○	○	○
	On load side	BVW-T 2P		▲	▲	×	×
		BVW-T 4P	Between right pole (terminal symbol 6) and N pole	▲	▲	×	×
			Between poles other than above	○	○	○	○
Between terminals on line side and load side				–	○	–	○

Specifications

				MCB							
Type				BHW-T10							
Image											
No. of poles [P]				1	2	3	4	1	2	3	4
Instantaneous tripping				Type B*2				Type C, D*2			
Rated insulation voltage U_i [V]				660				660			
Rated current I_n [A] at ambient temperature 30℃				6, 10, 16, 20, 25, 32, 40, 50, 63				0.5, 1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63			
Rated short-circuit capacity [kA]	IEC/EN 60898-1 (Icn)	AC	240V	10				10			
			240/415V	10				10			
			415V	–	10			–	10		
Energy limiting class*3				Class 3							
Number of operating cycles	Without current			4,000							
	With current			4,000							
Dimensions [mm]			a	18	36	54	72	18	36	54	72
			b	92.6							
			c	44							
			ca	Max. 73.5							
Type of overcurrent release				Thermal-magnetic							
Mounting				IEC 35mm rail							
Applicable wire size				1 to 25mm²							
Mass [kg]				0.13	0.26	0.39	0.52	0.13	0.26	0.39	0.52
Accessories (optional)*4	Auxiliary switch (AX)			○							
	Shunt trip (SHT)			○							
Terminal connection				Solderless							
Based on standard				IEC/EN 60898-1							
CE marking				○							

*2: Type C: (5 I_n<, 10 I_n), Type D: (10 I_n<, 20 I_n)
*3: Except for Type D
*4: Available soon
*5: In case of installing breakers side by side, reduce the passing current to under 80% of the rated current.

		RCCB	
Type		BVW-T	
Image			
No. of poles [P]		2(1+N)*1	4(3+N)*1
Rated current I_n [A] at ambient temperature 30℃		25, 40, 63	
Rated voltage [VAC]		240	415
Rated current sensitivity $I_{\Delta n}$ [mA]		30, 300	
Max. operating time at 5 $I_{\Delta n}$ [s]		0.04	
Pulsating current sensitivity		Type AC	
Dimensions [mm]	a	36	72
	b	90	
	c	44	
	ca	74	
Rated making and breaking capacity I_m [A]		500(In 25, 40A), 630(In 63A)	
Rated conditional short-circuit current I_{nc} [kA]		6	
Rated residual making and breaking capacity $I_{\Delta m}$ [A]		500(In 25, 40A), 630(In 63A)	
Rated conditional residual short-circuit current $I_{\Delta c}$ [kA]		6	
Number of operating cycles	Without current	4,000*2	
	With current	2,000	
Type of overcurrent release		–	
Mounting		IEC 35mm rail	
Applicable wire size		1 to 25mm²	
Mass [kg]		0.22	0.44
Terminal connection		Solderless	
Based on standard		IEC/EN 61008-1	
CE marking		○	

*1: N pole is a switched neutral pole (without overcurrent release device).
*2: In case of ampere rating 32, 40 and 63A, the number of operating cycles is 3,000.

MCB Accessories

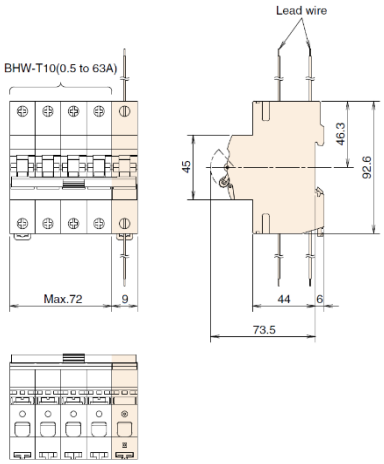
Auxiliary switch AX

Electrically indicates the On/Off status of the circuit breaker.

Specifications

Type		AX
Contact	Configuration	1A1B
	Contact capacity	220VAC 6A
Connection		Lead wire
Compliance standard		IEC 60947-5-1

Dimensions



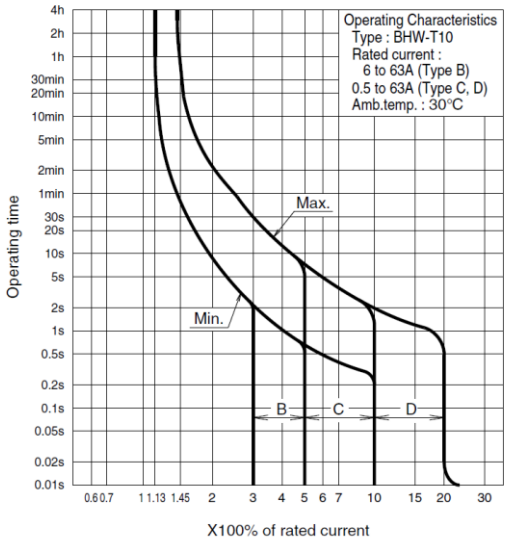
Characteristics and Dimensions

Miniature Circuit Breakers (MCB)

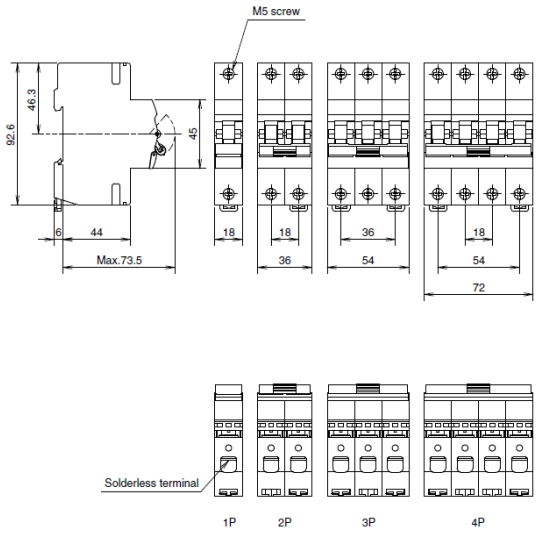
BHW-T10

Type				BHW-T10							
No. of poles [P]				1	2	3	4	1	2	3	4
Instantaneous tripping				Type B				Type C, D			
Rated insulation voltage U_i [V]				660				660			
Rated current I_n [A] at ambient temperature 30°C				6, 10, 16, 20, 25, 32, 40, 50, 63				0.5, 1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63			
Rated short-circuit capacity [kA]	IEC/EN 60898-1 (Icn)	AC	240V	10				10			
			240/415V	10				10			
			415V	–	10			–	10		

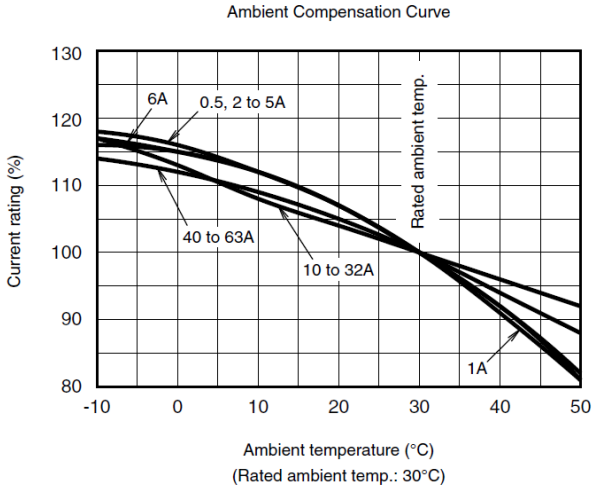
Operating Characteristics



Outer Dimensions



Ambient Compensation Curve



Characteristics and Dimensions

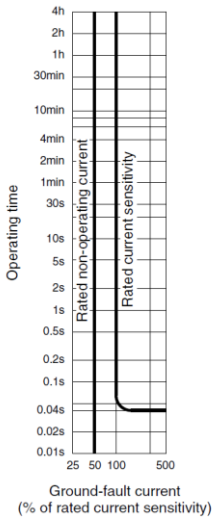
Residual Current Circuit Breakers (RCCB)

BVW-T

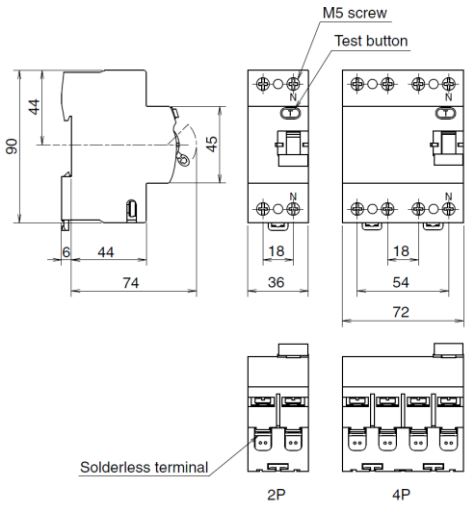
Type	BVW-T	
No. of poles [P]	2(1+N)*1	4(3+N)*1
Rated current I_n [A] at ambient temperature 30℃	25, 40, 63	
Rated voltage [VAC]	240	415
Rated current sensitivity $I_{\Delta n}$ [mA]	30, 300	
Max. operating time at 5 $I_{\Delta n}$ [s]	0.04	
Pulsating current sensitivity	Type AC	
Rated making and breaking capacity I_m [A]	500(In 25, 40A), 630(In 63A)	
Rated conditional short-circuit current I_{nc} [kA]	6	
Rated residual making and breaking capacity $I_{\Delta m}$ [A]	500(In 25, 40A), 630(In 63A)	
Rated conditional residual short-circuit current $I_{\Delta c}$ [kA]	6	

*1: N pole is a switched neutral pole (without overcurrent release device).

Earth-Leakage Tripping Characteristics



Outer Dimensions



Ordering Information

Miniature Circuit Breakers (MCB)

Type B				
Codes				Reference*
One Pole	Two poles	Three poles	Four poles	
291889	291908	291917	291926	BHW-T10 ☐ Type B 6A
291890	291909	291918	291927	BHW-T10 ☐ Type B 10A
291891	291910	291919	291928	BHW-T10 ☐ Type B 16A
291892	291911	291920	291929	BHW-T10 ☐ Type B 20A
291893	291912	291921	291930	BHW-T10 ☐ Type B 25A
291894	291913	291922	291931	BHW-T10 ☐ Type B 32A
291905	291914	291923	291932	BHW-T10 ☐ Type B 40A
291906	291915	291924	291933	BHW-T10 ☐ Type B 50A
291907	291916	291925	291934	BHW-T10 ☐ Type B 63A

Type C				
Codes				Reference*
One Pole	Two poles	Three poles	Four poles	
291953	291968	291983	291998	BHW-T10 ☐ Type C 0,5A
291954	291969	291984	291999	BHW-T10 ☐ Type C 1A
291955	291970	291985	292000	BHW-T10 ☐ Type C 2A
291956	291971	291986	292001	BHW-T10 ☐ Type C 3A
291957	291972	291987	292002	BHW-T10 ☐ Type C 4A
291958	291973	291988	292003	BHW-T10 ☐ Type C 5A
291959	291974	291989	292004	BHW-T10 ☐ Type C 6A
291960	291975	291990	292005	BHW-T10 ☐ Type C 10A
291961	291976	291991	292006	BHW-T10 ☐ Type C 16A
291962	291977	291992	292007	BHW-T10 ☐ Type C 20A
291963	291978	291993	292008	BHW-T10 ☐ Type C 25A
291964	291979	291994	292009	BHW-T10 ☐ Type C 32A
291965	291980	291995	292010	BHW-T10 ☐ Type C 40A
291966	291981	291996	292011	BHW-T10 ☐ Type C 50A
291967	291982	291997	292012	BHW-T10 ☐ Type C 63A

Type D				
Codes				Reference*
One Pole	Two poles	Three poles	Four poles	
292043	292058	292073	292088	BHW-T10 ☐ Type D 0,5A
292044	292059	292074	292089	BHW-T10 ☐ Type D 1A
292045	292060	292075	292090	BHW-T10 ☐ Type D 2A
292046	292061	292076	292091	BHW-T10 ☐ Type D 3A
292047	292062	292077	292092	BHW-T10 ☐ Type D 4A
292048	292063	292078	292093	BHW-T10 ☐ Type D 5A
292049	292064	292079	292094	BHW-T10 ☐ Type D 6A
292050	292065	292080	292095	BHW-T10 ☐ Type D 10A
292051	292066	292081	292096	BHW-T10 ☐ Type D 16A
292052	292067	292082	292097	BHW-T10 ☐ Type D 20A
292053	292068	292083	292098	BHW-T10 ☐ Type D 25A
292054	292069	292084	292099	BHW-T10 ☐ Type D 32A
292055	292070	292085	292100	BHW-T10 ☐ Type D 40A
292056	292071	292086	292101	BHW-T10 ☐ Type D 50A
292057	292072	292087	292102	BHW-T10 ☐ Type D 63A

* ☐ The white square must indicate the number of poles → **1P** or **2P** or **3P** or **4P**

Reference identification

Type name	Number of poles	Operating characteristics	Rated current
BHW-T10	1P	Type C	16A
↓	↓	↓	↓
BHW-T10	1P, 1P+N, 2P, 3P, 3P+N, 4P	Type B Type C Type D	0.5, 1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63A

Ordering Information

Residual Current Circuit Breakers (RCCB)

30mA		
Codes		Reference*
Two poles	Four poles	
293548	293603	BVW-T ☐ 25A 30mA
293550	293605	BVW-T ☐ 40A 30mA
293551	293606	BVW-T ☐ 63A 30mA

300mA		
Codes		Reference*
Two poles	Four poles	
293598	293613	BVW-T ☐ 25A 300mA
293600	293615	BVW-T ☐ 40A 300mA
293601	293616	BVW-T ☐ 63A 300mA

* ☐ The white square must indicate the number of poles → **2P** or **4P**

Reference identification

Type name	Number of poles	Rated current	Rated sensitivity current
BVW-T	2P	63A	30mA
	↓	↓	↓
	2P, 4P	25, 40, 63A	30, 300mA