| Model |  |  |  | BH-D6 |  |  |  |  | BH-D10 |  |  |  | BH-DN |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Image |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Number of poles [P] |  |  |  | 1 | 2 | 3 | $4(3+N)^{*}$ | $2(1+\mathrm{N})^{* 1}$ | 1 | 2 | 3 | $4(3+N)^{* 1}$ | $2(1+\mathrm{N})^{*}$ |
| Instantaneous tripping |  |  |  | Type B, C, D* ${ }^{2}$ |  |  |  | Type B, ${ }^{*}{ }^{2}$ | Type B, C, D*2 |  |  |  | Type C ${ }^{*}$ |
| Rated insulation voltage $U_{\mathrm{i}}$ [ V$]$ |  |  |  | 440 |  |  |  |  | 440 |  |  |  | 230 |
| Rated current $I_{\mathrm{n}}[\mathrm{A}]$ at ambient temperature $30^{\circ} \mathrm{C}$ |  |  |  | $\begin{gathered} 0.5,1,1.6,2,3,4,6,10,13 \\ 16,20,25,32,40,50,63 \end{gathered}$ |  |  |  | 0.5, 1, 1.6, 2, 3,4,6,10, <br> $13,16,20$, $25,32,40$ | $\begin{gathered} 0.5,1,1.6,2,3,4,6,10,13 \\ 16,20,25,32,40,50,63 \end{gathered}$ |  |  |  | 6, 10, 16, 20 |
| Rated shortcircuit capacity [kA] | IEC60898-1(ICn) | AC | 230 V | 6 | - |  |  | 6 | 10 | - |  |  | 4.5 |
|  |  |  | 230/400V | 6 | - |  |  | - | 10 | - |  |  | - |
|  |  |  | 400 V | - | 6 |  |  | - | - | 10 |  |  | - |
| Number of operating cycles |  | Without current |  | 8,000 |  |  |  |  | 10,000 |  |  |  | 20,000 |
|  |  | With current |  | 8,000 |  |  |  |  | 10,000 |  |  |  | 20,000 |
|  |  |  | a | 18 | 36 | 54 | 72 | 36 | 18 | 36 | 54 | 72 | 18 |
|  |  |  | b | 87 |  |  |  |  | 87 |  |  |  | 88 |
|  |  |  | c | 44 |  |  |  |  | 44 |  |  |  | 44 |
|  |  |  | ca | 70 |  |  |  |  | 70 |  |  |  | 70 |
| Type of overcurrent release |  |  |  | Thermal-magnetic |  |  |  |  | Thermal-magnetic |  |  |  | Thermal-magnetic |
| Mounting |  |  |  | IEC35mm rail |  |  |  |  | IEC35mm rail |  |  |  | IEC35mm rail |
| Applicable wire size |  |  |  | 1 to $25 \mathrm{~mm}^{2}$ |  |  |  |  | 1 to $25 \mathrm{~mm}^{2}$ |  |  |  | 1 to $10 \mathrm{~mm}^{2}$ |
| Weight [kg] |  |  |  | 0.15 | 0.3 | 0.45 | 0.55 | 0.25 | 0.15 | 0.3 | 0.45 | 0.55 | 0.12 |
| Mass optional accessories | Alarm switch (AL) |  |  | - |  |  |  |  | - |  |  |  | - |
|  | Auxiliary switch (AX) |  |  | - |  |  |  |  | - |  |  |  | - |
|  | Shunt trip | (SHT) |  | $\bullet$ |  |  |  |  | $\bullet$ |  |  |  | - |
| Terminal connection |  |  |  | Solderless |  |  |  |  | Solderless |  |  |  | Solderless |
| Based on standard |  |  |  | IEC60898-1 |  |  |  |  | IEC60898-1 |  |  |  | IEC60898-1 |
| CE marking |  |  |  | EN60898-1 : Self-declaration |  |  |  |  | EN60898-1 : Self-declaration |  |  |  | EN60898-1 : Self-declaration |
| CCC |  |  |  | GB10963.1 |  |  |  |  | GB10963.1 |  |  |  | GB10963.1 |


| Model |  |  |  | BH-D10 (For DC) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Image |  |  |  |  |  |
| Number of poles [P] |  |  |  | 1 | 2 |
| Instantaneous tripping |  |  |  | Type B, C ${ }^{3}$ |  |
| Rated insulation voltage $U_{\mathrm{i}}[\mathrm{V}]$ |  |  |  | 250 |  |
| Rated current $I_{\mathrm{n}}[\mathrm{A}]$ at ambient temperature $30^{\circ} \mathrm{C}$ |  |  |  | $\begin{gathered} 0.5,1,1.6,2,3,4,6,10,13 \\ 16,20,25,32,40,50,63 \end{gathered}$ |  |
| Rated short- <br> circuit <br> capacity$\|$IEC6] $]$(ICn) |  | DC | 125 V | 10 | - |
|  |  | 250 V | - | 10 |
| Number of operating cycles |  |  | Without current |  | 8,000 |  |
|  |  | With current |  | 4,000 |  |
| Dimensio [mm] |  |  | a | 18 | 36 |
|  | $\xrightarrow{\square}$ |  | b | 87 |  |
|  |  |  | c | 44 |  |
|  |  |  | ca | 70 |  |
| Type of overcurrent release |  |  |  | Thermal-magnetic |  |
| Mounting |  |  |  | IEC35mm rail |  |
| Applicable wire size |  |  |  | 1 to $25 \mathrm{~mm}^{2}$ |  |
| Weight [kg] |  |  |  | 0.15 | 0.3 |
| Mass optional accessories | Alarm switch (AL) |  |  | - |  |
|  | Auxiliary switch (AX) |  |  | $\bullet$ |  |
|  | Shunt trip (SHT) |  |  | $\bullet$ |  |
| Terminal connection |  |  |  | Solderless |  |
| Based on standard |  |  |  | IEC60898-2 |  |
| CE marking |  |  |  | EN60898-2 : Self-declaration |  |
| CCC |  |  |  | GB10963.2 |  |



Notes: *3 Type B: $(5 \ln <, \leqq 7 \ln )$, Type C: $(7 \ln <, \leqq 15 \ln )$

## Detailed <br> 2 Specifications

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Model |  |  | BV-D |  |
|  | Image |  |  |  |  |
|  | Number of poles [P] |  |  | $2(1+N)^{*}$ | $4(3+\mathrm{N})^{* 1+3}$ |
|  | Rated current [A] at ambient temperature $30^{\circ} \mathrm{C}$ |  |  | 25, 40, 63 |  |
|  | Rated voltage [VAC] |  |  | 230 | 230/400 |
|  | Rated current sensitivity $\mathrm{I} \triangle \mathrm{n}[\mathrm{mA}]$ |  |  | 30, 300 |  |
|  | Max. operating time at $51 \triangle \mathrm{n}$ [s] |  |  | 0.04 |  |
|  | Pulsating current sensitivity |  |  | Type AC |  |
|  | Rated conditional short-circuit current [kA] |  |  | 6 |  |
|  | Dimensions [mm] |  | a | 36 | 72 |
|  |  |  | b | 85 |  |
|  |  |  | c | 44 |  |
|  |  |  | ca | 70 |  |
|  | Mass [kg] |  |  | 0.2 | 0.35 |
|  | Rated making and breaking capacity Im [A] |  |  | 500(In 25,40A), 630(In63A) |  |
| O | Rated conditional short-circuit current Inc [kA] |  |  | 6 |  |
|  | Rated residual making and breaking capacity $1 \triangle m[A]$ |  |  | 500(In 25,40A), 630(In63A) |  |
| (1) | Rated conditional residual shorr-circuit current $1 \triangle C$ [ KA ] |  |  | 6 |  |
|  | Number of operating cycles | Without current |  | 8,000 |  |
| $\bigcirc$ |  | With curre |  | 8,000 |  |
|  | Type of overcurrent release |  |  | - |  |
|  | Mounting |  |  | IEC35mm rail |  |
|  | Applicable wire size |  |  | 1 to $25 \mathrm{~mm}^{2}$ |  |
|  | Weight [kg] |  |  | 0.2 | 0.35 |
|  | Terminal connection |  |  | Solderless |  |
|  | Based on standard |  |  | IEC61008-1 |  |
|  | CE marking |  |  | EN61008-1 : Self-declaration |  |
|  | CCC |  |  | GB16916 |  |



Notes: *1 N pole is a switched neutral pole (without overcurrent release device)
*2 Type C: $(5 \mathrm{In}<, \leqq 10 \mathrm{In})$
*3 3 For use to three phase 4-wire type. When using, it be sure to connect the neutral wire to the neutral phase. Not available for use to three phase 3 -wire type.


## Detailed <br> 2

## Accessories for Miniature Circuit Breakers <br> Functions of Accessories

| Internal accessory | Function |
| :--- | :--- |
| AL Alarm switch | Electrically indicates the trip status of the circuit breaker. |
| AX Auxiliary switch | Electrically indicates the On/Off status of the circuit breaker. |
| SHT Shunt trip | Electrically trips the circuit breaker from a remote location. <br> Permissible working voltages are 70 to $110 \%$ of the AC rated voltage or 70 to 125\% of the DC rated voltage. |

Equipping of Accessories

| Accessory | Model | BH-D6 | BH-D10 | BH, BH-P, BH-S, BH-PS, <br> BH-DN, BV-DN, KB-D, BV-D |
| :--- | :---: | :---: | :---: | :---: |
| AL | 0 | 0 |  |  |
| AX | 0 | 0 | - |  |
| SHT | 0 | 0 |  |  |

O: Accessory equipped
-: Accessory not equipped

## Specifications

| Type |  | AL | AX | AL+AX | $A X+A X$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | AL-05DLS | AX-05DLS | ALAX-05DLS | AX2-05DLS |
| Contact | Configuration | 1 C | 1 C | 2 C | 2 C |
|  | Contact capacity | 400VAC, 2A 230VAC, 5A |  | C, $0.4 \mathrm{~A} \quad 48 \mathrm{VDC}, 1.5 \mathrm{~A}$ |  |
| Function | Line | - | - | AX | AX |
|  | Load | AL | AX | AL | AX |
| Connection |  | Busbar terminal |  |  |  |
| Compliance standard |  | IEC60947-5-1 GB14048.5 |  |  |  |


| Type | SHT |  |  |
| :---: | :---: | :---: | :---: |
|  | SHTA400-05DLS |  | SHTD048-05DLS |
| Cut-off switch | Equipped |  |  |
| Voltage | 110-400VAC |  | 24-48VDC |
| Input power requirement | $\begin{array}{cc} \hline 110 \mathrm{VAC} & 60 \mathrm{VA} \\ \text { 230VAC } & 250 \mathrm{VA} \\ \text { 400VAC } & 750 \mathrm{VA} \end{array}$ |  | $\begin{array}{cc}24 \mathrm{VDC} & 75 \mathrm{VA} \\ \text { 48VDC } & 300 \mathrm{VA}\end{array}$ |
| Operating time [ms] | <20 |  |  |
| Connection | Solderless terminal |  |  |
| Compliance standard | IEC60947-2 GB14048.2 |  |  |

[^0]2

Combinations of Accessories

Accessory
connection combinations


|  | Accessory connection combinations | AL |  | －－$\square$ |
| :---: | :---: | :---: | :---: | :---: |
|  |  | AX |  |  |
| $2$ |  | 2 AX |  | ［1010 |
|  |  | ALAX |  | 0．0． 0 |
|  |  | SHT |  | \％ |
|  |  | AX＋SHT |  | － 0 － |
|  |  | AL＋SHT |  | －$\cdot$－图 |
|  |  | 2AX＋SHT |  |  |
|  |  | ALAX＋SHT |  | 000 0 |
|  | $\square \text { Breaker } \quad \text { a } \quad \square^{\text {AX }}$ | $A x \int_{0}^{0} A X+A X$ | SHT |  |

## Outline Drawing

AL－05DLS
所
AX－05DLS
部

ALAX－05DLS
解


SHTA400－05DLS SHTD048－05DLS


Connection of Line and Load Side


Installation of Accessories（AX，AL，SHT）
（1）Installation


（2）Removal


Changes for the Better
MINIATURE CIRCUIT BREAKERS,
RESIDUAL CURRENT CIRCUIT BREAKERS \& ISOLATING SWITCHES

## DIN Series

Hrejkine Thinuth The


Introducing the DIN Series...
High-quality, high-performance circuit breakers suitable for household electrical distribution panels DIN Series

## 



## Features

(1) All models fully comply with IEC regulations
(2) Units can be mounted on a standard IEC 35 mm 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 | $1,1+N, 2,3,3+N, 4$ | 6 to 63A | TYPE B | 240/415AC | 10 | IEC 60898-1 |
|  |  | $1,1+\mathrm{N}, 2,3,3+\mathrm{N}, 4$ | 0.5 to 63A | TYPE C, D | 240/415AC |  | IEC 60898-1 |
| RCCB | BVW-T | $2(1+N), 4(3+N)$ | 16 to 63A | - | 240/415AC | - | IEC 61008-1 |
| Isolating Switch | KBW-T | 1, 2, 3, 4 | 25, 40, 63A | - | 240/415AC | - | IEC 60947-3 |
|  |  | 2, 3, 4 | 80, 100, 125A | - | 240/415AC | - | IEC 60947-3 |

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


## Technical Specifications

| Ambient temperature range | -10 to $+40^{\circ} \mathrm{C}$ |
| :--- | :---: |
| Frequency | $50 / 60 \mathrm{~Hz}$ |



## Points to Note

## 1 Installation

Standard IEC 35 mm 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.

| Fastening torque |  |  |
| :---: | :---: | :--- |
| Screw <br> diameter | Fastening <br> torque <br> $(\mathrm{N} \cdot \mathrm{m})$ | Model type |
| M5 | 2 | BHW-T10, BVW-T, KBW-T(25 to 63A), <br> Shunt trip |
| M6 | 2.5 | KBW-T(80 to 125A) |

## 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.
(3) At this time, the RCCB must be tripped within the specified time.
(4) The handle will move to the Off position.

* Please conduct the above test regularly.
* Do not use the test button to switch off the RCCB.


## 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 1 min ). 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 1000 V insulation resistance tester. Please use a 500V insulation resistance tester.
- The " $\Delta$ " marks in the table are based on minimum insulation resistance values.
(2) Testing withstand voltage: The " $X$ " 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 | osition |  | Test | Insula me | stance ent | Withs | ge test |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Handle pos | sition |  |  | ON | OFF | ON | OFF |
| Between main circuit live part and ground |  |  |  | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| Between different poles | On line side | BVW-T 2P |  | $\Delta$ | O | $\times$ | $\bigcirc$ |
|  |  | BVW-T 4P | Between right pole (terminal symbol 6 ) and N pole | $\Delta$ | O | $\times$ | O |
|  |  |  | Between poles other than above | $\bigcirc$ | O | $\bigcirc$ | $\bigcirc$ |
|  | On load side | BVW-T 2P |  | $\Delta$ | $\triangle$ | $\times$ | $\times$ |
|  |  | BVW-T 4P | Between right pole (terminal symbol 6 ) and N pole | $\Delta$ | $\triangle$ | $\times$ | $\times$ |
|  |  |  | Between poles other than above | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| Between terminals on line side and load side |  |  |  | - | $\bigcirc$ | - | $\bigcirc$ |

## Specifications

|  |  |  |  | MCB |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type |  |  |  | BHW-T10 |  |  |  |  |  |  |  |  |  |  |  |
| Image |  |  |  | $\begin{aligned} & \stackrel{\circ}{5} \\ & \frac{5}{8} \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |
| No. of poles [P] |  |  |  | 1 | $1+{ }^{* 1}$ | 2 | 3 | $3+\mathrm{N}^{* 1}$ | 4 | 1 | $1+\mathrm{N}^{* 1}$ | 2 | 3 | $3+{ }^{* 1}$ | 4 |
| Instantaneous tripping |  |  |  | Type B ${ }^{\text {2 }}$ |  |  |  |  |  | Type C, D ${ }^{\text {2 }}$ |  |  |  |  |  |
| Rated insulation voltage $U_{\mathrm{i}}[\mathrm{V}]$ |  |  |  | 660 |  |  |  |  |  | 660 |  |  |  |  |  |
| Rated current $I_{\mathrm{n}}[\mathrm{A}]$ at ambient temperature $30^{\circ} \mathrm{C}$ |  |  |  | $\begin{gathered} 6,10,16,20,25, \\ 32,40,50,63 \end{gathered}$ |  |  |  |  |  | $\begin{gathered} 0.5,1,2,3,4,5, \\ 6,10,16,20,25, \\ 32,40,50,63 \end{gathered}$ |  |  |  |  |  |
| Rated |  | AC | 240 V | 10 |  |  |  |  |  | 10 |  |  |  |  |  |
| circuit | 60898-1 |  | 240/415V | 10 | - | 10 |  |  |  | 10 | - | 10 |  |  |  |
| capacity <br> [kA] |  |  | 415 V | - |  | 10 |  |  |  |  |  | 10 |  |  |  |
| Energy limiting class*3 |  |  |  | Class 3 |  |  |  |  |  |  |  |  |  |  |  |
| Number of operating cycles |  | Without current |  | 4,000 |  |  |  |  |  |  |  |  |  |  |  |
|  |  | With current |  | 4,000 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | a | 18 |  |  | 54 |  |  | 18 |  |  | 54 |  |  |
|  |  |  | b | 92.6 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | c | 44 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | ca | Max. 73.5 |  |  |  |  |  |  |  |  |  |  |  |
| Type of overcurrent release |  |  |  | Thermal-magnetic |  |  |  |  |  |  |  |  |  |  |  |
| Mounting |  |  |  | IEC 35 mm rail |  |  |  |  |  |  |  |  |  |  |  |
| Applicable wire size |  |  |  | 1 to $25 \mathrm{~mm}^{2}$ |  |  |  |  |  |  |  |  |  |  |  |
| Mass [kg] |  |  |  | 0.13 | 0.25 | 0.26 | 0.39 | 0.51 | 0.52 | 0.13 | 0.25 | 0.26 | 0.39 | 0.51 | 0.52 |
| Accessories (optional) ${ }^{* 4}$ |  | Auxiliary switch (AX) |  | $\bigcirc$ |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Shunt tip | ip (SHT) | $\bigcirc$ |  |  |  |  |  |  |  |  |  |  |  |
| Terminal connection |  |  |  | Solderless |  |  |  |  |  |  |  |  |  |  |  |
| Based on standard |  |  |  | IEC/EN 60898-1 |  |  |  |  |  |  |  |  |  |  |  |
| CE marking |  |  |  | $\bigcirc$ |  |  |  |  |  |  |  |  |  |  |  |

*1: N pole is a switched neutral pole (without overcurrent release device).
*2: Type B: (3 $\left.I_{n}<, \leqq 5 I_{n}\right)$, Type C: ( $5 I_{n}<, \leqq 10 I_{n}$ ), Type D: $\left(10 I_{n}<, \leqq 20 I_{n}\right)$
*3: Except for Type D

|  |  | RCCB |  |
| :---: | :---: | :---: | :---: |
| Type |  | BVW-T |  |
| Image |  |  |  |
| No. of poles [P] |  | $2(1+\mathrm{N})^{* 1}$ | $4(3+\mathrm{N})^{* 1}$ |
| Rated current $I_{\mathrm{n}}[\mathrm{A}]$ at ambient temperature $30^{\circ} \mathrm{C}$ |  | 16, 25, 32, 40, 63 |  |
| Rated voltage [VAC] |  | 240 | 415 |
| Rated current sensitivity $I_{\Delta n}[\mathrm{~mA}]$ |  | 30, 100, 300 |  |
| Max. operating time at $5 I_{\Delta n}[\mathrm{~s}]$ |  | 0.04 |  |
| Pulsating current sensitivity |  | Type AC |  |
|  | a | 36 | 72 |
|  | b | 90 |  |
|  | c | 44 |  |
|  | ca | 74 |  |

Rated making and breaking capacity $I_{m}[A]$ 500(In 16, 25, 32, 40A), 630(In 63A) Rated conditional short-circuit current $I_{\mathrm{nc}}[\mathrm{kA}]$

| Rated residual making and breaking capacity $I_{\Delta \mathrm{m}}[\mathrm{A}]$ | $500(\ln 16,25,32,40 \mathrm{~A}), 630(\ln 63 \mathrm{~A})$ |  |
| :--- | :--- | :---: |
| Rated conditional residual shor-circuit current $I_{\Delta c}[\mathrm{kA}]$ | 6 |  |
| Number of <br> operating cycles | Without current | $4,000^{* 2}$ |
|  | With current | 2,000 |
| Type of overcurrent release | - |  |
| Mounting | IEC 35 mm rail |  |
| Applicable wire size | 1 to $25 \mathrm{~mm}^{2}$ |  |
| Mass $[k g]$ | 0.22 | 0.44 |
| Terminal connection | Solderless |  |
| Based on standard | IEC/EN 61008-1 |  |
| CE marking | 0 |  |

*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
*5: In case of installing breakers side by side, reduce the passing current to under $80 \%$ of the rated current.

|  |  |  | Isolating switch |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type |  |  | KBW-T |  |  |  |  |  |  |
| Image |  |  | $\begin{aligned} & \underline{E} \\ & E \\ & 0 \end{aligned}$ |  |  |  |  |  |  |
| No. of poles [P] |  |  | 1 | 2 | 3 | 4 | 2 | 3 | 4 |
| Utilization category |  |  | AC-22A |  |  |  | AC-22A |  |  |
| Rated current $I_{\mathrm{n}}[\mathrm{A}]$ at ambient temperature $30^{\circ} \mathrm{C}$ |  |  | 25, 40, 63 |  |  |  | 80, 100, 125 |  |  |
| Rated voltage [VAC] |  |  | 240 | 240/415 |  |  | 240/415 |  |  |
| Short time withstand current $I_{\mathrm{cw}}[\mathrm{A}]$ |  |  | $12 \times \mathrm{ln}, 1 \mathrm{~s}$ |  |  |  | $12 \times \mathrm{ln}, 1 \mathrm{~s}$ |  |  |
| Short-circuit making capacity $\operatorname{Icm}$ [A] |  |  | $12 \times \mathrm{ln}$ |  |  |  | $12 \times \mathrm{ln}$ |  |  |
| Rated impulse withstand voltage Uimp [kV] |  |  | 6 |  |  |  | 6 |  |  |
| Pollution degree |  |  | 2 |  |  |  | 2 |  |  |
|  |  | a | 18 | 36 | 54 | 72 | 36 | 54 | 72 |
|  |  | b | 92.6 |  |  |  | 92.6 |  |  |
|  |  | c | 44 |  |  |  | 44 |  |  |
|  |  | ca | Max. 73.5 |  |  |  | Max. 73.5 |  |  |
| Number of operating cycles | Without current |  | 10,000 |  |  |  | $\begin{gathered} 10,000 \\ 8,000(125 A) \end{gathered}$ |  |  |
|  | With current |  | 1,500 |  |  |  | $\begin{gathered} 1,500 \\ 1,000(125 A) \end{gathered}$ |  |  |
| Mounting |  |  | IEC 35mm rail |  |  |  | IEC 35 mm rail |  |  |
| Applicable wire size |  |  | 1 to $25 \mathrm{~mm}^{2}$ |  |  |  | 16 to $50 \mathrm{~mm}^{2}$ |  |  |
| Mass [kg] |  |  | 0.12 | 0.22 | 0.33 | 0.47 | 0.2 | 0.3 | 0.4 |
| Terminal connection |  |  | Solderless |  |  |  | Solderless |  |  |
| Based on standard |  |  | IEC/EN 60947-3 |  |  |  | IEC/EN 60947-3 |  |  |
| CE marking |  |  | $\bigcirc$ |  |  |  | $\bigcirc$ |  |  |

## Accessories

## Functions of Accessories

| Internal accessory | Function |
| :--- | :--- |
| AX Auxiliary switch | Electrically indicates the On/Off status of the circuit breaker. |
| SHT Shunt trip | Electrically trips the circuit breaker from a remote location. <br> Permissible working voltage is $100 \%$ of the rated voltage. |

## Equipping of Accessories

| Accessory Model name | BHW-T10 | BVW-T, KBW-T |
| :--- | :---: | :---: |
| AX | 0 | - |
| SHT | 0 | - |

O: Accessory equipment
-: Accessory not equipped

## Specifications

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

Specifications

| Type | SHT |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cut-off switch | Equipped |  |  |  |
| Voltage | 12 VDC | 24 VDC | 48 VDC | 220 VAC |
| Input power requirement | 40 | 110 | 300 | 250 |
| Operating time [ms] | Solderless |  |  |  |
| Connection | IEC 60947-1 |  |  |  |
| Compliance standard |  |  |  |  |

* Secure a sufficient input power supply so that the voltage will not drop below the permissible working voltage ( $100 \%$ of the rated voltage).
* The operating time denotes the time from when the rated voltage is applied to SHT until the time the main contact of the breaker starts to open.


## Combinations of Accessories

| Accessory connection combinations | AX | $\square \square$ |
| :---: | :---: | :---: |
|  | SHT | $\square \times 1$ |

## Outer Dimensions

BHW-T10 with AX


BHW-T10 with SHT


Solderless terminal

## Characteristics and Dimensions <br> Miniature Circuit Breakers (MCB)

BHW-T10

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

$\qquad$ Ambient Compensation Curve



[^1]
## Characteristics and Dimensions <br> Residual Current Circuit Breakers (RCCB)

BVW-T


| Type | BVW-T |  |
| :---: | :---: | :---: |
| No. of poles [P] | $2(1+\mathrm{N})^{\text {s }}$ | $4(3+N)^{* 1}$ |
| Rated operational voltage Ue [AC V] | 240 | 415 |
| Rated current $I_{\mathrm{n}}[\mathrm{A}]$ at ambient temperature $30^{\circ} \mathrm{C}$ | 16, 25, 32, 40, 63 |  |
| Rated current sensitivity $I_{\Delta n}[\mathrm{~mA}]$ | 30, 100, 300 |  |
| Max. operating time at $5 I_{\Delta n}$ [s] | 0.04 |  |
| Pulsating current sensitivity | Type AC |  |
| Residual operation | Independent of line voltage |  |
| Rated making and breaking capacity $I_{m}[\mathrm{~A}]$ | $\begin{gathered} 500(\ln 16,25,32,40 A) \\ 630(\ln 63 A) \\ \hline \end{gathered}$ |  |
| Rated conditional short-circuit current $I_{\mathrm{nc}}[\mathrm{KA}]$ | 6 |  |
| Rated residual making and breaking capacity $I_{\Delta \mathrm{m}}[\mathrm{A}]$ | $\begin{gathered} 500(\ln 16,25,32,40 A) \\ 630(\ln 63 A) \\ \hline \end{gathered}$ |  |
| Rated conditional residual short-circuit current $I_{\Delta c}[\mathrm{kA}]$ | 6 |  |

*1: N pole is a switched neutral pole (without overcurrent release device).
Earth-Leakage Tripping Characteristics


## ■Outer Dimensions



## Characteristics and Dimensions <br> Isolating Switches

KBW-T


| Type | KBW-T |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of poles [P] | 1 | 2 | 3 | 4 | 2 | 3 | 4 |
| Utilization category | AC-22A |  |  |  | AC-22A |  |  |
| Rated insulation voltage $U_{i}[\mathrm{~V}]$ | 660 |  |  |  | 660 |  |  |
| Rated voltage Ue [VAC] | 240 | 240/415 |  |  | 240/415 |  |  |
| Rated current $I_{n}[\mathrm{~A}]$ at ambient temperature $30^{\circ} \mathrm{C}$ | 25, 40, 63 |  |  |  | 80, 100, 125 |  |  |
| Short-time withstand current $I_{\text {cw }}$ [A] | $12 \times \mathrm{ln}, 1 \mathrm{~s}$ |  |  |  | $12 \times \mathrm{ln}, 1 \mathrm{~s}$ |  |  |
| Short-time making current $I_{\text {cm }}[\mathrm{A}]$ | 12xın |  |  |  | $12 \times \mathrm{ln}$ |  |  |



$1 \mathrm{P} \quad 2 \mathrm{P}$


4P

## Ordering Information

Please specify items with

| Type name | Number of poles | Operating characteristics | Rated current | Internal accessory |  | Quantity |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BHW-T10 | 1P | Type C | 16A | SHT(12VDC) |  | 12 |
| $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ |  |  |
| BHW-T10 | $\begin{aligned} & 1 \mathrm{P}, 1 \mathrm{P}+\mathrm{N}, 2 \mathrm{P}, \\ & 3 \mathrm{P}, 3 \mathrm{P}+\mathrm{N}, 4 \mathrm{P} \end{aligned}$ | Type B Type C Type D | $\begin{array}{\|c} 0.5,1,2,3,4,5, \\ 6,10,16,20,25, \\ 32,40,50,63 A \end{array}$ | Shunt trip | $\begin{aligned} & \text { SHT(12VDC), } \\ & \text { SHT(24VDC), } \\ & \text { SHT(48VDC), } \\ & \text { SHT(22OVAC) } \end{aligned}$ |  |
|  |  |  |  | Auxiliary switch | AX |  |



## Information from Fukuyama Works

http://www.MitsubishiElectric.co.jp/haisei/lvs/


## Four Key Features

(1) Product Information
(2) Downloads
(3) News
(4) Support

Sales Network

| Country / Region | Corporation Name | Address | Telephone |
| :---: | :---: | :---: | :---: |
| Belarus | TECHNIKON | Prospect Nezavisimosti 177-9 BY-220125 Minsk, Belarus | +3275 (0)17-393 1177 |
| Belgium | Koning \& Hartman B.V. | Woluwelaan 31, BE-1800 Vilvoorde, Belgium | +32 (0)2-257 0240 |
| Chile | Rhona S.A. | Vte. Agua Santa 4211 Casilla 30-D (P.O. Box) Vina del Mar, Chile | +56-32-2-320-600 |
| Colombia | Proelectrico Representaciones S.A. | Carrera 53 No 29C-73-Medellin, Colombia | +57-4-235-30-38 |
| Czech Republic | Autocont Control System S.R.O | Kafkova 1853/3 CZ-702 00 Ostrava 2, Czech | +420 595691150 |
| Denmark | Beijer Electronics A/S | Lykkegardsvej 17 DK-4000 Roskilde, Denmark | +45 (0)46-75 7666 |
| Egypt | Cairo Electrical Group | 9, Rostoum St. Garden City P.O. Box 165-11516 Maglis El-Shaab,Cairo - Egypt | +20-2-27961337 |
| Germany | Mitsubishi Electric Europe B.V. | Gothaer Str. 8, D-40880 Ratingen, Germany | +49 (0) 2102-486-0 |
| Greece | UTECO | 5, Mavrogenous Str., GR-18542 Piraeus, Greece | +30 (0)211-1206-900 |
| Hungary | Meltrade Ltd. | Fertö utca 14. HU-1107 Budapest, Hungary | +36 (0)1-431-9726 |
| Ireland | Mitsubishi Electric Europe B.V. | Westgate Business Park, Ballymount, IRL-Dublin 24, Ireland | +353 (0)1-4198800 |
| Israel | Gino Industries Ltd. | 26, Ophir Street IL-32235 Haifa, Israel | +972 (0)4-867-0656 |
| Italy | Mitsubishi Electric Europe B.V. | Viale Colleoni 7, Palazzo Sirio, I-20864 Agrate Brianza (MB), Italy | +39 039-60 531 |
| Kazakhstan | TOO KAZPROMAVTOMA TIKA | UL. ZHAMBYLA 28, KAZ-100017 Karaganda, Kazakhstan | +7 7212-501000 |
| Lebanon | Comptoir d'Electricite Generale-Liban | Cebaco Center - Block A Autostrade Dora, P.O. Box 11-2597 Beirut - Lebanon | +961-1-240445 |
| Lithuania | RIFAS UAB | Tinklu 29A, LT-5300 Panevezys, Lithuania | +370 (0)45-582-728 |
| Malaysia | Mittric Sdn Bhd | No. 5 Jalan Pemberita U1/49, Temasya Industrial Park, Glenmarie 40150 Shah Alam, Selangor, Malaysia | +603-5569-3748 |
| Malta | ALFATRADE LTD | 99 Paola Hill, Malta-Paola PLA 1702, Malta | +356 (0)21-697-816 |
| Netherlands | Imtech Marine \& Offshore B.V. | Sluisjesdijk 155, NL-3087 AG Rotterdam, Netherlands | +31 (0)10-487-19 11 |
| North America | Mitsubishi Electric Automation, Inc. | 500 Corporate Woods Parkway, Vernon Hills, IL 60061 USA | +847-478-2100 |
| Norway | Scanelec AS | Leirvikasen 43B, NO-5179 Godvik, Norway | +47 (0)55-50 6000 |
| Middle East <br> Arab Countries \& Cyprus | Comptoir d'Electricite Generale-InternationalS.A.L. | Cebaco Center - Block A Autostrade Dora P.O. Box 11-1314 Beirut - Lebanon | +961-1-240430 |
| Poland | Mitsubishi Electric Europe B.V. | ul. Krakowska 50, PL-32-083 Balice, Poland | +48 (0) 126304700 |
| Republic of Moldova | Intehsis SRL | bld. Traian 23/1, MD-2060 Kishinev, Moldova | +373 (0)22-66 4242 |
| Romania | Sirius Trading \& Services SRL | Aleea Lacul Morii Nr. 3, RO-060841 Bucuresti, Sector 6, Romania | +40-(0)21-430 4006 |
| Russia | Moscow Liaison Office | 52, bld. 3 Kosmodamianskaya nab. 8 floor, RU-115054 Moscow, Russia | +7495 721-2070 |
| Saudi Arabia | Center of Electrical Goods | Al-Shuwayer St. Side way of Salahuddin Al-Ayoubi St. P.O. Box 15955 Riyadh 11454 Saudi Arabia | +966-1-4770149 |
| Singapore | Mitsubishi Electric Asia Pte. Ltd. | 307 Alexandra Road, Mitsubishi Electric Building, Singapore 159943 |  |
| Slovakia | SIMAP s.r.o. | Jana Dorku 1671, SK-91101 Trench, Slovakia | +421 (0)32 7430472 |
| Slovenia | INEA RBT d.o.o. | Stegne 11, SI-1000 Ljubljana, Slovenia | +386 (0)1-513 8116 |
| Spain | Mitsubishi Electric Europe B.V. | Carretera de Rubí 76-80, E-08190 Sant Cugat del Vallés (Barcelona), Spain | +34 (0)93-565 3131 |
| Sweden | Euro Energy Components AB | Järnvägsgatan 36, SE-434 24 Kungsbacka, Sweden | +46 (0)300-69 0040 |
| Switzerland | TRIELEC AG | Muehlentalstrasse 136, CH-8200 Schaffhausen, Switzerland | +41-(0)52-625 8425 |
| Turkey | Mitsubishi Electric Turkiye - Umraniye Subesi | Serifali Mahallesi Nutuk Sokak No.5, TR-34775 Umraniye - ISTANBUL, Turkey | +90 (0)216-526 3990 |
| United Kingdom | Mitsubishi Electric Europe B.V. | Travellers Lane, UK-Hatfield, Herts. AL10 8XB, United Kingdom | +44 (0)1707-28 8780 |
| Uruguay | Fierro Vignoli S.A. | Avda. Uruguay 1274, 11.100 Montevideo, Uruguay | +598-2-902-0808 |
| Venezuela | Adesco S.A. | Calle 7 La Urbina Edificio Los Robles Locales C y D Planta Baja, Caracas - Venezuela | +58-212-241-9952 |
| Vietnam | Mitsubishi Electric Vietnam Company Limited | Unit 01-04, 10th Floor, Vincom Center 72 Le Thanh Ton Street, District 1, Ho Chi Minh City, Vietnam | +84 (8) 3910-5945 |

For Safety : Please read the instruction manual carefully before using the products in this catalog. Wiring and connection must be done by the person have a specialized knowledge of electric construction and wiring.

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.


[^0]:    * Secure a sufficient input power supply so that the voltage will not drop below the permissible lower working voltage ( $70 \%$ of the lowest rated voltage).
    * The operating time denotes the time from when the rated voltage is applied to SHT until the time the main contact of the breaker starts to open.

[^1]:    * In case of installing breakers side by side, reduce the passing current to under 80\% of the rated current.

