

## UL 489 Listed, BU series FUJI Molded Case Circuit Breakers

### ■ UL 489 Listed, C22.2 No.5

- UL File No. E90584 Vol.1c Sec. 2
- CSA certificate No. LR701975



| Frame                                    |                 | 100A                                                |           | 150A                                            |           |
|------------------------------------------|-----------------|-----------------------------------------------------|-----------|-------------------------------------------------|-----------|
| Type                                     |                 | BU2EHC                                              |           | BU2FHC                                          |           |
| Pole                                     |                 | 2                                                   |           | 2                                               |           |
| Rated insulation voltage (V)<br>(UL 489) | AC              | 480                                                 |           | 480                                             |           |
|                                          | DC              | 250                                                 |           | 250                                             |           |
| Rated current (A)                        |                 | 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100 |           | 15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100 |           |
| Rated interrupting capacity (kA)         | 600V AC         | 14                                                  |           | 18                                              |           |
|                                          | 480V AC         | 14                                                  |           | 25                                              |           |
|                                          | UL489 240V AC   | 18                                                  |           | 65 (125A–150A:42kA)                             |           |
|                                          | CSA22.2 250V DC | 10                                                  |           | 20                                              |           |
| Dimensions (mm)                          | a               | 70                                                  | 105       | 105                                             |           |
|                                          | b               | 160                                                 | 160       | 160                                             |           |
|                                          | c               | 86                                                  | 86        | 86                                              |           |
|                                          | d               | 104                                                 | 104       | 104                                             |           |
| Tripping device                          |                 | Thermal-magnetic                                    |           | Thermal-magnetic                                |           |
| Tripping button                          |                 | Provided                                            |           | Provided                                        |           |
| Auxiliary switch                         |                 | W                                                   | ●         | ●                                               | ●         |
| Alarm switch                             |                 | K                                                   | ●         | ●                                               | ●         |
| Shunt trip                               |                 | F                                                   | –         | ●                                               | ●         |
| Undervoltage trip                        |                 | R                                                   | ●         | ●                                               | ●         |
| Operating handle *1                      | V               | BU0VFH                                              |           | BU0VFH                                          |           |
|                                          | N               | BU0NFH                                              |           | BU0NFH                                          |           |
| Terminal cover *2                        |                 | BZ-CFHB-2                                           | BZ-CFHB-3 | BZ-CFHB-3                                       | BZ-CFHB-3 |

Notes: ● Factory-mounted optional accessories, specify the type number including optional accessories when ordering.

\*1 Customer-mountable optional accessories

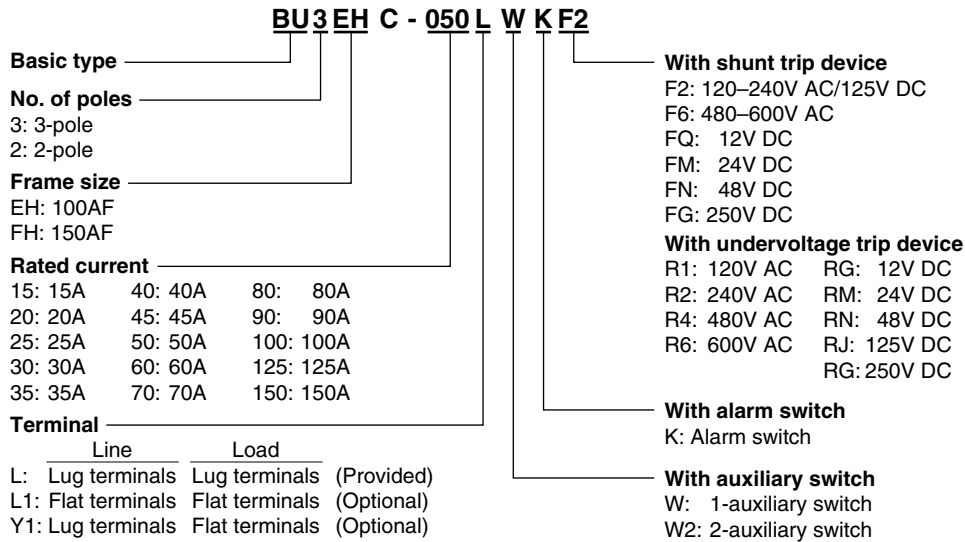
\*2 For using N type handle: BZ-CFHB-2-N, BZ-CFHB-3-N

For using V type handle: BZ-CFHB-2-V, BZ-CFHB-3-V

• If required insulation barrier, contact FUJI.

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## Type number nomenclature



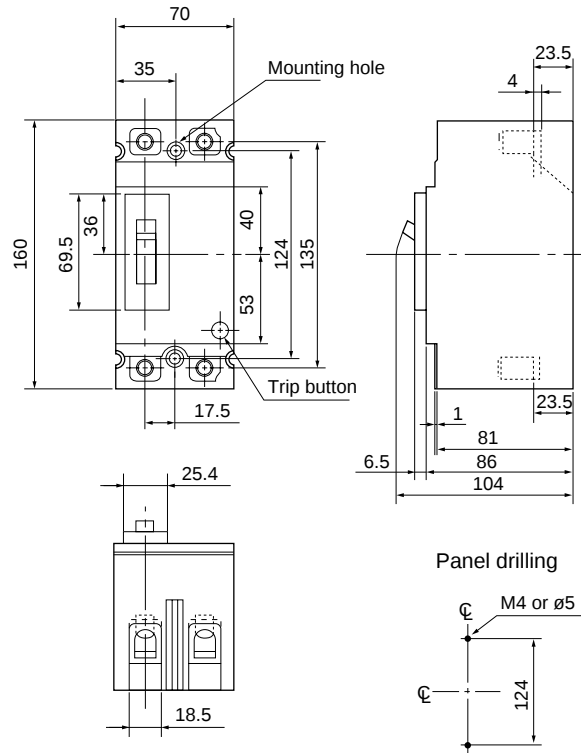
## Ordering information

Specify the following:

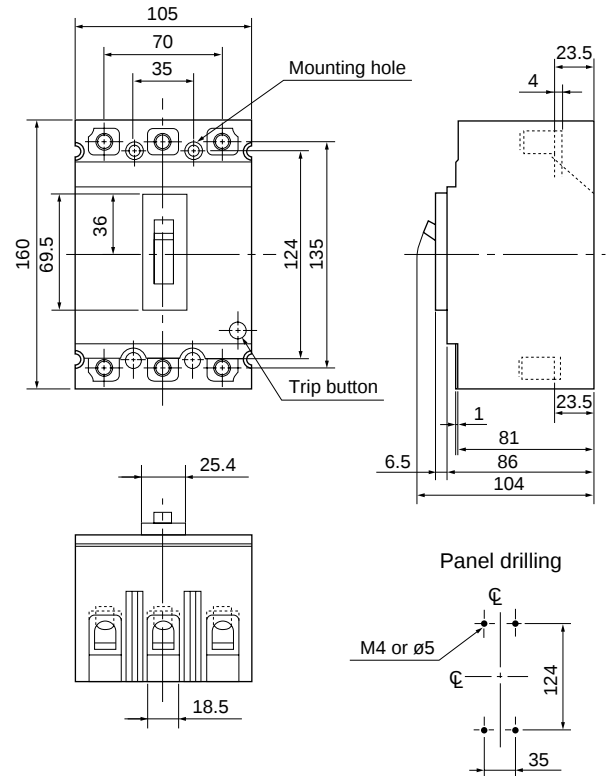
1. Type number of MCCB including factory-mounted optional accessories
2. Type number customer-mountable optional accessories

## Dimensions, mm

### BU2EHC



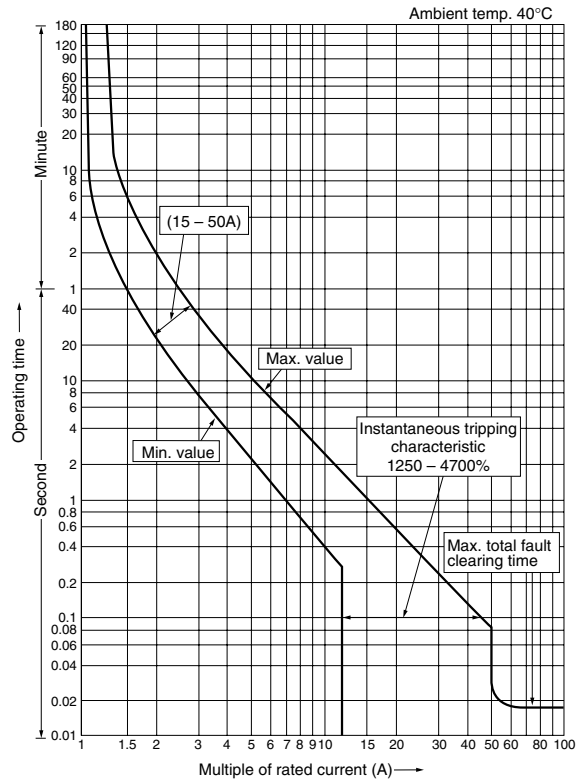
### BU2FHC BU3EHC BU3FHC



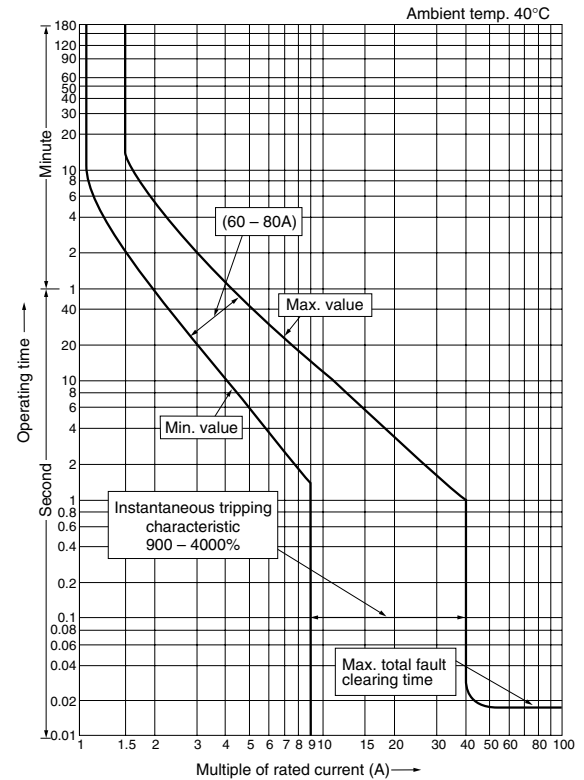
# UL 489 Listed Molded Case Circuit Breakers

## ■ Characteristic curves

### 15 to 50A



### 60 to 80A



### 90 to 150A



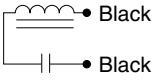
### Temperature compensation curve



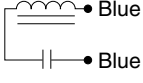
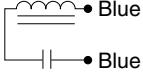
# UL 489 Listed Molded Case Circuit Breakers

## Optional accessories

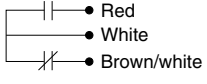
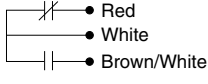
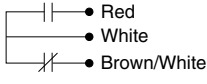
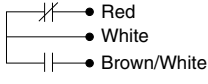
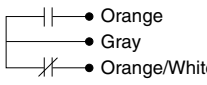
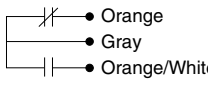
### Shunt trip devices (F)

| Type | Rated voltage (V) |     | Inrush current (A) |     | Wiring                                                                            |
|------|-------------------|-----|--------------------|-----|-----------------------------------------------------------------------------------|
|      | AC                | DC  | AC                 | DC  |                                                                                   |
| F2   | 120 – 240         | 125 | 1.0 – 1.9          | 1.0 |  |
| F6   | 480 – 600         | –   | 1.5 – 1.9          | –   |                                                                                   |
| FQ   | –                 | 12  | –                  | 7.5 |                                                                                   |
| FM   | –                 | 24  | –                  | 4.6 |                                                                                   |
| FN   | –                 | 48  | –                  | 2.4 |                                                                                   |
| FG   | –                 | 250 | –                  | 0.4 |                                                                                   |

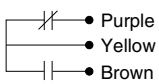
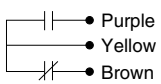
### Undervoltage trip devices (R)

| Type | Rated voltage (V) |     | Rated current (mA) | Wiring                                                                              |
|------|-------------------|-----|--------------------|-------------------------------------------------------------------------------------|
|      | AC                | DC  |                    |                                                                                     |
| R1   | 120               | –   | 18                 |  |
| R2   | 240               | –   | 18                 |                                                                                     |
| R4   | 480               | –   | 18                 |                                                                                     |
| R6   | 600               | –   | 18                 |                                                                                     |
| RQ   | –                 | 12  | 200                |                                                                                     |
| RM   | –                 | 24  | 100                |  |
| RN   | –                 | 48  | 50                 |                                                                                     |
| RJ   | –                 | 125 | 18                 |                                                                                     |
| RG   | –                 | 250 | 18                 |                                                                                     |

### Auxiliary switches (W)

| Type |      | Color of lead wire                                                                  |                                                                                     | Make/break current (A) |           |           |
|------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|-----------|-----------|
|      |      | MCCB/ON                                                                             | MCCB/OFF, Trip                                                                      | Voltage                | Resistive | Inductive |
| W    | SPDT |    |    | 120V AC                | 5         | 6         |
|      |      |                                                                                     |                                                                                     | 240V AC                | –         | 6         |
| W2   | 2PDT |                                                                                     |                                                                                     | 125V DC                | –         | 0.5       |
|      |      |                                                                                     |                                                                                     | 250V DC                | –         | 0.25      |
|      |      |   |   | 120V AC                | 5         | 6         |
|      |      |  |  | 240V AC                | –         | 6         |
|      |      |                                                                                     |                                                                                     | 125V DC                | –         | 0.5       |
|      |      |                                                                                     |                                                                                     | 250V DC                | –         | 0.25      |

### Alarm switches (K)

| Type |      | Color of lead wire                                                                  |                                                                                     | Make/break current (A) |           |           |
|------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|-----------|-----------|
|      |      | MCCB/ON                                                                             | MCCB/OFF, Trip                                                                      | Voltage                | Resistive | Inductive |
| K    | SPDT |  |  | 240V AC                | 5         | 5         |
|      |      |                                                                                     |                                                                                     | 28V DC                 | 5         | 2.5       |

### Available configurations

| Accessory           | Type | BU2EHC, BU2FHC |    | BU3EHC, BU3FHC |  |
|---------------------|------|----------------|----|----------------|--|
|                     |      | T              | R  | T              |  |
| W Auxiliary switch  | W    | W              | W  | –              |  |
| K Alarm switch      | K    | –              | –  | K              |  |
| F Shunt trip        | –    | –              | F  | –              |  |
| R Undervoltage trip | R    | –              | –  | R              |  |
| W2                  | W2   | W2             | W2 | –              |  |
| WK                  | –    | –              | W  | K              |  |
| W2K                 | –    | –              | W2 | K              |  |
| WF                  | –    | –              | F  | W              |  |
| W2F                 | –    | –              | F  | W2             |  |
| WR                  | –    | –              | W  | R              |  |
| W2R                 | –    | –              | W2 | R              |  |
| KF                  | –    | –              | F  | K              |  |
| KR                  | –    | –              | –  | –              |  |
| WKF                 | –    | –              | –  | –              |  |
| WKR                 | –    | –              | –  | –              |  |

Note: Lead wiring

# UL 489 Listed Molded Case Circuit Breakers

## ■ Dimensions, mm

### V type operating handle/BU0VFH



### N type operating handle/BU0NFH



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## ■ Wire connection

1. Make sure that no voltage is applied to the breaker.
2. Connect the breaker in the direction shown in Figure 1 so that the ON mark is on the line side and the OFF mark is on the load side.



3. The connections of wires must conform to the U.S. National Electric Code (NEC) or the Canadian Electrical Code Part 1 (CEC).
4. For connection, use 60°C copper wire (15A to 125A) or 75°C copper wire only. The use of UL-certified or CSA-certified wire is recommended.
5. As the occurrence of a short circuit current could result in the generation of a large electromagnetic force between wires, be sure to firmly support the wires.
6. Periodically retighten the terminal screws. Do not block the arc gas exhaust.

## Lug terminals

1. Table 1 lists the sizes of connectable wires. Use wires within this range.
2. The twist count for the wire must conform to Table 1. Multicore wires cannot be used.
3. Two different types of wires cannot be connected to the lug terminal together.
4. Do not solder the wire.
5. Use the tightening torque listed in Table 1 when securing the wire.

## Flat terminals

1. Order insulating barriers (interphase barriers).
2. Insulate the terminal part.

**Table 1 Max. wire sizes and tightening torque**

| Rated current | Applicable lug terminal | Wire size        | Tightening torque | Screw size         |
|---------------|-------------------------|------------------|-------------------|--------------------|
| 15A max.      | BU0L12HF                | 14AWG (2.1mm²)   | 512N•cm           | Slotted head screw |
| 20A           |                         | 12AWG            | 45Lb-in           |                    |
| 25A, 30A      |                         | 10AWG            |                   |                    |
| 35A–50A       |                         | 8AWG             |                   |                    |
| 60A           |                         | 6AWG             | 623N•cm           |                    |
| 70A, 80A      | BU0L12AHF               | 4AWG             | 55Lb-in           |                    |
| 90A           |                         | 3AWG             |                   |                    |
| 100A          | BU0L15HF                | 3AWG             |                   |                    |
| 110A          |                         | 2AWG             |                   |                    |
| 125A          |                         | 1AWG             |                   |                    |
| 150A          |                         | 1/0AWG (53.5mm²) |                   |                    |

## ■ Mounting

Avoid mounting this breaker in an environment exposed to vibration, shock, dust, or excessive humidity. Secure the insulation distance between a board and the line side of the breaker as shown in Figure 2 and Table 2.



**Fig. 2 Insulation distance (line side)**

**Table 2 Insulation distance (line side)**

[Unit: mm]

| Breaker type  | Dimension A<br>Breaker to ceiling board | Dimension B<br>Breaker to side board |
|---------------|-----------------------------------------|--------------------------------------|
| <b>BU□EHC</b> | 100                                     | 25                                   |
| <b>BU□FHC</b> | 100                                     | 25                                   |



### **Safety Considerations**

- For safe operation, before using the product read the instruction manual or that comes with the product carefully or consult the Fuji sales representative from which you purchased the product.
- Some of the products listed in this catalog may have limits on their use or location or may require periodic inspections. Contact Fuji's sales representative for further information.
- For safe operation, wiring should be conducted only by qualified engineers who have sufficient technical knowledge about electrical work or wiring.

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