

### Moulded case circuit breakers x160

Thermal magnetic trip unit, 2 versions:  
 - Z version: fixed thermal and fixed magnetic, collar terminal  
 - S version: adjustable thermal and fixed magnetic, cable lug terminal  
 - P version: fixed thermal and fixed magnetic, cable lug terminal

1P, 2P, 3P and 4P  
 Mechanical test button, lockable settings,  
 integrated padlocking handle Ø 4mm (S version),  
 needs accessory for DIN rail mounting.

**Connection capacity**  
 95 mm<sup>2</sup> rigid cables  
 70 mm<sup>2</sup> flexible cables

Comply with IEC 60 947-2.

### Trip-free switches

Allows tripping at distance using a voltmeterical trip unit (optional)  
 AC 22/23A.

Comply with IEC 60 947-3.



HDA125Z

| Designation   | In   | Cat. ref.      |                |                |                |                |
|---|--|----------------|----------------|----------------|----------------|----------------|
|   |  | 1P             | 2P             | 3P             | 4P             |                |
| <b>MCCBs x160 18kA</b><br>breaking capacity<br>Ics : 18 kA<br>(400/415 V AC)<br><br>fixed thermal<br>1x In<br>fixed magnetic<br>> 10 x In | 16A  | <b>HDA014Z</b> | <b>HDA015Z</b> | <b>HDA016Z</b> | <b>HDA017Z</b> |                |
|   | 20A  | <b>HDA018Z</b> | <b>HDA019Z</b> | <b>HDA020Z</b> | <b>HDA021Z</b> |                |
|   | 25A  | <b>HDA023Z</b> | <b>HDA024Z</b> | <b>HDA025Z</b> | <b>HDA026Z</b> |                |
|   | 32A  | <b>HDA030Z</b> | <b>HDA031Z</b> | <b>HDA032Z</b> | <b>HDA033Z</b> |                |
|   | 40A  | <b>HDA038Z</b> | <b>HDA039Z</b> | <b>HDA040Z</b> | <b>HDA041Z</b> |                |
|   | 50A  | <b>HDA048Z</b> | <b>HDA049Z</b> | <b>HDA050Z</b> | <b>HDA051Z</b> |                |
|   | 63A  | <b>HDA061Z</b> | <b>HDA062Z</b> | <b>HDA063Z</b> | <b>HDA064Z</b> |                |
|   | 80A  | <b>HDA078Z</b> | <b>HDA079Z</b> | <b>HDA080Z</b> | <b>HDA081Z</b> |                |
|   | 100A   | <b>HDA098Z</b> | <b>HDA099Z</b> | <b>HDA100Z</b> | <b>HDA101Z</b> |                |
|   | 125A   | <b>HDA123Z</b> | <b>HDA124Z</b> | <b>HDA125Z</b> | <b>HDA126Z</b> |                |
|   | 160A   | -              | <b>HDA159Z</b> | <b>HDA160Z</b> | <b>HDA161Z</b> |                |
|   | adjustable thermal<br>0,63 - 0,8 - 1 x In<br>fixed magnetic<br>> 10 x In | 25A            | -              | -              | <b>HDA025U</b> | <b>HDA026U</b> |
|   |  | 40A            | -              | -              | <b>HDA040U</b> | <b>HDA041U</b> |
|   |  | 63A            | -              | -              | <b>HDA063U</b> | <b>HDA064U</b> |
|   |  | 80A            | -              | -              | <b>HDA080U</b> | <b>HDA081U</b> |
|   |  | 100A           | -              | -              | <b>HDA100U</b> | <b>HDA101U</b> |
| 125A  |  | -              | -              | <b>HDA125U</b> | <b>HDA126U</b> |                |



HDA161U

|   |  |                |                |                |                |                |
|---|--|----------------|----------------|----------------|----------------|----------------|
| <b>MCCBs x160 25kA</b><br>breaking capacity<br>Ics : 20 kA<br>(400/415 V AC)<br><br>fixed thermal<br>1x In<br>fixed magnetic<br>> 10 x In | 16A  | <b>HHA014Z</b> | <b>HHA015Z</b> | <b>HHA016Z</b> | <b>HHA017Z</b> |                |
|   | 20A  | <b>HHA018Z</b> | <b>HHA019Z</b> | <b>HHA020Z</b> | <b>HHA021Z</b> |                |
|   | 25A  | <b>HHA023Z</b> | <b>HHA024Z</b> | <b>HHA025Z</b> | <b>HHA026Z</b> |                |
|   | 32A  | <b>HHA030Z</b> | <b>HHA031Z</b> | <b>HHA032Z</b> | <b>HHA033Z</b> |                |
|   | 40A  | <b>HHA038Z</b> | <b>HHA039Z</b> | <b>HHA040Z</b> | <b>HHA041Z</b> |                |
|   | 50A  | <b>HHA048Z</b> | <b>HHA049Z</b> | <b>HHA050Z</b> | <b>HHA051Z</b> |                |
|   | 63A  | <b>HHA061Z</b> | <b>HHA062Z</b> | <b>HHA063Z</b> | <b>HHA064Z</b> |                |
|   | 80A  | <b>HHA078Z</b> | <b>HHA079Z</b> | <b>HHA080Z</b> | <b>HHA081Z</b> |                |
|   | 100A   | <b>HHA098Z</b> | <b>HHA099Z</b> | <b>HHA100Z</b> | <b>HHA101Z</b> |                |
|   | 125A   | <b>HHA123Z</b> | <b>HHA124Z</b> | <b>HHA125Z</b> | <b>HHA126Z</b> |                |
|   | 160A   | -              | <b>HHA159Z</b> | <b>HHA160Z</b> | <b>HHA161Z</b> |                |
|   | adjustable thermal<br>0,63 - 0,8 - 1 x In<br>fixed magnetic<br>> 10 x In | 25A            | -              | -              | <b>HHA025U</b> | <b>HHA026U</b> |
|   |  | 40A            | -              | -              | <b>HHA040U</b> | <b>HHA041U</b> |
|   |  | 63A            | -              | -              | <b>HHA063U</b> | <b>HHA064U</b> |
|   |  | 80A            | -              | -              | <b>HHA080U</b> | <b>HHA081U</b> |
|   |  | 100A           | -              | -              | <b>HHA100U</b> | <b>HHA101U</b> |
| 125A  |  | -              | -              | <b>HHA125U</b> | <b>HHA126U</b> |                |



HNA125P

| Designation  | In   | Cat. ref. |    |                |                |                |
|--|--|-----------|----|----------------|----------------|----------------|
|  |  | 1P        | 2P | 3P             | 4P             |                |
| <b>MCCBs x160 40kA</b><br>breaking capacity<br>Ics : 25 kA<br>(400/415 V AC) | 16A  | -         | -  | <b>HNA016Z</b> | <b>HNA017Z</b> |                |
|  | 20A  | -         | -  | <b>HNA020Z</b> | <b>HNA021Z</b> |                |
|  | 25A  | -         | -  | <b>HNA025Z</b> | <b>HNA026Z</b> |                |
|  | 32A  | -         | -  | <b>HNA032Z</b> | <b>HNA033Z</b> |                |
|  | 40A  | -         | -  | <b>HNA040Z</b> | <b>HNA041Z</b> |                |
|  | fixed thermal  | 50A       | -  | -              | <b>HNA050Z</b> | <b>HNA051Z</b> |
|  | 1 x In   | 63A       | -  | -              | <b>HNA063Z</b> | <b>HNA064Z</b> |
|  | fixed magnetic   | 80A       | -  | -              | <b>HNA080Z</b> | <b>HNA081Z</b> |
|  | > 10 x In  | 100A      | -  | -              | <b>HNA100Z</b> | <b>HNA101Z</b> |
|  |  | 125A      | -  | -              | <b>HNA125Z</b> | <b>HNA126Z</b> |
|  |  | 160A      | -  | -              | <b>HNA160Z</b> | <b>HNA161Z</b> |
|  | adjustable thermal<br>0,63 - 0,8 - 1 x In<br>fixed magnetic<br>> 10 x In | 25A       | -  | -              | <b>HNA025U</b> | <b>HNA026U</b> |
|  |  | 40A       | -  | -              | <b>HNA040U</b> | <b>HNA041U</b> |
|  |  | 63A       | -  | -              | <b>HNA063U</b> | <b>HNA064U</b> |
|  |  | 80A       | -  | -              | <b>HNA080U</b> | <b>HNA081U</b> |
|  |  | 100A      | -  | -              | <b>HNA100U</b> | <b>HNA101U</b> |
| 125A   |  | -         | -  | <b>HNA125U</b> | <b>HNA126U</b> |                |
|  | 160A   | -         | -  | <b>HNA160U</b> | <b>HNA161U</b> |                |

|  |      |   |   |                |                |
|--|------|---|---|----------------|----------------|
| <b>Trip-free switches x160</b><br>suitable for<br>AC22A / AC 23A | 125A | - | - | <b>HCA125U</b> | <b>HCA126U</b> |
|  | 160A | - | - | <b>HCA160U</b> | <b>HCA161U</b> |

Ue: 415 V AC  
Icw (1s): 2 kA



HBA161H

|                      |  |              |                                  |                                  |
|----------------------|--|--------------|----------------------------------|----------------------------------|
| <b>Add-on blocks</b> | I $\Delta$ n 300 mA<br>fixed sensitivity<br>instantaneous tripping   | 125A         | <b>HBA127H</b>                   | <b>HBA128H</b>                   |
|                      | sensitivity I $\Delta$ n<br>adjustable: 0,03 - 0,1 - 0,3 -<br>1 - 3 - 6A<br>adjustable tripping:<br>- instantaneous<br>- time delay: 0,06 - 0,15 - 0,3<br>- 0,5 - 1s | 125A<br>160A | <b>HBA125H</b><br><b>HBA160H</b> | <b>HBA126H</b><br><b>HBA161H</b> |

### Indication contacts

- 1 changeover switch (ON/OFF): indicates the position of the MCCB is "open" or "close".
- 1 changeover alarm contact: indicates MCCB tripping.

### Coil connection

Connection capacity:  
0,75 mm<sup>2</sup> flexible or rigid cables  
Optional connection cables.  
The cable capacity of the terminals is 0,5 to 1,25 mm<sup>2</sup>.

### Shunt trip

Remotes tripping of MCCBs or trip-free switches.  
Operating voltage: 0,7 to 1,1 x Un

### Under voltage release




Allows the tripping of MCCBs or trip-free switches when voltage level drop between 35 and 70% of Un. Pick up voltage 0,85 x Un

### Direct rotary handle

- padlockable
- equipped with front cover and handle
- fixing without any additional screw.

### Extended rotary handle

- IP 55
- supplied complete with shaft and handle.

| Designation  | Characteristics  | Cat. ref.  |  |
|--|--|--|--|
|  <br><b>Auxiliary contacts</b><br><b>AX</b><br><b>AL</b> | 1 changeover contact (ON/OFF)<br>250 V AC / 3A<br>125 V DC / 0,4A<br>1 NO + 1 NC | <b>HXA021H</b>   |  |
|  | 1 changeover alarm contact<br>250 V AC / 3A<br>125 V DC / 0,4A<br>1 NO + 1 NC    | <b>HXA024H</b>   |  |
|  | Low level contact (ON/OFF)<br>125 V AC<br>1 NO + 1 NC                            | <b>HXA025H</b>   |  |
|  | Low level alarm contact<br>125 V AC<br>1 NO + 1 NC                               | <b>HXA026H</b>   |  |
|  | <b>Shunt trips</b><br><b>SH</b>  | 24 V DC<br>48 V DC<br>100 - 120 V AC<br>200 - 240 V AC<br>380 - 450 V AC | <b>HXA001H</b><br><b>HXA002H</b><br><b>HXA003H</b><br><b>HXA004H</b><br><b>HXA005H</b> |
| <br><b>Undervoltage releases</b><br><b>UV</b>   | 24 V DC<br>100 - 120 V AC<br>200 - 240 V AC<br>380 - 450 V AC                    | <b>HXA011H</b><br><b>HXA013H</b><br><b>HXA014H</b><br><b>HXA015H</b>     |  |
|  | <b>Delayed undervoltage releases</b><br><b>DUVR</b>                              | 24 V DC<br>110 - 120 V AC<br>220 - 240 V AC<br>380 - 415 V AC            | <b>HXA051H</b><br><b>HXA053H</b><br><b>HXA054H</b><br><b>HXA055H</b>                   |

HXA021H

HXA024H

HXA014H



HXA030H



HXA031H



HYA013H



HYA 015H



HYA021H



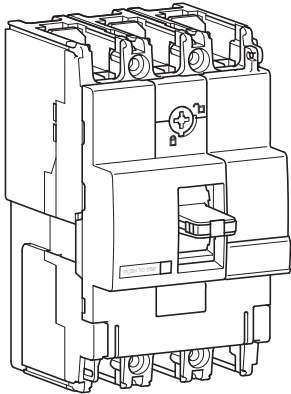
HYA023H



HYA027H

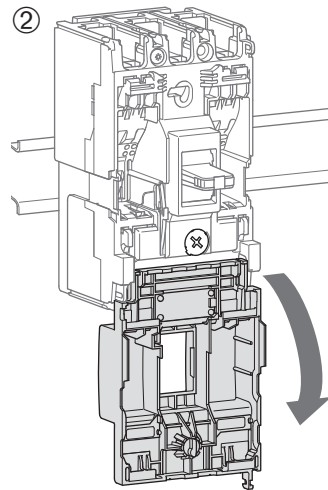
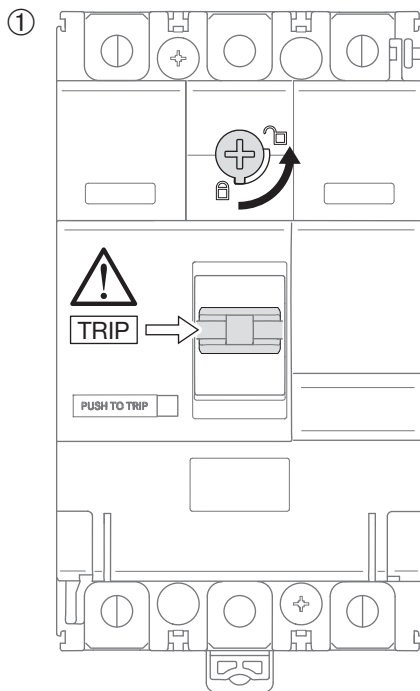
| Designation                   | Characteristics  | Cat. ref.      |                |
|-------------------------------|--|----------------|----------------|
|                               |  | 3P             | 4P             |
| <b>Direct rotary handle</b>   | padlockable handle<br>max Ø 6 mm   | <b>HXA030H</b> | <b>HXA030H</b> |
| <b>Extended rotary handle</b> | padlockable handle<br>max Ø 8 mm   | <b>HXA031H</b> | <b>HXA031H</b> |
| <b>Padlock</b>                | for padlock integrated handle<br>to mount on MCCB for handle locking<br>for 3 padlock max Ø 8 mm | <b>HXA039H</b> | <b>HXA039H</b> |
| <b>Extended connections</b>   | set of 4 straight<br>connections   | <b>HYA013H</b> | <b>HYA013H</b> |
|                               | set of 3 or 4 spreader<br>connections  | <b>HYA014H</b> | <b>HYA015H</b> |
| <b>Interphase barriers</b>    | set of 3,<br>height: 50 mm   | <b>HYA019H</b> | <b>HYA019H</b> |
|                               | set of 3,<br>height: 97 mm   | <b>HYB019H</b> | <b>HYB019H</b> |
| <b>Terminal covers</b>        | for extended straight connections  | <b>HYA021H</b> | <b>HYA022H</b> |
|                               | for extended spreader connections  | <b>HYA023H</b> | <b>HYA024H</b> |
|                               | for collar terminal  | <b>HYA027H</b> | <b>HYA028H</b> |
| <b>Din rail adaptor</b>       |  | <b>HYA033H</b> | <b>HYA033H</b> |
| <b>Rear connections</b>       | 16 to 50A  | <b>HYA031H</b> | <b>HYA032H</b> |
|                               | 63 to 160A   | <b>HYA131H</b> | <b>HYA132H</b> |
| <b>Connecting kit</b>         | 0,75 mm <sup>2</sup><br>set of 3 x 2 wires<br>length: 1,30m                                      | <b>HYA035H</b> | <b>HYA035H</b> |
| <b>Rail Din raiser</b>        |  | <b>HYA036H</b> | <b>HYA036H</b> |
| Designation                   | Characteristics  | Cat. ref.      |                |
| <b>Ring lugs</b>              | compact lugs 16 mm <sup>2</sup> Ø8,5   | <b>HYA086H</b> |                |
|                               | compact lugs 25 mm <sup>2</sup> Ø8,5   | <b>HYA087H</b> |                |
|                               | compact lugs 35 mm <sup>2</sup> Ø8,5   | <b>HYA088H</b> |                |
|                               | compact lugs 50 mm <sup>2</sup> Ø8,5   | <b>HYA089H</b> |                |
|                               | compact lugs 70 mm <sup>2</sup> Ø8,5   | <b>HYA090H</b> |                |
|                               | compact lugs 95 mm <sup>2</sup> Ø8,5   | <b>HYA091H</b> |                |

MCCBs

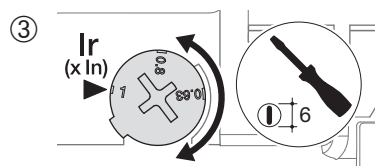


|            |                 | 220/240V AC<br>IEC 60 947-2 | 380/415V AC<br>IEC 60 947-2 |
|------------|-----------------|-----------------------------|-----------------------------|
| <b>HDA</b> | l <sub>cu</sub> | 25 kA                       | 18 kA                       |
|            | l <sub>cs</sub> | 25 kA                       | 18 kA                       |
| <b>HHA</b> | l <sub>cu</sub> | 35 kA                       | 25 kA                       |
|            | l <sub>cs</sub> | 25 kA                       | 20 kA                       |
| <b>HNA</b> | l <sub>cu</sub> | 85 kA                       | 40 kA                       |
|            | l <sub>cs</sub> | 30 kA                       | 25 kA                       |
| <b>HCA</b> | l <sub>cm</sub> | -                           | 2,8 kA                      |
|            | l <sub>cw</sub> | -                           | 2 kA - 1s                   |

Magnetic and thermal settings



For DIN rail mounting, use HYA033H.

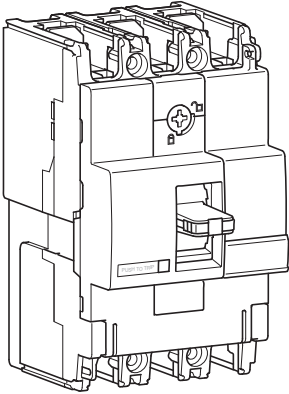


Thermal adjustment from 0,63 to 1 x I<sub>n</sub>

Magnetic adjustment fixed > 10 x I<sub>n</sub>

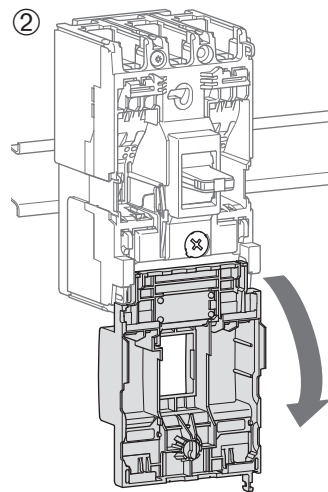
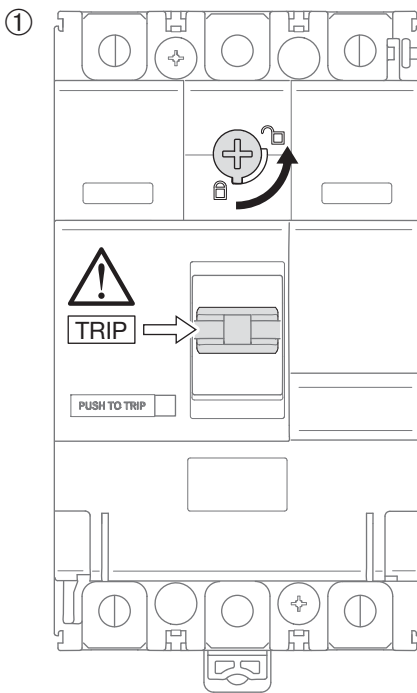
|                        |           |           |             |        |
|------------------------|-----------|-----------|-------------|--------|
| <b>I<sub>n</sub></b>   | 15 - 50 A | 63 - 80 A | 100 - 125 A | 160 A  |
| <b>I<sub>mag</sub></b> | 600 A     | 1000 A    | 1500 A      | 1600 A |

MCCBs

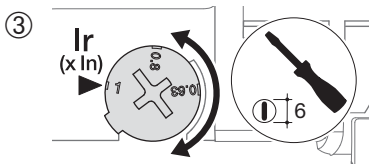


|            |     | 220/240V AC<br>IEC 60 947-2 | 380/415V AC<br>IEC 60 947-2 |
|------------|-----|-----------------------------|-----------------------------|
| <b>HDA</b> | Icu | 25 kA                       | 18 kA                       |
|            | Ics | 25 kA                       | 18 kA                       |
| <b>HHA</b> | Icu | 35 kA                       | 25 kA                       |
|            | Ics | 25 kA                       | 20 kA                       |
| <b>HNA</b> | Icu | 85 kA                       | 40 kA                       |
|            | Ics | 30 kA                       | 25 kA                       |
| <b>HCA</b> | Icm | -                           | 2,8 kA                      |
|            | Icw | -                           | 2 kA - 1s                   |

Magnetic and thermal settings



For DIN rail mounting, use HYA033H.



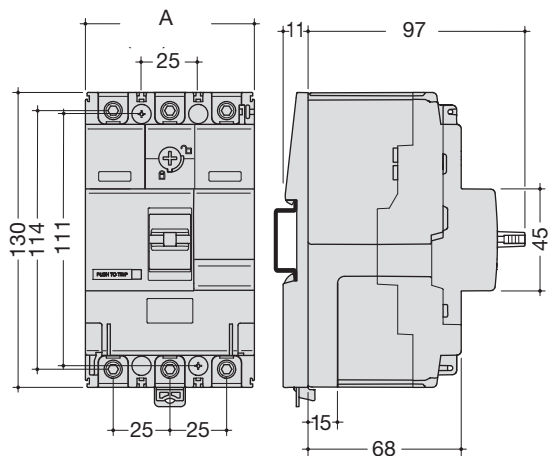
Thermal adjustment from 0,63 to 1 x In

Magnetic adjustment fixed > 10 x In

| In          | 15 - 50 A | 63 - 80 A | 100 - 125 A | 160 A  |
|-------------|-----------|-----------|-------------|--------|
| <b>Imag</b> | 600 A     | 1000 A    | 1500 A      | 1600 A |

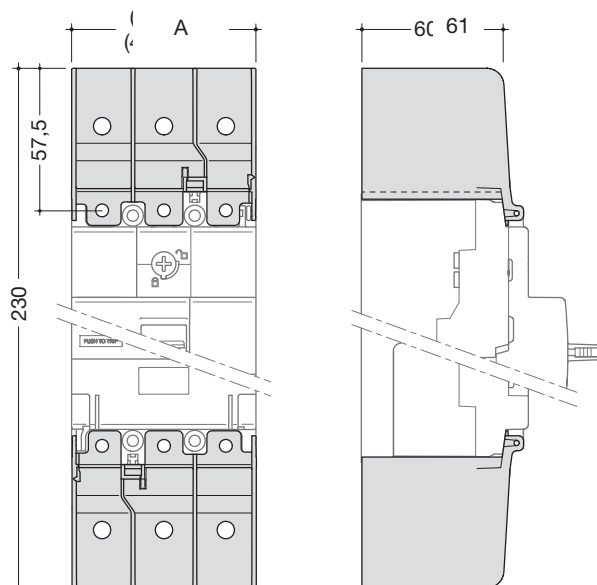
## Dimensions

### MCCB x160



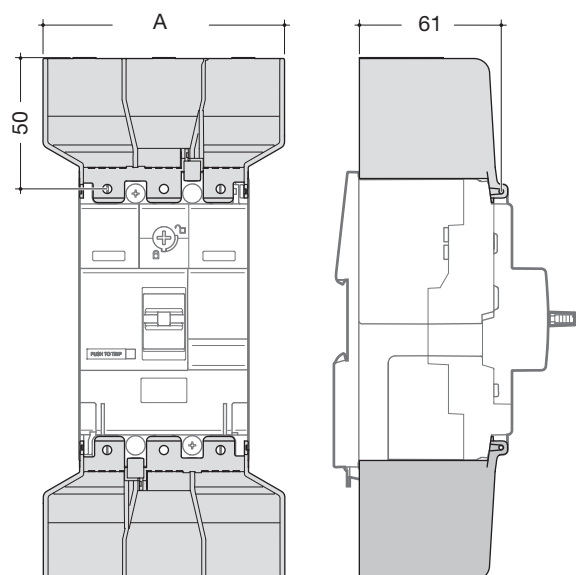
|    | A (mm) |
|----|--------|
| 1P | 24,8   |
| 2P | 49,5   |
| 3P | 74,5   |
| 4P | 99,5   |

### Terminal covers for extended straight connections



|    | A (mm) |
|----|--------|
| 1P | 24,4   |
| 2P | 49,5   |
| 3P | 74,5   |
| 4P | 99,5   |

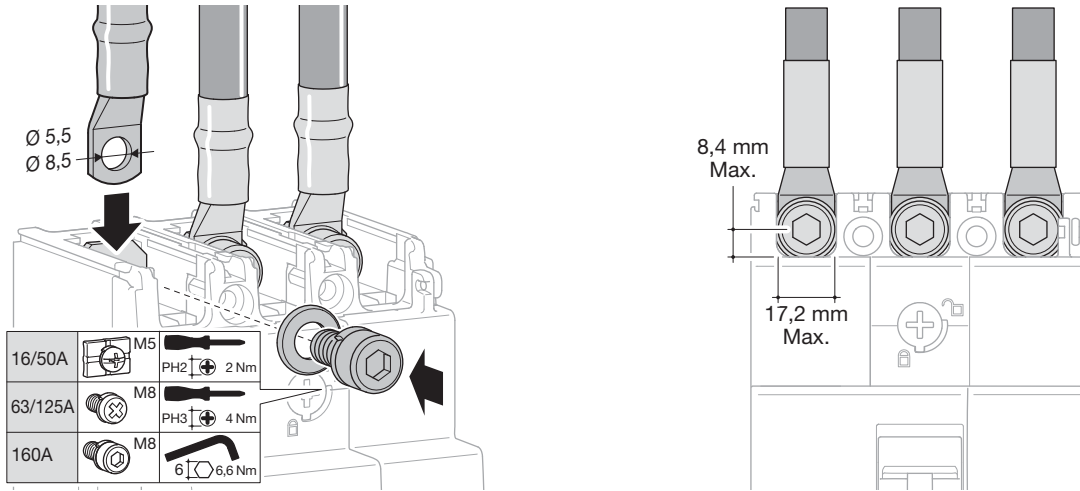
### Terminal cover for extended spreader connections



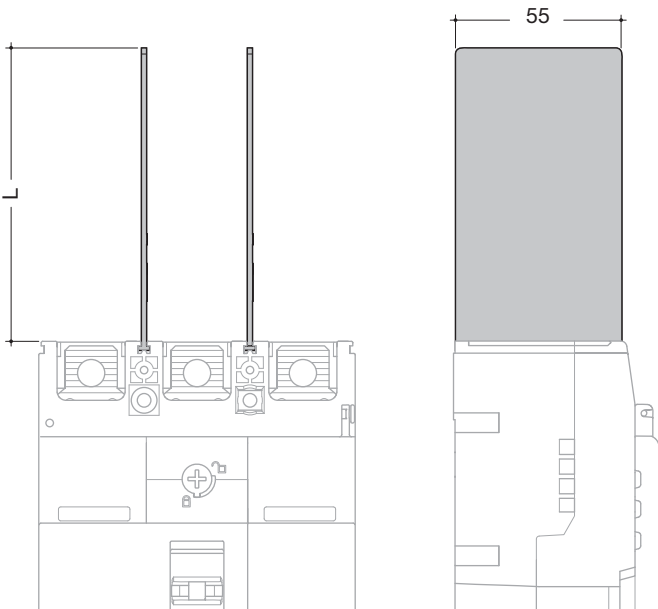
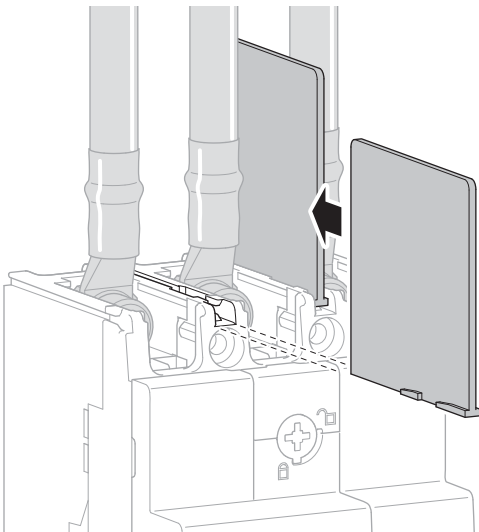
|    | A (mm) |
|----|--------|
| 3P | 106,5  |
| 4P | 141,5  |

Connection

Connection with cable lugs



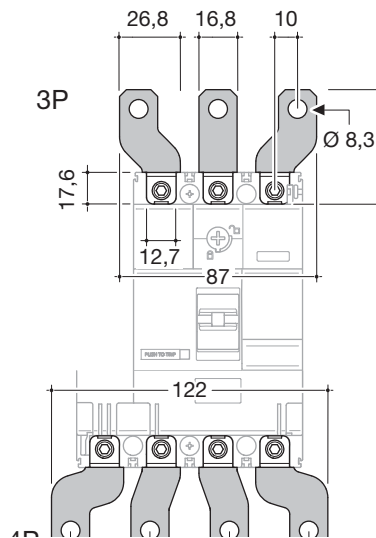
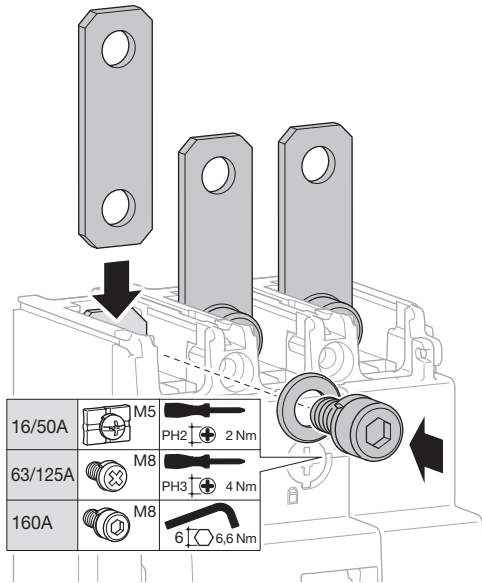
Interphase barriers



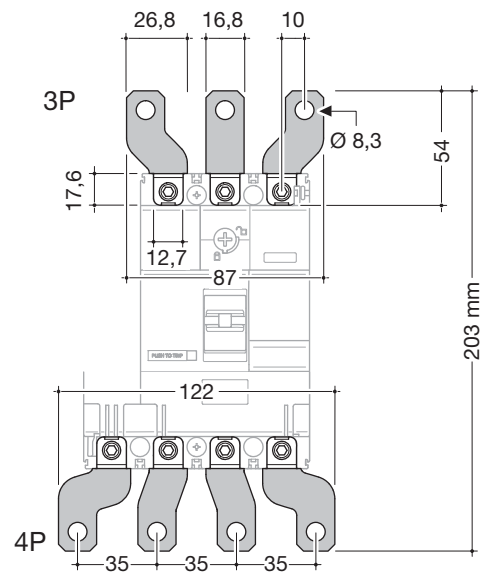
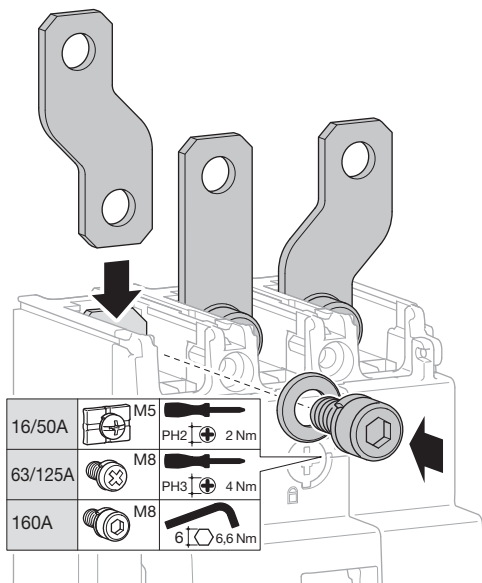
|                | L<br>(mm) |
|----------------|-----------|
| <b>HYA019H</b> | 50        |
| <b>HYB019H</b> | 97        |



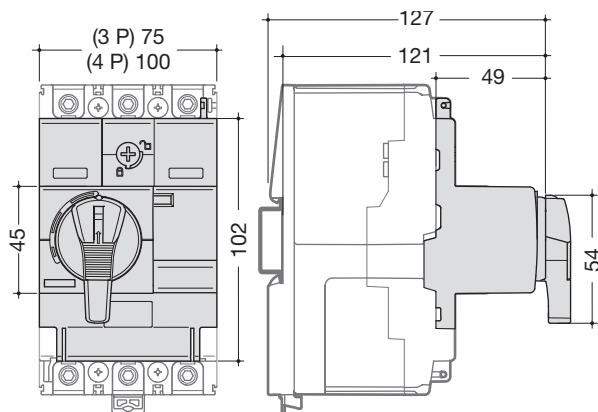
Extended straight connections



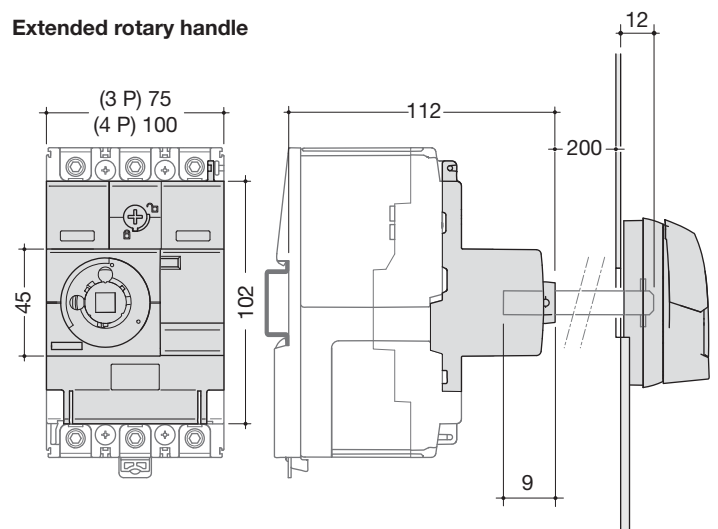
Extended spreader connections



Direct rotary handle

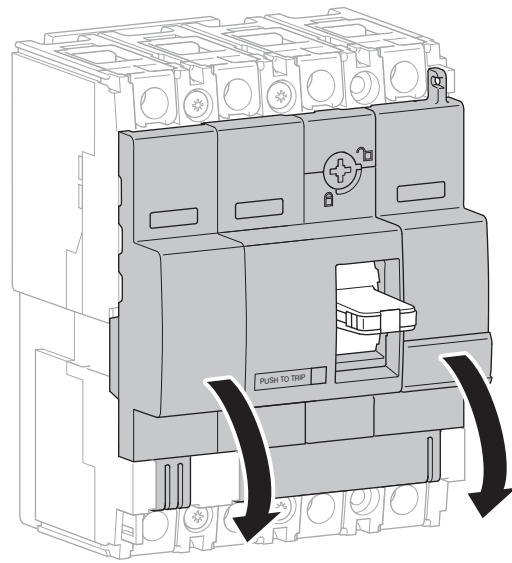
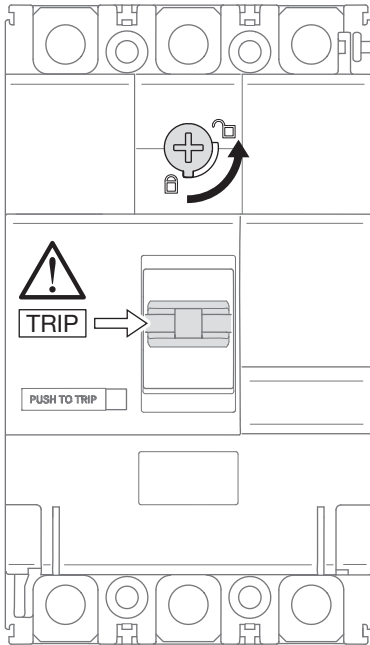


Extended rotary handle



**Auxiliaries**

**Auxiliaries for MCCBs and trip-free switches**



**Mounting combination for auxiliaries and releases**

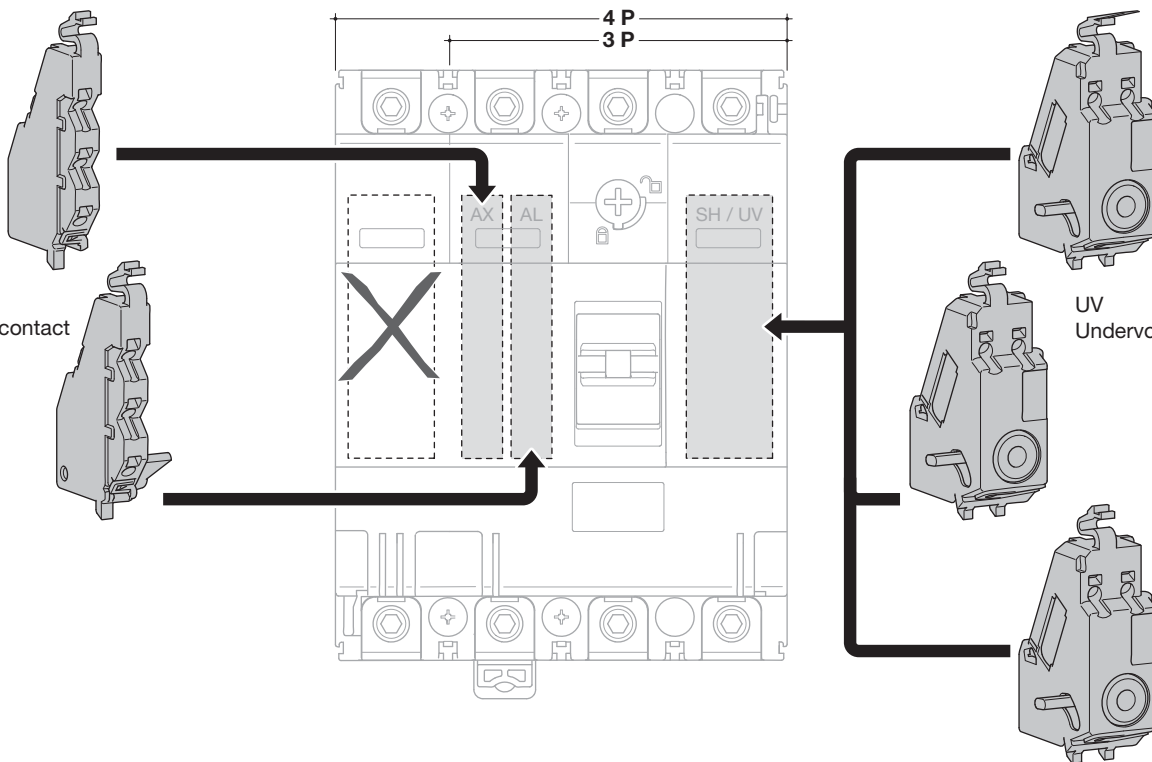
AX  
Auxiliary contact

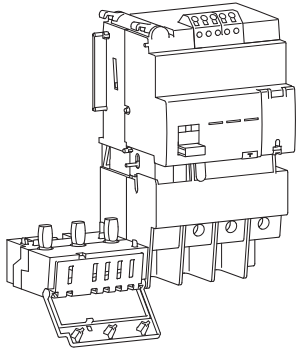
AL  
Alarm contact

SH  
Shunt trip


UV  
Undervoltage release

DUVR  
Delayed undervoltage release





When associated with MCCB, the add-on block provides an earth fault protection and protects against electrical shocks by direct or indirect contacts.

The add-on blocks are protected against nuisance tripping caused by transient voltages. It's able to detect sinusoidal alternating currents and residual pulsating direct currents (A type ). It also avoids miss tripping (HI type - High Immunity).

### Characteristics

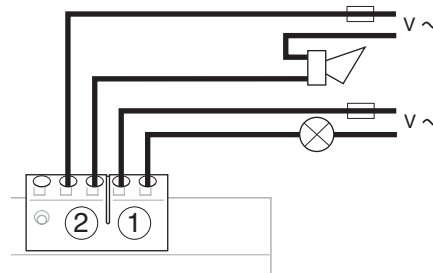
**Reset button :**  
Signals add-on block tripping and must be acknowledged before switching on the installation.

**Test button for differential functioning :**  
Allows to check the electrical operating of the MCCB / Add-on block association.

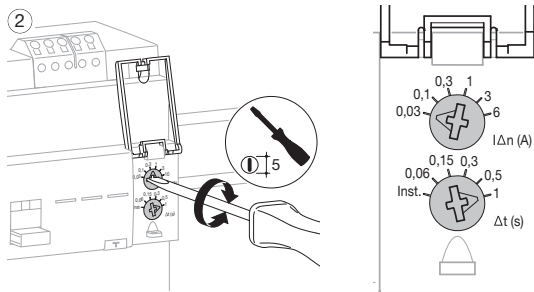
**Mechanical test button :**  
Allows to check the mechanical operating of the MCCB / Add-on block association.

**LED signaling default current level in the installation:**  
25% (orange) and 50% (red)  $I_n$ ; green light to signal correct operating.

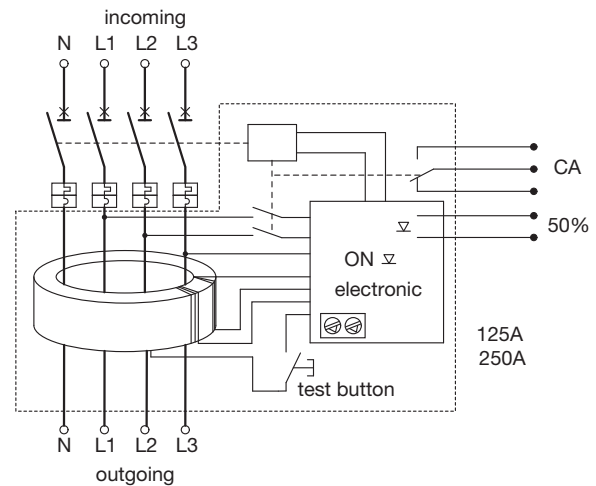
**Remote tripping and advanced warning (50%  $I_n$ ) signaling thanks to these contacts:**



### Earth leakage current ( $I_{\Delta n}$ ) and delay ( $\Delta t$ ) setting

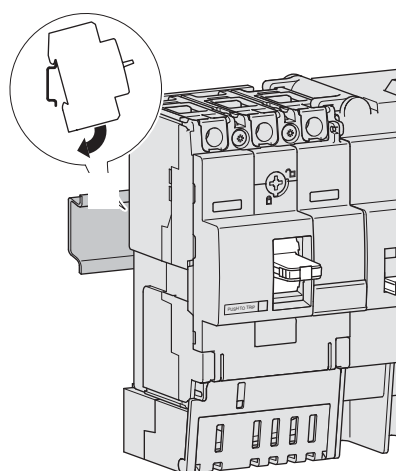
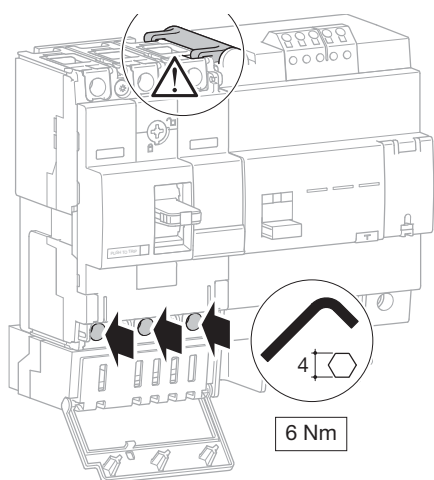
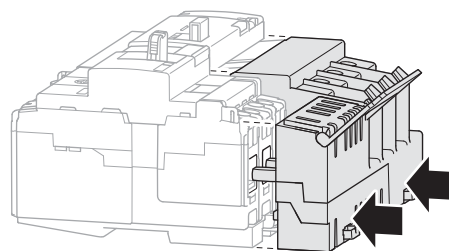
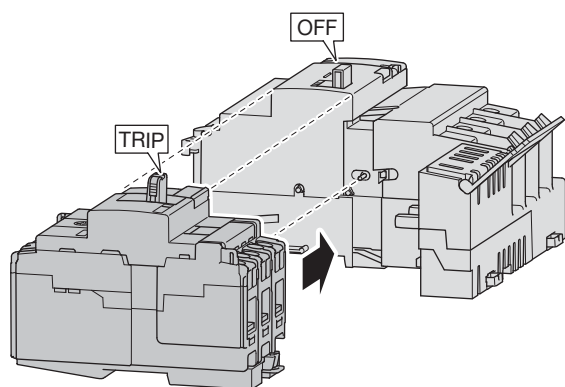


### Add-on block operating



| S (t) | A (I n) |     |     |    |    |    |  |
|-------|---------|-----|-----|----|----|----|--|
|       | 0,03    | 0,1 | 0,3 | 1  | 3  | 6  |  |
| Inst. | OK      | OK  | OK  | OK | OK | OK |  |
| 0,06  | no      | OK  | OK  | OK | OK | OK |  |
| 0,15  | no      | OK  | OK  | OK | OK | OK |  |
| 0,3   | no      | OK  | OK  | OK | OK | OK |  |
| 0,5   | no      | OK  | OK  | OK | OK | OK |  |
| 1     | no      | OK  | OK  | OK | OK | OK |  |

Add-on block mounting

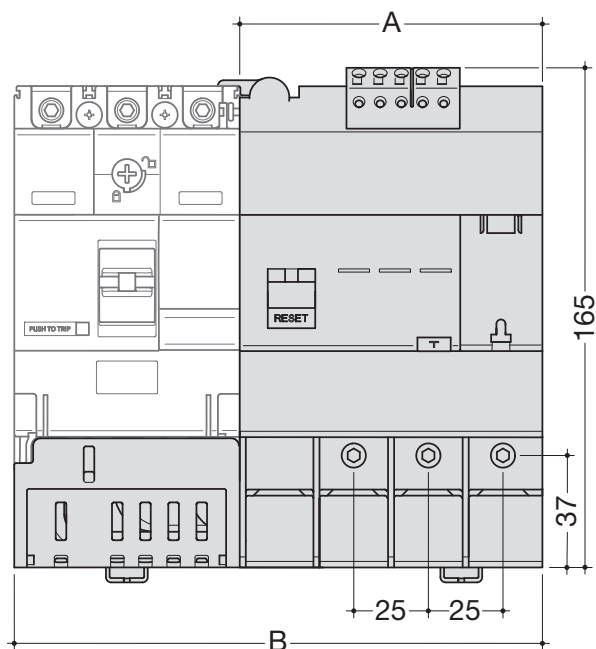


Exclusive drawer assembly system allows quick mounting and makes MCCB and add-on block association a complete monoblock unit.

Reinforced insulation connexion (class II)

System avoids the omission of terminal tightening

Dimensions



|        | 3P    | 4P    |
|--------|-------|-------|
| A (mm) | 100   | 100   |
| B (mm) | 174,5 | 199,5 |