

Protective Devices Add-on Residual Current Protection Unit PBHT



Catalog



Powering Business Worldwide

SG17711



Description

- By combining this device with a top-quality miniature circuit breaker of type PLHT a top-quality RCBO unit (combined RCD/MCB device) is formed.
- Add-on residual current unit (screw connection) for 80 or 125 A (2-pole and 4-pole)
- High flexibility and ease of installation thanks to variable wiring
- Free selection of main power supply
- Auxiliary switch 1 make contact included as standard in all PBHT versions
- Permits combinations with a variety of characteristics thanks to the different rated currents and characteristics of the miniature circuit breakers PLHT which can be connected
- For commercial and industry applications
- For subsequent mounting onto 2, 3, 3+N and 4-pole-miniature circuit breakers PLHT
- The screw connection to the PLHT-device can be unscrewed at any time. Consequently, in case of modifications of the systems to be protected, the installation can be adapted to new requirements at any time.

Add-on Residual Current Protection Unit PBHT

| $I_n/I_{\Delta n}$ (A) | Type Designation | Article No. | Units per package |
|---------------------------|---------------------|-------------|----------------------|
|---------------------------|---------------------|-------------|----------------------|

Type AC

AC-sensitive, conditionally surge current-proof 250 A, type AC

SG17611



2-pole

| | | | |
|----------|----------------|--------|-----|
| 80/0.03 | PBHT-80/2/003 | 248818 | 1/4 |
| 80/0.30 | PBHT-80/2/03 | 248820 | 1/4 |
| 80/0.50 | PBHT-80/2/05 | 248822 | 1/4 |
| 80/1.00 | PBHT-80/2/1 | 248824 | 1/4 |
| 125/0.03 | PBHT-125/2/003 | 248799 | 1/4 |
| 125/0.30 | PBHT-125/2/03 | 248801 | 1/4 |
| 125/0.50 | PBHT-125/2/05 | 248803 | 1/4 |
| 125/1.00 | PBHT-125/2/1 | 248805 | 1/4 |

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4-pole

| | | | |
|----------|----------------|--------|-----|
| 80/0.03 | PBHT-80/4/003 | 248826 | 1/4 |
| 80/0.30 | PBHT-80/4/03 | 248828 | 1/4 |
| 80/0.50 | PBHT-80/4/05 | 248831 | 1/4 |
| 80/1.00 | PBHT-80/4/1 | 248834 | 1/4 |
| 125/0.03 | PBHT-125/4/003 | 248807 | 1/4 |
| 125/0.30 | PBHT-125/4/03 | 248809 | 1/4 |
| 125/0.50 | PBHT-125/4/05 | 248812 | 1/4 |
| 125/1.00 | PBHT-125/4/1 | 248815 | 1/4 |

Type A

Sensitive to residual pulsating DC, conditionally surge current-proof 250 A, type A

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2-pole

| | | | |
|----------|------------------|--------|-----|
| 80/0.03 | PBHT-80/2/003-A | 248819 | 1/4 |
| 80/0.30 | PBHT-80/2/03-A | 248821 | 1/4 |
| 80/0.50 | PBHT-80/2/05-A | 248823 | 1/4 |
| 80/1.00 | PBHT-80/2/1-A | 248825 | 1/4 |
| 125/0.03 | PBHT-125/2/003-A | 248800 | 1/4 |
| 125/0.30 | PBHT-125/2/03-A | 248802 | 1/4 |
| 125/0.50 | PBHT-125/2/05-A | 248804 | 1/4 |
| 125/1.00 | PBHT-125/2/1-A | 248806 | 1/4 |

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4-pole

| | | | |
|----------|------------------|--------|-----|
| 80/0.03 | PBHT-80/4/003-A | 248827 | 1/4 |
| 80/0.30 | PBHT-80/4/03-A | 248829 | 1/4 |
| 80/0.50 | PBHT-80/4/05-A | 248832 | 1/4 |
| 80/1.00 | PBHT-80/4/1-A | 248835 | 1/4 |
| 125/0.03 | PBHT-125/4/003-A | 248808 | 1/4 |
| 125/0.30 | PBHT-125/4/03-A | 248810 | 1/4 |
| 125/0.50 | PBHT-125/4/05-A | 248813 | 1/4 |
| 125/1.00 | PBHT-125/4/1-A | 248816 | 1/4 |

| $I_n/I_{\Delta n}$ (A) | Type Designation | Article No. | Units per package |
|---------------------------|---------------------|-------------|----------------------|
|---------------------------|---------------------|-------------|----------------------|

Type S/A

Selective + surge current-proof 5 kA, type S/A

SG17711



4-pole

| | | | |
|----------|-------------------|--------|-----|
| 80/0.30 | PBHT-80/4/03-S/A | 248830 | 1/4 |
| 80/0.50 | PBHT-80/4/05-S/A | 248833 | 1/4 |
| 80/1.00 | PBHT-80/4/1-S/A | 248836 | 1/4 |
| 125/0.30 | PBHT-125/4/03-S/A | 248811 | 1/4 |
| 125/0.50 | PBHT-125/4/05-S/A | 248814 | 1/4 |
| 125/1.00 | PBHT-125/4/1-S/A | 248817 | 1/4 |

| Operational voltage range V~ | Type Designation | Article No. | Units per package |
|---------------------------------|---------------------|-------------|----------------------|
|---------------------------------|---------------------|-------------|----------------------|

Accessory

Shunt trip release

SG09411



| | | | |
|---------|-------------|--------|---|
| 110-415 | Z-BHASA/230 | 248445 | 8 |
| 12-60 | Z-BHASA/24 | 248444 | 8 |

Specifications | Add-on Residual Current Protection Unit PBHT

Description

- By combination with miniature circuit breaker PLHT => RCBO-Unit (MCCB)
- Add-on residual current unit (screw connection) for 80 or 125 A (2-pole and 4-pole)
- High flexibility and ease of installation thanks to variable wiring (400 mm flexible connection wires 2p = 2 units, 4p = 4 units included in the set)
- Free selection of main power supply
- Auxiliary switch 1 make contact included as standard in all PBHT versions
- Permits combinations with a variety of characteristics thanks to the different rated currents and characteristics of the miniature circuit breakers PLHT which can be connected
- For commercial and industry applications
- For subsequent mounting onto 2, 3, 3+N and 4-pole-miniature circuit breakers PLHT
- Toggle (serves as switch position- and tripping indicator)
- The screw connection to the PLHT-device can be unscrewed at any time. Consequently, in case of modifications of the systems to be protected, the installation can be adapted to new requirements at any time.
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.

Accessories:

Flexible connection wires (connection to PLHT) are included in the standard set:

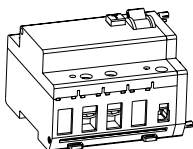
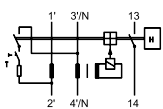
| | |
|--------------|-----------------------------------|
| 2-pole 80 A | 2 x 16 mm ² (á 400 mm) |
| 4-pole 80 A | 4 x 16 mm ² (á 400 mm) |
| 2-pole 125 A | 2 x 35 mm ² (á 400 mm) |
| 4-pole 125 A | 4 x 35 mm ² (á 400 mm) |

Technical Data

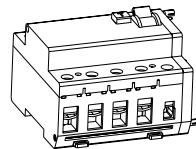
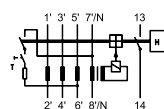
| | | PBHT |
|---|-----------------|---|
| Electrical | | |
| Design according to | | IEC/EN 60947-2 |
| Current test marks as printed onto the device | | |
| Strombahnen | | |
| Rated voltage | U_e | 230/400 V AC |
| Limits operation voltage test circuit | | |
| 2-pole | | 196-264 V |
| 4-pole, 30mA | | 196-264 V |
| 4-pole | | 196-456 V |
| Rated frequency | | 50 Hz |
| Rated current | I_n | 80 A, 125 A |
| Rated tripping current | $I_{\Delta n}$ | 30, 300, 500, 1000 mA |
| Rated non-tripping current | $I_{\Delta no}$ | 0.5 I_n |
| Sensitivity | | AC and pulsating DC |
| Tripping | | instantaneous 250 A (8/20 μ s), surge current proof |
| Type S | | 40 ms delay 6 kA, selective disconnecting function, surge current proof |
| Rated service short-circuit breaking capacity | I_{cn} | same as connected PLHT |
| Rated ultimate circuit breaking capacity | I_{cu} | same as connected PLHT |
| Rated fault short-circuit breaking capacity | $I_{\Delta/n}$ | = I_{cu} |
| Rated impulse withstand voltage | U_{imp} | 4 kV (1.2/50 μ s) |
| Endurance mechanical components | | |
| PBHT-80 | | >10,000 |
| PBHT-125 | | >8,000 |
| Endurance electrical components | | |
| PBHT-80 | | >1,500 |
| PBHT-125 | | >1,000 |
| Auxiliary Contact | | |
| Utilisation category AC15 | | |
| Rated voltage | U_e | 250 V AC |
| Rated operational current | I_e | 16 A AC |
| Mechanical | | |
| Frame size | | 45 mm |
| Device height | | 90 mm |
| Device width | | 95 mm (5.5MU) |
| Depth of central body | | 60 mm |
| Mounting | | screwed onto PLHT 2-, 3-, 4-pole; PBHT-ASA |
| Degree of protection, built-in | | IP40 |
| Upper and lower terminals | | lift terminals |
| Terminal protection | | finger and hand touch safe, DGUV VS3, EN 50274 |
| Terminal capacity | | |
| Main conductor | | 2.5 - 50 mm ² |
| Auxiliary switch | | 1 - 25 mm ² |
| Operating temperature | | -25°C to +40°C |
| Storage- and transport temperature | | -35°C to +60°C |
| Resistance to climatic conditions | | 25-55°C/90-95% relative humidity according to IEC 60068-2 |

Connection diagrams

2-pole

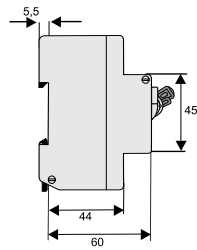
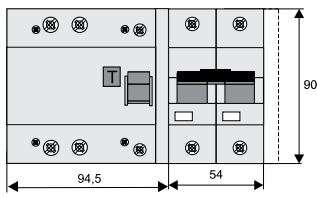


4-pole

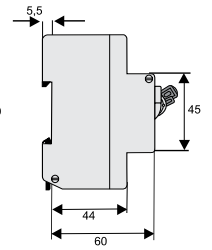
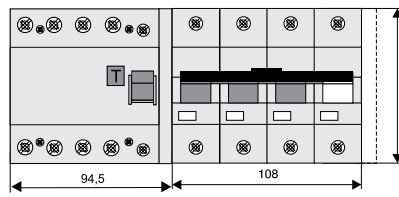


Dimensions (mm)

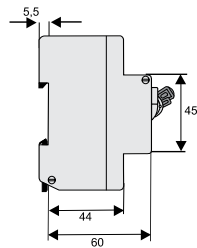
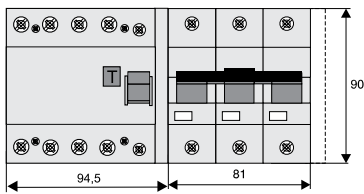
PBHT/2p + PLHT/2p



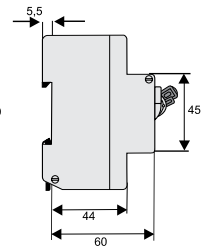
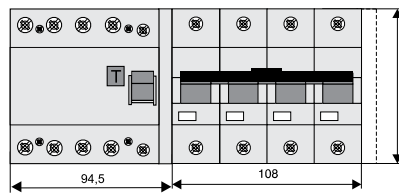
PBHT/4p + PLHT/3p+N



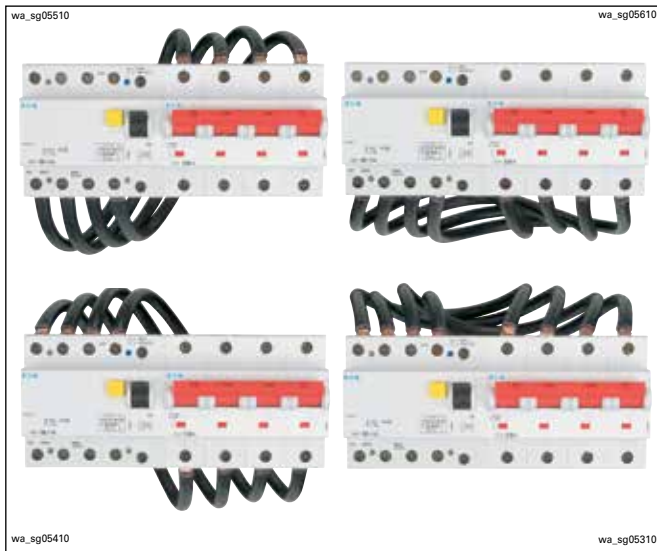
PBHT/4p + PLHT/3p



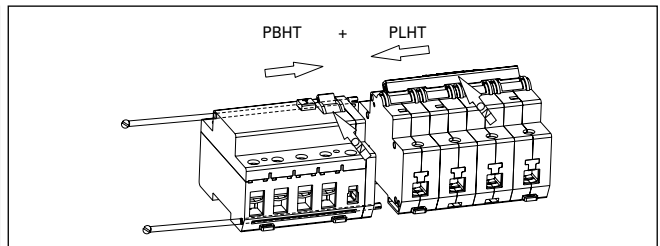
PBHT/4p + PLHT/4p



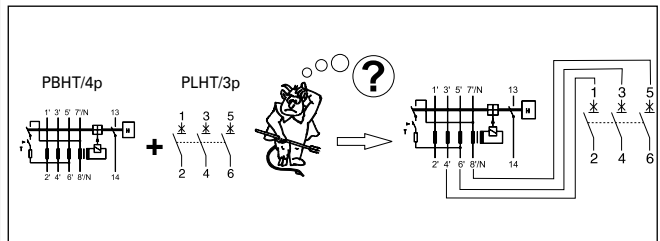
Wiring options



Mounting PBHT + PLHT

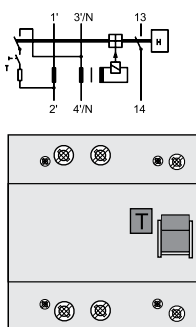


Connection PBHT/4p + PLHT/3p

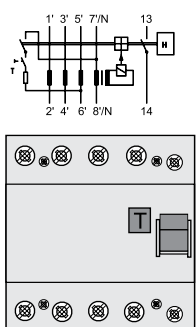


Mounting arrangement residual current protection unit - shunt trip release - miniature circuit breaker - auxiliary contact

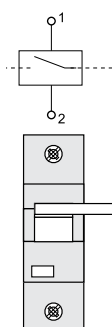
PBHT-2-pole



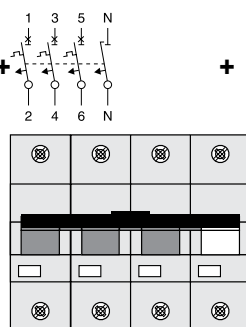
PBHT-4-pole



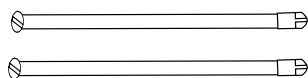
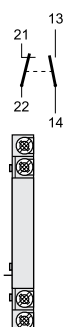
Z-PBHT-ASA



PLHT-3+N-pole



Z-LHK



Accessories for PBHT

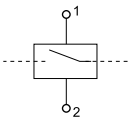
Shunt trip release Z-BHASA

- Can be mounted subsequently
- Contact position indicator red/green
- Marking labels can be fitted
- Wide operational voltage range
- Sufficient power of extra low voltage source must be ensured
PBHT-ASA/24: min. 90 VA
- Screws for mounting included PBHT => BHASA => PLHT

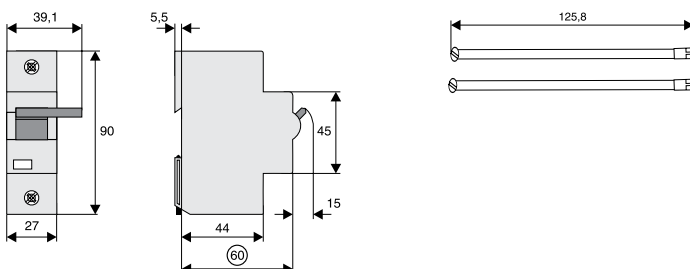
Technical Data

| | Z-BHASA/24 | Z-BHASA/230 |
|---|--|-----------------------------|
| Electrical | | |
| Minimum pulse duration | 15 ms | 10 ms |
| Internal resistance | 2 W | 130 W |
| Duty | 100% | 100% |
| Tripping time | < 20 ms | < 20 ms |
| Peak withstand voltage (1.2/50 μs) | 2 kV | 2 kV |
| Endurance | >4,000 switching operations | >4,000 switching operations |
| AC voltage range | | |
| Responding limit | 8 V | 70 V |
| Operational voltage range | 12-60 V | 110-415 V |
| Maximum current consumption during switch-on | 1.4-7 A | 3.4 A (at 230 V) |
| Current flow time at max. current consumption | 4.0 ms | 4.5 ms |
| DC voltage range | | |
| Responding limit | 11 V | 90 V |
| Operational voltage range | 12-60 V | 110-230 V |
| Maximum current consumption during switch-on | 1.7 A typ. | 1.7 A typ. |
| Current flow time at max. current consumption | 2 ms | 4 ms |
| Mechanical | | |
| Frame size | 45 mm | 45 mm |
| Device height | 90 mm | 90 mm |
| Device width | 27 mm | 27 mm |
| Mounting | quick fastening on DIN rail IEC/EN 60715 | |
| Degree of protection, built-in | IP40 | IP40 |
| Upper and lower terminals | lift terminals | lift terminals |
| Terminal capacity | 2.5-30 mm ² | 2.5-30 mm ² |
| Terminal torque | 4 Nm | 4 Nm |

Connection diagram



Dimensions (mm)



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