

# Combination contactor / motor protection relay max. 4 kW / 400 V

Series 8510

www.stahl.de



- > For installation in an Ex e enclosure
- > Version with screw fastening
  - robust
  - vibration-proof
  - reliable
- > Readily accessible connection terminals for
  - reliable connection
  - easy installation



14307E00

|            | ATEX / IECEx |   |   |    |    |    |
|------------|--------------|---|---|----|----|----|
| Zone       | 0            | 1 | 2 | 20 | 21 | 22 |
| For use in |              | x | x |    |    |    |

### Explosion Protection

|                            |   |
|----------------------------|---|
| Global (IECEx)             |   |
| Gas                        | IECEx BVS 07.0029U<br>Ex d e IIC, Ex d e I                |
| Europe (ATEX)              |   |
| Gas                        | DMT 00 ATEX E 073 U<br>II 2 G Ex d e IIC<br>I M2 Ex d e I |
| Certificates and approvals |   |
| Certificates               | ATEX, IECEx, Belarus (operating authorisation)            |

WebCode 8510 P

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Selection Table

| Version  | Schematic | Rated operating voltage   | Current setting range<br>A | Order number           | Weight<br>kg |
|--|-----------|---|----------------------------|------------------------|--------------|
| Combination contactor / motor protection relay |           | * AC: 110 V, 50 / 60 Hz   | 0.4 ... 0.6                | 8510/132-04-136-030-04 | 2.600        |
|  |           | * AC: 110 V, 50 / 60 Hz   | 1.0 ... 1.6                | 8510/132-04-136-030-07 | 2.600        |
|  |           | AC: 220 ... 230 V, 50 / 60 Hz   | 0.4 ... 0.6                | 8510/132-04-136-040-04 | 2.600        |
|  |           | AC: 220 ... 230 V, 50 / 60 Hz   | 1.0 ... 1.6                | 8510/132-04-136-040-07 | 2.600        |
|  |           | AC: 220 ... 230 V, 50 / 60 Hz   | 1.6 ... 2.4                | 8510/132-04-136-040-08 | 2.600        |
|  |           | AC: 220 ... 230 V, 50 / 60 Hz   | 2.4 ... 4.0                | 8510/132-04-136-040-09 | 2.600        |
|  |           | AC: 220 ... 230 V, 50 / 60 Hz   | 4.0 ... 6.0                | 8510/132-04-136-040-10 | 2.600        |
|  |           | AC: 230 ... 240 V, 50 / 60 Hz   | 0.6 ... 1.0                | 8510/132-04-136-070-05 | 2.600        |
|  |           | AC: 230 ... 240 V, 50 / 60 Hz   | 1.6 ... 2.4                | 8510/132-04-136-070-08 | 2.600        |
|  |           | AC: 230 ... 240 V, 50 / 60 Hz   | 2.4 ... 4.0                | 8510/132-04-136-070-09 | 2.600        |
|  |           | AC: 230 ... 240 V, 50 / 60 Hz   | 4.0 ... 6.0                | 8510/132-04-136-070-10 | 2.600        |
|  |           | AC: 230 V, 50 / 60 Hz   | 0.6 ... 1.0                | 8510/132-04-136-130-05 | 2.600        |
|  |           | AC: 230 V, 50 / 60 Hz   | 1.0 ... 1.6                | 8510/132-04-136-130-07 | 2.600        |
|  |           | AC: 230 V, 50 / 60 Hz   | 1.6 ... 2.4                | 8510/132-04-136-130-08 | 2.600        |
|  |           | AC: 230 V, 50 / 60 Hz   | 2.4 ... 4.0                | 8510/132-04-136-130-09 | 2.600        |
|  |           | * DC: 24 V  | 0.6 ... 1.0                | 8510/132-04-136-210-05 | 2.600        |
|  |           | * DC: 24 V  | 2.4 ... 4.0                | 8510/132-04-136-210-09 | 2.600        |
|  |           | Please refer for it to the order number supplement and add it to the type |                            |                        |              |

**Order Number Supplement**

|                       |                               |                         |
|-----------------------|-------------------------------|-------------------------|
| Rated control voltage | AC: 12 V, 50 / 60 Hz          | 8510/...-...-...-19.    |
|                       | AC: 24 V, 50 / 60 Hz          | 8510/...-...-...-01.    |
|                       | AC: 42 V, 50 / 60 Hz          | 8510/...-...-...-02.    |
|                       | AC: 48 V, 50 / 60 Hz          | 8510/...-...-...-10.    |
|                       | * AC: 110 V, 50 / 60 Hz       | 8510/...-...-...-03.    |
|                       | AC: 115 V, 50 / 60 Hz         | 8510/...-...-...-52.    |
|                       | AC: 127 V, 50 / 60 Hz         | 8510/...-...-...-53.    |
|                       | AC: 120 V, 50 / 60 Hz         | 8510/...-...-...-55.    |
|                       | AC: 220 ... 230 V, 50 / 60 Hz | 8510/...-...-...-04.    |
|                       | AC: 380 ... 400 V, 50 / 60 Hz | 8510/...-...-...-05.    |
|                       | AC: 440 V, 50 / 60 Hz         | 8510/...-...-...-18.    |
|                       | AC: 500 V, 50 / 60 Hz         | 8510/...-...-...-06.    |
|                       | AC: 230 ... 240 V, 50 / 60 Hz | 8510/...-...-...-07.    |
|                       | AC: 400 ... 415 V, 50 / 60 Hz | 8510/...-...-...-08.    |
|                       | AC: 660 ... 690 V, 50 / 60 Hz | 8510/...-...-...-54.    |
|                       | DC: 12 V                      | 8510/...-...-...-22.    |
|                       | * DC: 24 V                    | 8510/...-...-...-21.    |
|                       | * DC: 48 V                    | 8510/...-...-...-23.    |
|                       | DC: 60 V                      | 8510/...-...-...-28.    |
|                       | DC: 100 V                     | 8510/...-...-...-33.    |
|                       | DC: 110 V                     | 8510/...-...-...-24.    |
|                       | DC: 125 V                     | 8510/...-...-...-34.    |
|                       | DC: 220 V                     | 8510/...-...-...-25.    |
| DC: 230 V             | 8510/...-...-...-26.          |                         |
| DC: 240 V             | 8510/...-...-...-27.          |                         |
| Current setting range | 0.1 ... 0.16 A                | 8510/132-04-.36-...0-01 |
|                       | 0.16 ... 0.24 A               | 8510/132-04-.36-...0-02 |
|                       | 0.24 ... 0.4 A                | 8510/132-04-.36-...0-03 |
|                       | 0.4 ... 0.6 A                 | 8510/132-04-.36-...0-04 |
|                       | 0.6 ... 1.0 A                 | 8510/132-04-.36-...0-05 |
|                       | 1.0 ... 1.6 A                 | 8510/132-04-.36-...0-07 |
|                       | 1.6 ... 2.4 A                 | 8510/132-04-.36-...0-08 |
|                       | 2.4 ... 4.0 A                 | 8510/132-04-.36-...0-09 |
| 4.0 ... 6.0 A         | 8510/132-04-.36-...0-10       |                         |
| * Preferred voltage   |                               |                         |

E9

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## Series 8510

### Technical Data

#### Electrical data

##### Main circuit

|                                       |   |  |  |  |  |
|---------------------------------------|---|--|--|--|--|
| Rated operational voltage             | max. 690 V  |  |  |  |  |
| Rated operational frequency           | 50 / 60 Hz  |  |  |  |  |
| Conventional thermal current $I_{th}$ | 20 A  |  |  |  |  |
| Short-circuit protection              | for fuses, see tripping characteristic curves                       |  |  |  |  |
| Switching capacity                    | Rated powers of three-phase motors 50 Hz / 60 Hz, according to AC-3 |  |  |  |  |

|           |           |           |           |         |
|-----------|-----------|-----------|-----------|---------|
| $U_e$ [V] | 220 / 230 | 380 / 415 | 440 / 500 | 660/690 |
| P [kW]    | 2.2       | 4         | 4         | 4       |

##### Tripping characteristics

10 A

##### Auxiliary contacts

|                                 |       |             |       |       |
|---------------------------------|-------|-------------|-------|-------|
| Rated operational current $I_e$ | AC 15 | 220 / 240 V | 400 V | 500 V |
|                                 | NC    | 1.5 A       | 0.9 A | 0.8 A |
|                                 | NO    | 1.5 A       | 0.5 A | 0.5 A |

##### Conventional thermal current $I_{th}$

6 A

##### Short-circuit strength

6 A, gG

##### Switching capacity

AC-15: 6 A / 500 V

##### Control circuit

###### AC

|                         |  |
|-------------------------|--|
| Rated operating voltage | $U_c$ 50 / 60 Hz: 12 ... 690 V   |
| Operation range         | Coil ( $\theta \leq 50$ Hz)<br>50 Hz: 0.8 ... 1.15 $U_c$<br>60 Hz at 50 °C: 0.85 ... 1.1 $U_c$ |
| Drop out value          | Coil ( $\theta \leq 50$ Hz)<br>$\geq 0,2 U_c$  |
| Average power input     | at $U_c$ and 20 °C<br>Pick-up: 30 VA<br>Hold: 4.5 VA   |

###### DC

|                             |   |
|-----------------------------|---|
| Rated operating voltage     | $U_c$ : 12 ... 250 V                              |
| Operation range             | Coil ( $\theta \leq 50$ °C)<br>0.8 ... 1.15 $U_c$ |
| Drop out value              | Coil ( $\theta \leq 50$ °C)<br>$\geq 0.1 U_c$     |
| Average power input         | at $U_c$ and 20 °C<br>Pick-up: 3 W<br>Hold: 3 W   |
| Mechanical service life     | at $U_c$ : 10 Mio. switching cycles               |
| Maximum switching frequency | 3600 switching cycles per hour                    |

#### Ambient conditions

|                     |                |
|---------------------|----------------|
| Ambient temperature |                |
| Storage             | -50 ... +80 °C |
| Operation at $U_c$  | -20 ... +40 °C |

#### Mechanical data

##### Material

|                    |  |
|--------------------|--|
| Enclosure material | Epoxy resin  |
| Terminal cover     | Polyamide; IP20, finger-contact safety according to IEC/EN 60529 |

##### Conductor cross-section

|                    |   |
|--------------------|---|
| Main contacts      | 1,5 ... 6 mm <sup>2</sup> flexible<br>1,5 ... 10 mm <sup>2</sup> solid      |
| Auxiliary contacts | 0.75 ... 1.5 mm <sup>2</sup> flexible<br>0.75 ... 2.5 mm <sup>2</sup> solid |

##### Phase-failure protection

yes

##### Temperature compensation

yes

##### Trip-free mechanism

also if the unlock button is pressed

##### Reset

can be operated from outside via button

##### Mounting orientation

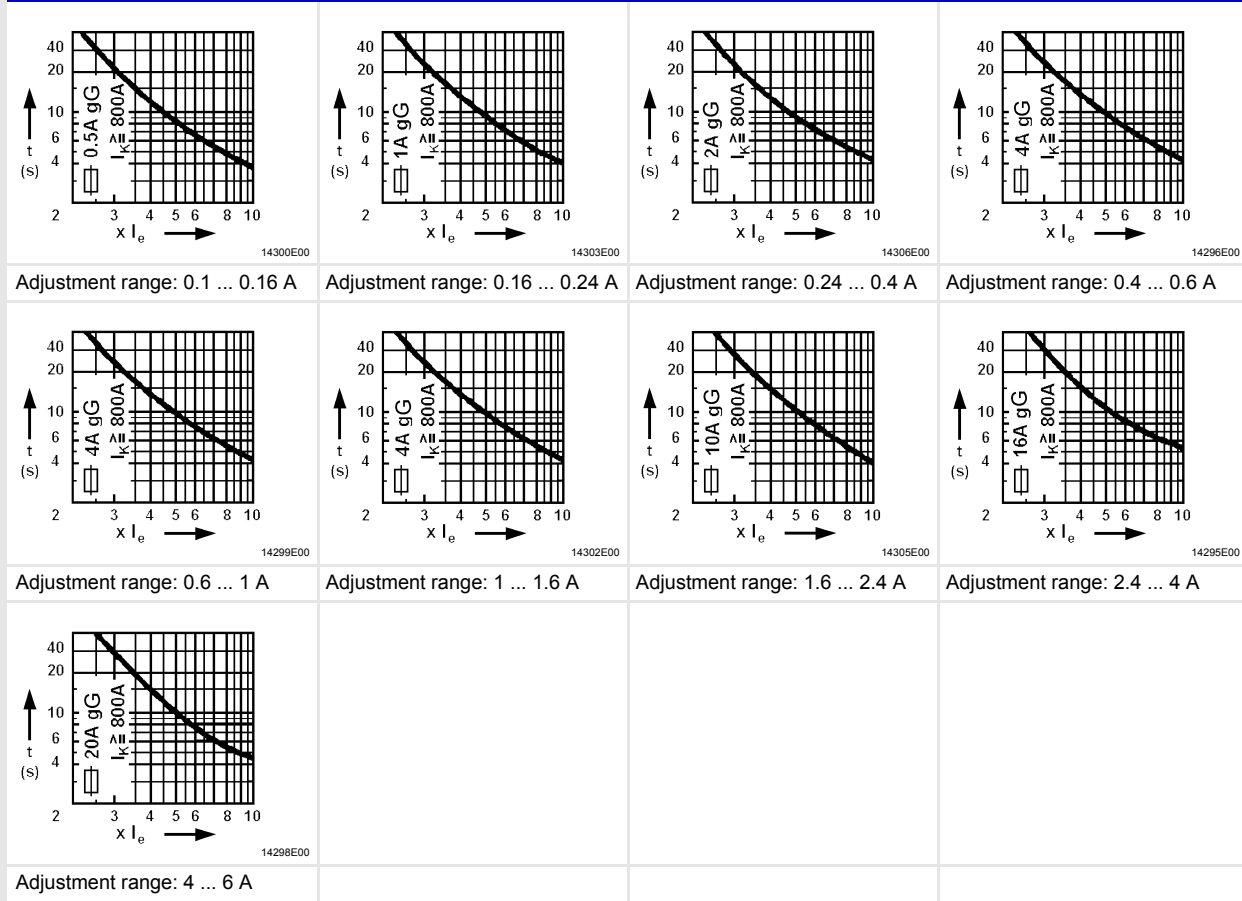
any

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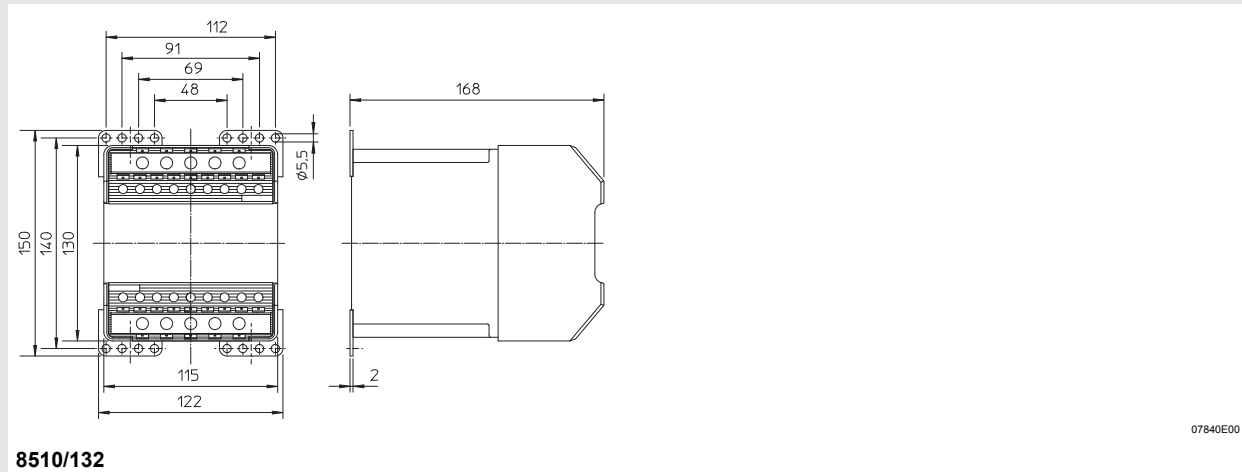
## Series 8510



### Tripping characteristic curves



### Dimensional Drawings (All Dimensions in mm) - Subject to Alterations



We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.