



## AC Voltage Protection

AC voltage protection relays continuously monitor single phase or three phase AC voltages, tripping upon fault condition.

The output relay trips when the monitored voltage is outside of the user adjustable limit and the LED illuminates indicating a fault condition. The trip point on all models (except the B853/10 and B853/11) is adjustable from 5% to 20% of the nominal voltage through the front control knob.

The output relay is set to de-energise in the under voltage condition ensuring the protection relays are failsafe. The relays are self powered, requiring no auxiliary power supply, and are available with either a single or double pole changeover relay output and optional built-in time delay.

### Models Available

- B853/1** Single Phase Over & Under
- B853/2** Single Phase Over
- B853/3** 3 Phase 3 Wire Over & Under
- B853/4** 3 Phase 4 Wire Over & Under
- B853/5** 3 Phase 3 Wire Over
- B853/6** 3 Phase 4 Wire Over
- B853/7** 3 Phase 4 Wire Under
- B853/8** 3 Phase 3 Wire Under
- B853/9** Single Phase Under
- B853/10** 3 Phase 4 Wire Under 320-400V
- B853/11** 3 Phase 3 Wire Under 320-400V

### Product Features

- Protects for under and/or over voltage
- LED indication
- Single or double pole output available
- Optional built-in time delay

For dimensions see page 3

## For AC voltage monitoring and protection against under and/or over voltage

### Specification

#### Nominal Voltage, $U_n$ :

- 110, 230VL-N
- 380, 400, 415VL-L
- 60-500V upon request

#### Calibrated Scale:

- 5% to 20% (B853/1 to B853/9)
- 320 to 400V (B853/10 & B853/11)

#### Setting Accuracy:

- 1%

#### Repeatability:

- Better than 0.5% of nominal

#### Differential (Hysteresis):

- Fixed 2%

#### Frequency:

- 50/60Hz (400Hz upon request)

#### Overload:

- 1.5 x  $U_n$  continuous
- 2 x  $U_n$  for 5 seconds

#### Burden:

- < 2VA

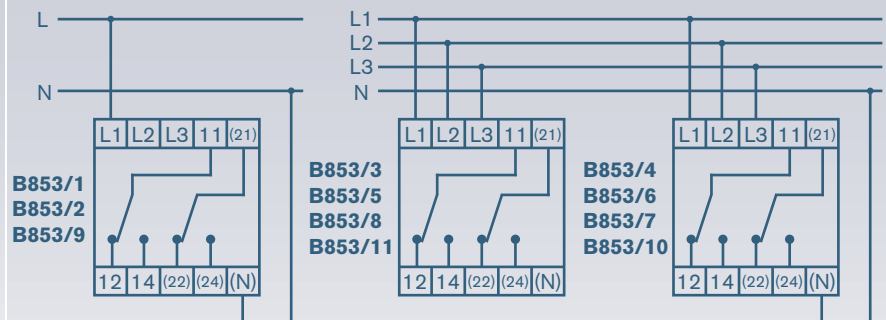
#### Operating Time:

- 200ms typically
- Built-in time delay (optional)

#### Weight:

- 275g

### Connections



### Ordering information

| Code  | Relay Type  | Nominal Voltage                | Output      |
|---|---|--------------------------------|-------------|
| B853/1  | Single Phase Over & Under                               | -                              | -           |
| B853/2  | Single Phase Over                                       | -                              | -           |
| B853/3  | 3 Phase 3 Wire Over & Under                             | -                              | -           |
| B853/4  | 3 Phase 4 Wire Over & Under                             | -                              | -           |
| B853/5  | 3 Phase 3 Wire Over                                     | -                              | -           |
| B853/6  | 3 Phase 4 Wire Over                                     | -                              | -           |
| B853/7  | 3 Phase 4 Wire Under                                    | -                              | -           |
| B853/8  | 3 Phase 3 Wire Under                                    | -                              | -           |
| B853/9  | Single Phase Under                                      | -                              | -           |
| B853/10   | 3 Phase 4 Wire Under (320-400V)                         | -                              | -           |
| B853/11   | 3 Phase 3 Wire Under (320-400V)                         | -                              | -           |
| Specify   | 110, 230VL-N, 380, 400, 415VL-L or 60 to 500V L-N/L-L   |                                |             |
| 1C/O  | -   | 1 Pole Changeover Relay Output |             |
| 2C/O  | -   | 2 Pole Changeover Relay Output |             |
| Time Delay  | - Time Delay - Specify on Fault or Reset and Time Range |                                |             |
| (Note: order code begins TA853, not B853 when time delay is included) |   |                                |             |
| <b>Example</b>  | <b>B853/8</b>   | <b>380VL-L</b>                 | <b>2C/O</b> |

## General Specification

### Reference Standards

Performance: IEC 144 / BS 5420 / VDE/VDI 0435 / IEC 947 / EN60947

### Environmental

Calibration Temperature: 23°C  
 Operating Temperature: 0°C to 60°C  
 Storage Temperature: -10°C to 70°C  
 Temperature Coefficient:  $\pm 0.03\%$  / °C  
 Relative Humidity: 0 - 95% non-condensing

### Relay Output

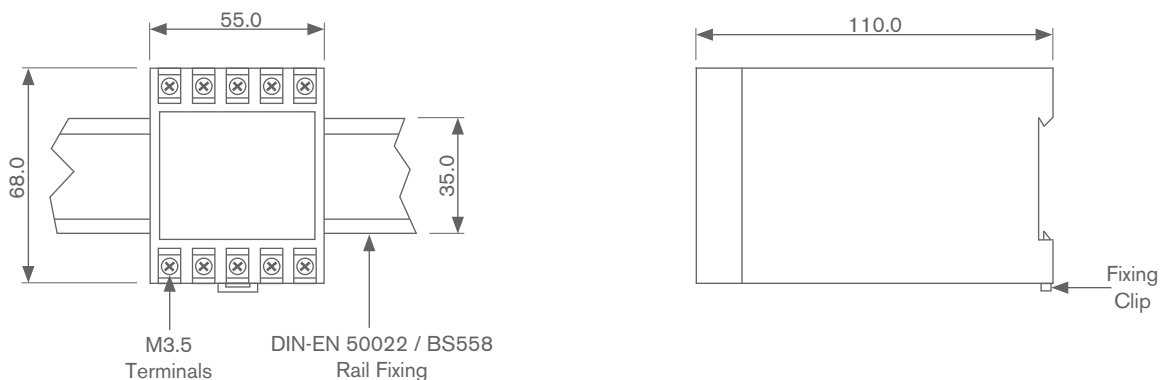
Relay Type: Single pole change-over  
 (Except CST-100 has single pole normally open or normally closed)  
 (Double pole change-over available on some models as an option)  
 Contact Rating: 5A @ 250Vac (non-resistive), 1A @ 125Vdc (resistive)  
 Contact Life: 1,000,000 at 5A, 10,000,000 at 1A  
 Mechanical Life: 2,000,000 operations  
 Dielectric Strength: 4kV coil/contact, 1kV contact/contact  
 Optional Time Delay: 0.3-10 sec, 1-30 sec, 2-60 sec, 3-100 sec or 10-300 sec (delay on fault or reset)  
 (Note if the voltage supply to the protection relay falls below 75% of the nominal the timer will fail to operate and the relay will trip instantaneously upon fault)

### Enclosure

Enclosure: Flame retardant black ABS plastic with screw type terminals  
 Enclosure Code: Case IP50, terminals IP10 to IEC529 and BS5490  
 Insulation Test: 2kV rms 50Hz 1min (to IEC 414) between Input / Case / AC Auxiliary  
 Mounting: 35mm DIN rail (DIN-EN 50022)  
 Markings: CE marked

Specification subject to change without notice.

### Dimensions



All dimensions in mm