



Frequency Protection

Frequency protection relays continuously monitor the frequency of AC supplies, tripping upon fault condition.

The output relay trips when the monitored frequency is outside of the user adjustable limit and the LED illuminates indicating a fault condition. The trip point on all models (except the B851C) is adjustable from 1Hz to 5Hz through the front control knob.

The output relay is set to de-energise in the under frequency 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

- B851** Over & Under Frequency
- B851A** Under Frequency
- B851B** Over Frequency
- B851C** Over Frequency 40-70Hz

Product Features

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

For dimensions see page 3

For frequency monitoring and protection against under and/or over frequency

Specification

Nominal Frequency:

- 50, 60Hz (400Hz upon request)

Input Voltage, U_n :

- 110, 230, 380, 400, 415VL-L ($\pm 15\%$)
- 60-500V upon request

Calibrated Scale:

- 1 to 5Hz (B851, B851A, B851B)
- 40 to 70Hz (B851C)

Setting Accuracy:

- 1%

Repeatability:

- Better than 0.5% of nominal

Differential (Hysteresis):

- Fixed 0.5Hz

Overload:

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

Burden:

- < 2.5VA

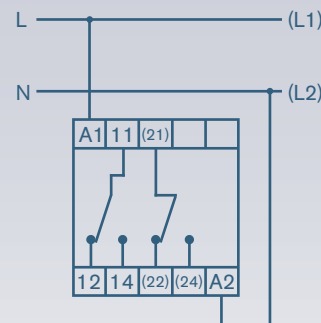
Operating Time:

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

Weight:

- 275g

Connections



Ordering information

| Code | Relay Type | Nominal Freq. & Voltage | Output |
|---|---|--------------------------------|-------------|
| B851 | Over & Under Frequency | - | - |
| B851A | Under Frequency | - | - |
| B851B | Over Frequency | - | - |
| B851C | Over Frequency 40-70Hz | - | - |
| Specify | - | 50, 60, 400Hz (N/A for B851C) | - |
| Specify | - | 110, 230, 380, 400, 415Vac | - |
| Specify | - | 60 to 500Vac | - |
| 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 TA851, not B851 when time delay is included) | | | |
| Example | B851 | 50Hz, 230Vac | 2C/O |

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

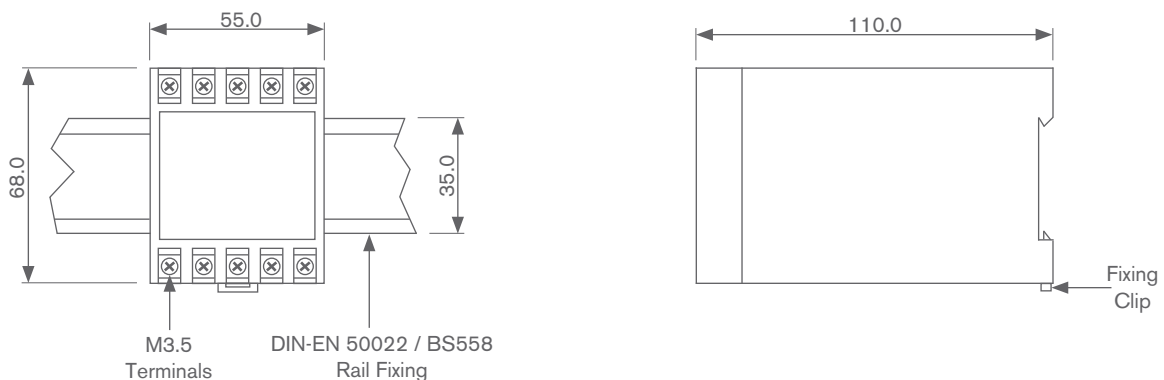
Relay Type: Single pole change-over
 (Except CST-100 has single pole normally open or normally closed)
 (Double pole change-over available on some models as an option)
 Contact Rating: 5A @ 250Vac (non-resistive), 1A @ 125Vdc (resistive)
 Contact Life: 1,000,000 at 5A, 10,000,000 at 1A
 Mechanical Life: 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