



Features

- Measures ripple in a DC supply source
- One unit for all voltages from 18 to 340 VDC
- 4 voltage sub-ranges adjustable from 0.4 to 6.4%
- 3 ripple sensitivity ranges
- High accuracy and equal sensitivity for ripple frequencies from 30 to 3000 Hz



Benefits

- Monitors signal quality of DC supply
- Prevents damage to connected connected equipment due to noisy or impure DC supply
- Helps to avoid malfunctioning of noise sensitive equipment caused by ripples
- Ensures correct function of rectifiers or AC-DC converters
- Provides immediate response in case of faulty supply ensuring reliable supply

Applications

- DC power supply systems
- UPS

- Battery chargers
- Rectifiers and AC-DC converters



BRIA

DESCRIPTION

The ripple relay BRIA is developed to monitor rectifiers or AC-DC converters for faulty thyristors or diodes, causing an impure or noisy output.

The relay is extremely sensitive, stable and detects ripple levels exceeding the set sensitivity in the frequency range from 30 to 3000 Hz.

Supply power is taken from the input, and by using a wide range switchmode supply, the same relay can be used in systems with voltages from 18 to 340 VDC.

In order to have the same precision for all system voltages, the range 18 to 340 VDC is divided into 4 overlapping subranges, selected by two DIP-switches. By use of another DIP-switch, the sensitivity range can be set from 0.4 to 1.6 %, 0.8 to 3.2 % or 1.6 to 6.4 % of the system voltage.

APPLICATION

Supervision of DC Power supplies in general or battery chargers in UPS systems.

DIMENSIONS



FUNCTIONS





BRIA

OPERATION

The input voltage is divided into two signals. In order to measure the ripple in % of the varying system voltage, one part is averaged and used to set the internal reference voltage. The other signal, the AC signal related to the ripple, is amplified and conditioned through a bandpass filter in order to avoid false triggering due to frequencies outside the measuring range from 30 to 3000 Hz.

The rectified mean value is then compared to a set part of the reference voltage. When the relay is powered up, and the ripple on the input is below the set limit, then the internal relay will pull in and the contacts 11-14 and 21-24 will close. The indication will be a green LED for the input and a yellow for the relay. If the ripple content of the input voltage increases and exceeds the set sensitivity, then the OFF delay starts to elapse, indicated by the red input LED and a yellow timing LED.

The relay will drop out when the set OFF delay has expired and the yellow relay LED will extinguish. If the ripple content decreases by 10 % of the set limit, the ON delay starts to elapse, indicated by the green input LED and a yellow timing LED.

The relay will pull in when the set ON delay has expired and the yellow relay LED will be lit.

INSTALLATION AND SETUP

The relay is designed for DIN rail mounting with built-in screw terminal conections for corresponding wires of the installation, as indicated on the front panel and connection diagram.

Setup is done from the front of the relay using the dipswitches for setting the desired voltage and ripple sensitivity ranges, and the screw potentiometers for setting desired on and off time delays.

FRONT



CONFIGURATION



CONNECTIONS





BRIA

SPECIFICATIONS

INPUT

Voltage ranges selectable by dipswitch

18-50 V 32-100 V 64-200 V 110-340 V

0.4-1.6 %

0.8-3.2 %

1.6-6.4 %

DC voltage 0-340 V, 374 V_{Peak}

Ripple ranges selectable by dipswitch

Hysteresis

ELECTRICAL

OUTPUT

SUPPLY

Contact rating

Mechanical life

Temp. dependence

PERFORMANCE PARAMETERS

TIMING Response time Time range during run

Separate On and Off delay 0.2-10 s adjustable Typ. ± 0.02 %/°C

Approx. 200 ms

10 % of ripple sensitivity

Relay, 2 C/O, AgNi 6 A, 250 VAC, 1500 W 30 million operations

DC voltage from input Max. 3 W

-25 °C to +55 °C ambient

Pole to pole

PH1

0.13 kg

0.32 Nm to 0.39 Nm

Up to 90 % RH non-condensing

Coil to relay contacts 4000 VAC

Accepts up to 3.3 mm² or 12 AWG

2500 VAC

GENERAL

Temperature range Humidity Dieletric test voltage

Power consumption

TERMINALS Tightening torque Screw type Cable size

Weight

CE

2011/65/EU

2015/863/EU EC1907/2006

2017/821/FU

International standards

RoHS 2 directive RoHS 3 amending REACH

3TG

EMC directives 89/336:

EN 50263:2000 EN 61000-3-2 EN 61000-3-3 Emission Immunity Immunity

EU directive: Low voltage directive 73/23: EN 60255 Electrical Relays

ORDERING INFORMATION

EXAMPLE	$\frac{\text{BRIA}}{\Box} \frac{1834}{\Box} \frac{\text{D}}{\Box} \frac{\text{A}}{\Box} \frac{3}{\Box} \frac{\text{C}}{\Box}$
ТҮРЕ	
DC voltage monitoring control relay for DC ripple relay	
SUPPLY VOLTAGE	
18-340 VDC	1834
ADJUSTMENT	
Trimpot and dipswitch adj.	
HOUSING	
Rail mounting	A
SIZE	
35 mm	3
CODE END	
Code end	С

Company info

lin

Information in this flyer may change without notice. All rights reserved, including errors in images, illustrations, and text.



thiim@thiim.com

L +45 4485 8000