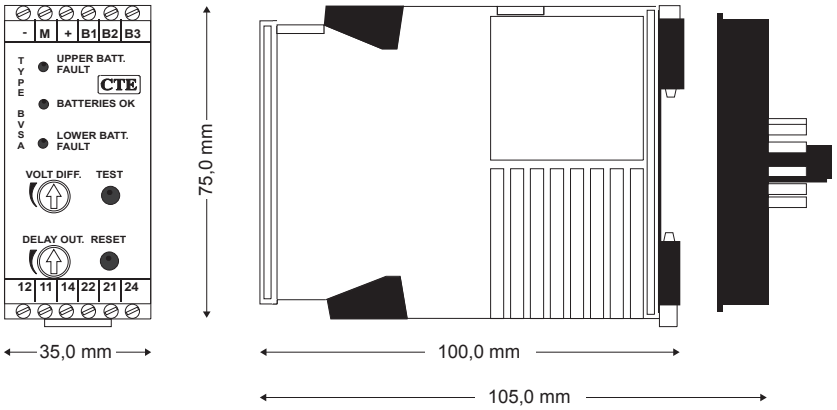


BATTERY SYMMETRY MONITORING RELAY

Type: BVSA

FEATURES

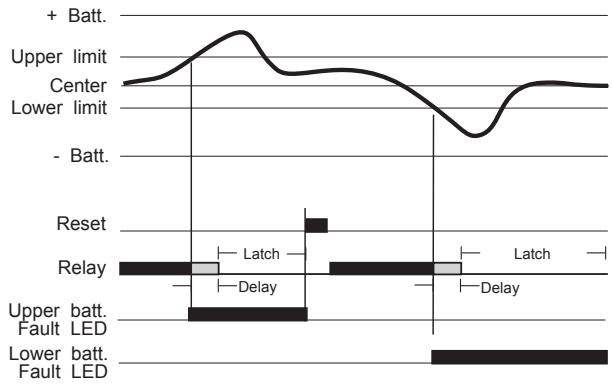
- **Supply from the battery**
- **LEDs indicate the status and the fault conditions**
- **Latch for symmetry failure**
- **Adjustable symmetry level**
- **Adjustable Timeoff delay to prevent false alarm**
- **Test and reset button on the relay**
- **Terminals for remote test and reset**

Description:
The BVSA is designed to give an early warning for cells, in a battery system, that are performing different from the other cells. The battery system being monitored must consist of two equal blocks coupled in series with an accessible centerpoint.

Operation:
The measuring system is based on a comparison of the voltage from the two blocks. Over the lifetime they are charged and discharged equally and the voltage will, within close limits, be the same as long as all cells in both blocks are healthy. At the end of the lifetime, or if a cell is shorted, the two blocks will perform different. The BVSA will sense the difference in performance and the internal relay will give an early warning by dropping out. Information about which battery block that is defect is indicated by the LEDs on the front. In order to prevent false alarm the BVSA includes a timing function.

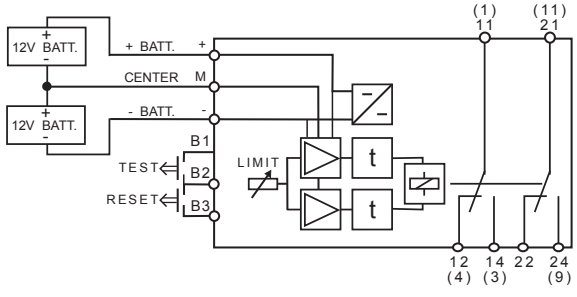
Application:
Detection of an early failure in battery cells within a battery system. For a complete monitoring system the BVSA can be used together with a standard battery voltage monitoring relay - type BMCD (HI/LOW)

FUNCTION DIAGRAM

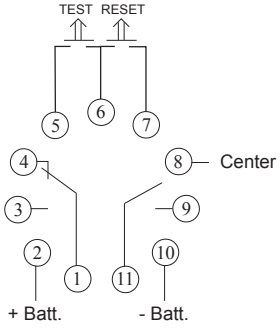


CONNECTION DIAGRAM

Rail mounting



Socket mounting



Input & supply

Thiim A/S
Transformervej 31
2860 Søborg - Denmark
Tel.: +45 4485 8000
Fax: +45 4485 8005
Web: www.thiim.com
Mail: thiim@thiim.com

SPECIFICATIONS

INPUT

PERFORMANCE PARAMETERS

Time range off delay	
standart	0 - 10 sec. adjustable
Time range accuracy	- 20 % to + 50 %
ELECTRICAL	
Repeat accuracy	< 1 %
Temp. dependence	Typ. ± 0.02 % / °C

INPUT

Type 12V: Adjustable from	0,05V - 0,5V
Type 24V: Adjustable from	0,1V - 1,0V
Type 48V: Adjustable from	0,2V - 2,0V

OUTPUT

Under voltage	Relay, 2 C/O, AgCdO
Contact rating	6 A, 250 VAC, 1500 W
Mechanical life	30 Million operations

SUPPLY

DC voltage, supply and input internal connected
12 V (From 8 to 16 V)
24 V (From 16 to 32 V)
48 V (From 32 to 64 V)

Power consumption 3 W

GENERAL

Temperature range	- 25 °C to + 55 °C	
Humidity	Up to 90 % RH non-condensing	
Dielectric test voltage	Coil to relay contacts	4000 VAC
	Pole to pole	2500 VAC
Weight	0.13 kg	

CE

	International Standards
EMC directive 89/336:	EN50081 - Emission
	EN50082 - Immunity
Low voltage directive 73/23:	EN60255 - Electrical Relays

ORDERING INFORMATION

EXAMPLE: BVSA D024 A A 3 C

TYPE
Battery voltage symmetry monitoring relay BVSA

VOLTAGE RANGE
12 V D012
24 V D024
48 V D048

ADJUSTMENT
Trimpot adj. A

HOUSING
Rail mounting A
Socket 11 pin E

SIZE
35 mm. 3

CODE
Extend code E
Code end C