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Diligent
MICRO CONTROLS

DESIGN CONSULTANT & MANUFACTURER

* ELECTRONIC CONTROL SYSTEMS
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DILIGENT * STABMON

1. Discription:

Stabmon is customized protection unit for 3-phase ac stabiliser. It is housed in strong & sleek m.s. enclosure. It operates on 230 V, 1 phase ac supply. Status & Fault LED display is provided on the unit and is very useful during commissioning and fault finding. Over load adjustment over 95% to 105% of rated current, is provided on the unit. Local Reset Switch is provided to reset *Stabmon* after it trips on fault. A toggle switch is provided to enable and disable 'Single Phasing Protection' and its status is indicated by the two-color LED.

2. Operation:

Stabmon require 230 V, 1 phase ac supply for its operation. 3-phase supply enters the unit at terminals Rs, Ys & Bs and leaves from terminals Rl, Yl & Bl for connection to load. Phase current of each phase is monitored continuously. So long the current is present in all the three phases and is below the set limit, control relay inside is in energised state. Mains, Load and Fault LEDs are lighted. Status of 'Single Phasing Protection' is indicated by last LED. When the switch on the rear panel is pressed, this LED becomes red and when that switch is released, color changes to green.

3. Time-delayed Overload Protection :

When any of the phase current exceeds preset limit for more than the permitted preset time (5sec.) continuously, *Stabmon* switches off internal control relay and latches it in this state. 'Overload' LED lights. 'T.DLY' LED lights as soon as overload takes place and stays on till it last or till the elapse of the preset time, whichever is earlier. Overload adjustment is provided to adjust trip level from 95% to 105% of the rated current.

4. Single Phasing Protection :

Each phase carries current under normal condition and *Stabmon* continuously monitors it. Internal relay remains energised so long all the three-phase carry current. However, when either one or two phases become open, internal relay switches off and is latched in this state. 'Single Phasing Protection' feature is different from the one understood conventionally. This is so because AC stabiliser is required to feed different loads from its phases and, therefore, currents in the phases could be different. In extreme case, it may be required to operate with current in its one or two phase being zero or below the minimum sense level set for the circuit. In such case, *Stabmon* will not permit its operation. Loads may be switched on/off randomly and this can cause load current to dip

below the minimum sense level momentarily. A short time delay of 2-3 sec. is provided to allow operation with such short lasting dips in phase current.

5. Reverse Phase Sequence Protection :

Phase sequence of the 3-phase supply is continuously monitored. If the sequence is normal, Stabmon relay stays in on state. However, whenever this sequence becomes reverse, relay switches off and stays off until sequence is corrected by interchanging any of the two phases. LED designated as 'REV. PH. SEQ.' on the display, indicates this fault.

6. Local Reset :

Once *Stabmon* switches off internal relay and latches it in that state due to overload or single phasing fault, 'Fault' LED starts flashing and stabiliser is switched off. This state prevails until local reset push button on the front panel, is pressed by operator.

7. Calibration :

Stabmon upto 10 Amps rating are directly calibrated and offered in our standard enclosures. For any other higher current ratings, standard 5Amp *Stabmon* is calibrated with customer-specified auxiliary current transformer.

8. Status & Fault Display :

Status & Fault display, is described below-

Title	**Description**
Mains	Lights when 230 V,1ph., ac supply is connected.
Load	Lights when one or more phases carry current.
S. □ing	Lights when one or two phases are lost and current through them becomes zero. It remains on even after tripping of Stabiliser, until manually reset by pressing local reset push button.
O.Load	Lights when current in any of the phases, exceeds preset limit beyond preset delay (5 sec.). It remains on even after tripping of Stabiliser until fault is rectified and Reset Push Button is pressed.
Rev.Ph.Seq.	Lights when phase sequence is negative and remains on till it is made positive by interchanging any of the two phases. It switches off only after local reset push button is pressed
T.DLY	Lights as soon as current exceeds preset limit and remains on till elapse of preset overload period or dropping of current below the limit.
NOR- Steady FLT - Blinks	This LED lights steady under normal condition and starts flashing after unit trips on fault.
RED- S.□ing Disabled GRN- S.□ing Enabled	This LED turns red when single phasing protection is disabled and it turns green, when single phasing protection, is enabled.