TECHNICAL DESCRPTION

The module S155 is a reactive power sharer especially designed for paralleling systems, and its high performances are the result of more than 30 years experience in the regulation of power production plants. S155 grants a control of the DROOP or STATISM through a simple trimmer with a wide control range (from 0 to 10%). An output terminal, ranging from 0÷5V, makes this module suitable for connection to others devices made by Beltrame c.s.e, like AVR model S099, S130, S160. In this way, three different combination of regulation are possible using the an S155 AVR. Moreover, the S155 keeps under control the reactive power for each generator in parallel using the same DROOP or STATISM percentage

ADJUSTMENT PROCEDURES

The S155 device is equipped with few dip switch to set the parameters.

- Dip switch 1 in off position sets the maximum current detectable by the T.A to 1A.
- Dip switch 1 in on position sets the maximum current detectable by the T.A. to 5A.
- Dip switch 2 is not active.
- Dip switch 3 in on position enables to check the DROOP or STATISM.
- Dip switch 4 is always pre-set in off position.
- Dip switch 5 in off position enables to check the maximum current I max.
- Dip switch 5 in on position enables to control trimmer P3, which is pre-set by the manufacturer and can not be changed by the customer.
- Dip switch 6 in off position gets the device work in 50 Hz mode.
- Dip switch 6 in on position gets the device work in 60 Hz mode.

The DROOP or STATISM is regulated with trimmer P1. During the first running test this trimmer must be completely turned counterclock-wise to get the minimum value of the DROOP itself. Turning trimmer P2 it is possible to select the work range of T.A. (e. g., if T.A is 100A and the load is 80 A the minimum value will be set moving P2 trimmer to 80A).

STANDARD FEATURES

Each S155 will be dispatch to the customer with the following pre-set standard configuration:

- Dip switch 1 in on position so as to have the T.A. current reading value set to 5A
- Dip switch 3 in on position so that the DROOP can be controlled turning the trimmer P1
- Dip switch 5 in on position so that control goes by turning trimmer P3 (this can not be changed).

FUNCTIONING

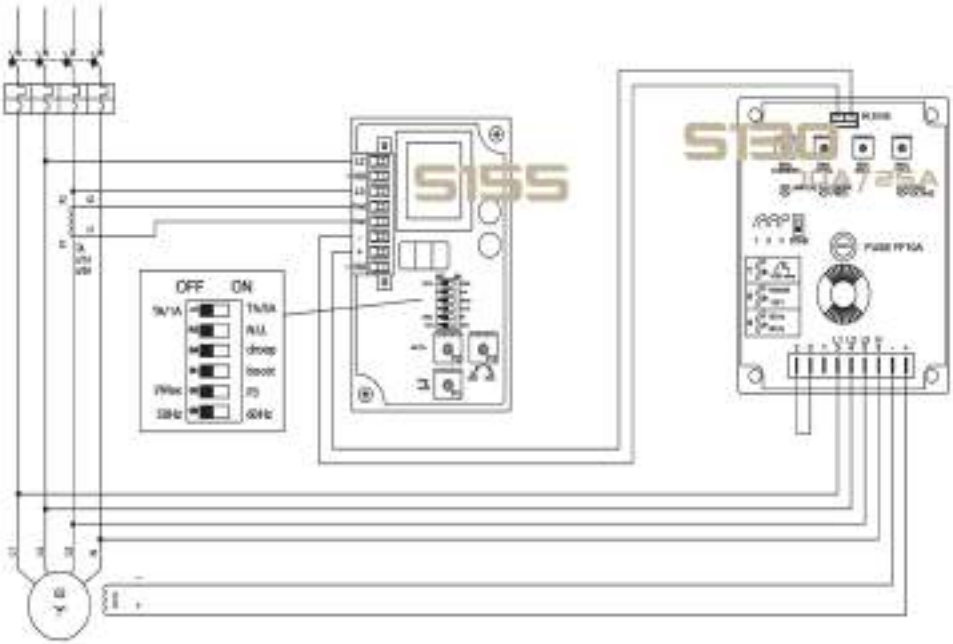
L2 and L3 are two voltage inputs, whereas TAs2 and TAs1 are the current inputs which determine the output voltage 0÷5V and get the desired reactive power just turning the trimmer P1. The module S155 is available with three different feeding: 100V, 230V, 400V. Availability is as follows: S155/100, S155/230, S155/400. The standard version is S155/400.

CONNECTION WITH AN AVR

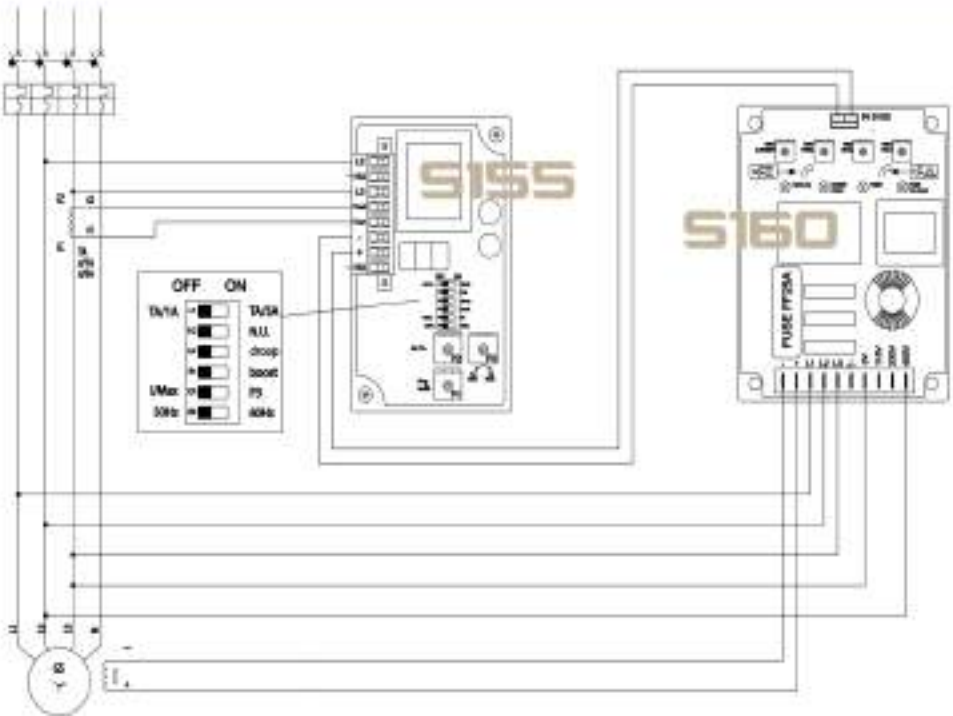
Use the red & black cable of the S155 to connect with input IN S155/PFC of the AVR (S130 or others). Use terminal L2 to connect with the phase output L2 of the alternator, and use terminal L3 to connect with the phase output L3 of the alternator. Finally connect terminal Tas2 of S155 with P2-S2 of the T.A., and connect terminal TAs1 of S155 with P1-s1 of the T.A.

In the next pages there are some examples (operating diagrams) of connection between the S155 module and BELTRAME C.S.E. Automatic Voltage Regulators.

PIC. 1: Connecting diagram between an S155 Reactive Pawer Sharer and a S130 AVR



PIC. 1: Connecting diagram between an S155 Reactive Pawer Sharer and a S160 AVR



PIC. 3: Connecting diagram between an S155 Reactive Pawer Sharer and a S099 AVR