STACO
ENERGY PRODUCTS CO.

Variable Transformers
Controllers • Types FRC-20, MP

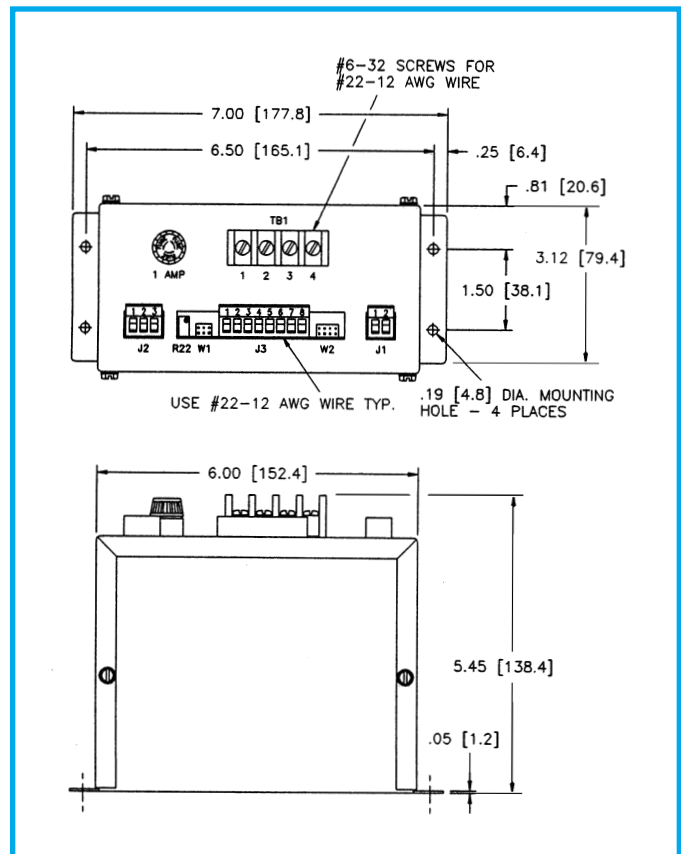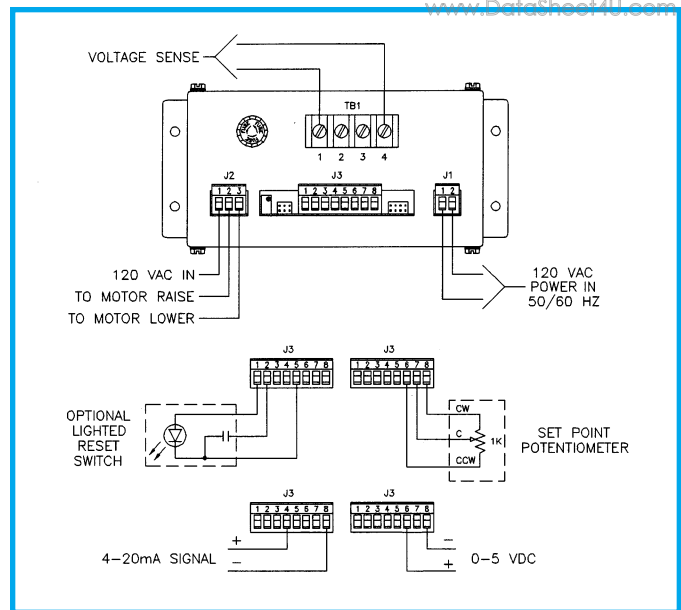# Variable Transformer Controllers

FRC-20 Controller

The STACO FRC-20 Controller is designed to position and regulate any STACO motor driven variable transformer; and, can be controlled with a

0-5 VDC or 4-20 Ma set point, a 1 k ohm potentiometer, or a fixed resistor network.

It maintains a full range regulation of 0.5% , and a limited range regulation of 0.25%. This unit is field configurable for feedback voltages up to 600 Vac, full range/limited range, and type of control. Each FRC-20 includes a 1 amp motor supply fuse and a set point supply trim potentiometer. It is a compact package and can be easily mounted on the motor plate or inside an enclosure. Contact factory for current and other feedback alternates.

■ 0.5% full range regulation

■ 0.25% limited range regulation

■ 0-5 VDC or 4-20 Ma set point control

■ 1 k ohm potentiometer or fixed resistor network control

■ Full or limited range control

■ Small size

■ Ease in mounting

■ Up to 600 Vac feedback voltage operation

■ Current regulation

Variable Transformer Controllers

MP Series

The MP Series microprocessor based controller controls, regulates, and provides ease in interfacing a computer or process controller with a STACO motor-driven variable transformer.

It can be controlled with the microterminal, process control set point, or a bi-directional communications port such as RS-232 or RS-422. The variable transformer regulation is maintained at ±0.5 volts. The MP controller is available with one, two or three channels for control of up to three motorized variable transformers or individual phase control of a three phase unit.

The microcontroller is capable of operating in several different operational modes with selectable control ranges - tunable for various motor speeds, output voltage ramping, serial/analog set point selection, and feed back voltage range.

Controller Advantages

- ■ Intelligent microprocessor based
- ■ Controls variable voltage transformer regulation to within ± 0.5 volts
- ■ Multi-channeled unit enables control of one, two, or three individual motorized variable transformers or each phase of a three phase unit
- ■ LCD display of feedback signals and set points
- ■ Available with standard analog control signals (0-1 mA, 4-20 mA, 0-50 mVDC, 0-10 VDC) for set point and control functions
- ■ Available with standard bi-directional RS-232, RS-422, IEEE-488 communication ports for set point and control functions
- ■ Multiple set points, ramping, and dwell times available
- ■ Heavy duty wall mountable NEMA 12 style enclosure
- ■ Control of the unit can be local, at a remote location, or both

Controller with Enclosure Mounted Microterminal Option

Rack Mounted Microprocessor Controller

- ■ Battery back-up RAM retains data if power is lost
- ■ Microterminal available for remote or stand-alone monitoring and control
- ■ User programmable to accept peak-to-peak, rms, or average AC feedback signals
- ■ Phase loss detection, logic level signal

Available Options

- ■ Bi-directional RS-232, RS-422, IEEE-488 communication ports
- ■ Single, double, or triple channel feedback
- ■ Process control set point (0–50mVDC, 0–10VDC, 0–1mA & 4–20mA)
- ■ Optical isolation of control and feedback inputs for reduced noise interference
- ■ Panel mounted microterminal for local control and monitoring
- ■ Phase loss detection

Available Options

Options	Suffix
Process Control Set point	S
Enclosure mounted MICRO TERMINAL	T
Microterminal only, for remote mounting	MT
Phase loss detection	L
Optical Isolated Inputs (optical isolation reduces noise interference)	I
RS-232 Communications Port	2
RS-422 Communications Port	4
IEEE-488 Communications Port	8

Typical Examples

A Single channel controller with an enclosure mounted terminal and process control set point — *Specify MPAST*

A Single channel controller with an enclosure mounted terminal and an RS-232 port — *Specify MPA2T*

A three channel controller for control of 3Ø bank of variable transformers, with three motors for individual phase control plus RS-422 port — *Specify MPC4*

MP Controller
Input Power 120/240/277 VAC

Motor Control

Increase

MP Controller

Decrease

Optional Staco Variable Transformer
5 AMP – 1000 A

Load

Feedback — Peak to Peak, rms, or Average Sensing