

3STF1000,1001,1002 AND 3SMA1000

REMOTE ACCESSORY ADAPTER OPTIONS FOR STATOTROL* II DRIVES

DESCRIPTION

The 3STF series adapter option is a small printed circuit board which plugs into the main component board of Statotrol II controllers. The adapter option interfaces between the control circuit and the proper remote accessories to provide remote voltage reference following (tachometer follower applications), and speed indication.

The 3SMA1000 option is similar to the 3STF series except that the 3SMA1000 option is designed to interface with remote reference signal generating instruments (instrument follower applications).

The follower feature and the speed indication feature may both be used at the same time, or one can be used and the other ignored.

INSTALLATION

Refer to figure 2 in the controller instruction book for proper location and orientation for installation. The adapter is mounted and connected by two screws and a row of eleven pins and receptacles. Two of the receptacles on the main component board are connected together by a factory installed metal jumper (terminals 20 and 22). This jumper must be removed before the adapter option is installed. To install the option, position it carefully so that each pin is properly mated with its receptacle, press the option board down toward the main component board, and then insert and tighten the two screws. The screws provide electrical connection in addition to providing physical mounting.

CAUTION

Screws of the proper length are supplied with the option. Do not substitute longer screws, since longer screws may short the control circuit to the chassis.

NOTE: The wire attached to the remote accessory adapter unit should be connected to terminal 99 on terminal strip 2TB.

ELECTRICAL CONNECTIONS

Connection diagrams and wiring instructions are provided in the controller instruction book under the heading "Remote Accessory Wiring" and on figure 1 of this sheet.

To avoid electrical noise pickup, it is necessary to keep the remote accessories wiring separate from all other wiring. Do not run these wires through conduits with power conductors or relay coil wiring.

If separation of the remote accessories wiring is physically impossible or impractical to do, then insulated, shielded cabling should be used. Connect the shield to circuit 2 at the controller 2TB terminal board. Do not connect the shield at the other end but do insulate it so it cannot come in contact with other circuits or building ground.

CAUTION

If shielded wire is used, the shield must be insulated. Allowing the shield to contact building ground will cause damage to the controller.

CAUTION

All remote circuitry connected to the Statotrol II drive must be completely isolated from ground, or a line isolation transformer must be used to supply power to the controller. In no case should more than one circuit point be grounded.

CAUTION

Overvoltage from a remote signal generator (either a tachometer or an instrument) may damage the control.

OPTION	MAXIMUM ALLOWABLE APPLIED VOLTAGE	NOMINAL VOLTAGE FOR FULL SPEED
3STF1000	50V	35VDC
3STF1001	70V	50VDC
3STF1002	110V	70VDC

When the 3SMA1000 option is used with a current signal generator, the proper protective shunt resistor (see the remote accessory connection diagram in the controller instruction book) must be connected between terminals 97 and 2 on 2TB.

ADJUSTMENTS

CAUTION

Line voltage is exposed when the Statotrol II cover is removed. Electrical power should be disconnected at the branch circuit breaker before any work other than potentiometer adjustment is performed inside the controller. Internal adjustments should be performed by qualified electricians.

TACHOMETER FOLLOWER ADJUSTMENT OF 3STF1000, 1001, 1002

After all items in the "Prepower Checks and Adjustments" section of the controller instruction book have been completed, set the minimum speed adjustment as described in the controller instruction book, and then set the tachometer output to the level which corresponds to the highest normal operating speed of the Statotrol motor as required by the

application. Press the "Auto" and "Start" buttons on the control station, and adjust potentiometer 12P on the remote accessory adapter option until the Statotrol motor runs at the correct speed. Do not exceed rated speed.

INSTRUMENT FOLLOWER ADJUSTMENT OF 3SMA1000

First complete all items in the "Prepower Checks and Adjustments" section of the controller instruction book. Then adjust the instrument follower feature by the following sequence.

1. Set the output of the reference generator to the level which must correspond to zero speed of the Statotrol motor, press the "start" and "auto" buttons on the control station, and turn the minimum speed adjust potentiometer, 4P, CW until the motor starts, and then turn 4P CCW until the motor just stops.
2. Set the output of the reference generator to the signal level which corresponds to the highest motor speed required by the application and turn 12P on the remote accessory adapter option until the motor runs at the correct speed. Do not exceed rated speed. It may be necessary to "fine tune" the drive by repeating steps 1 and 2.

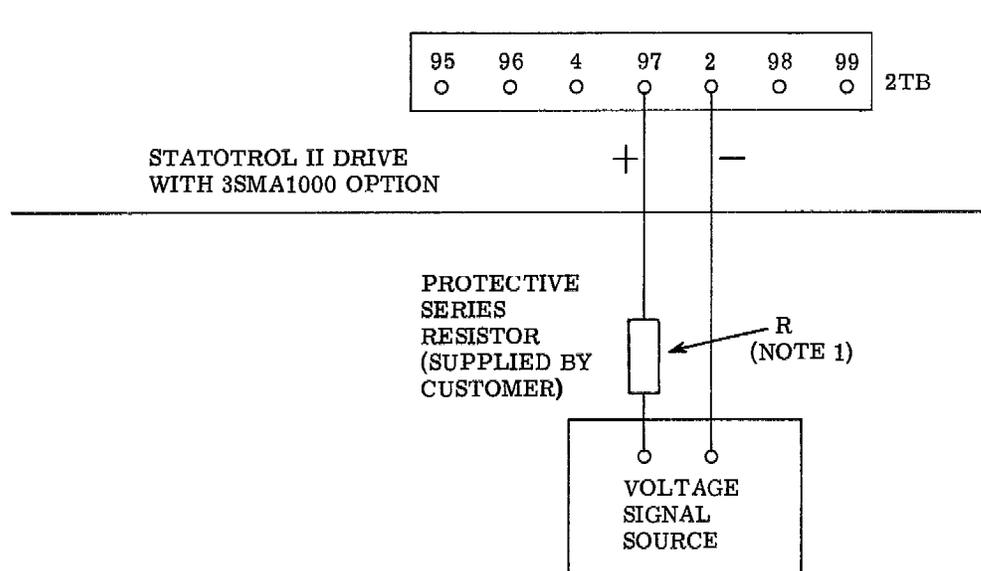
SPEED INDICATION ADJUSTMENT

After all items in the "Prepower Checks and Adjustments" section of the controller instruction book have been completed, run the motor at no load and near rated speed. Measure the speed of the motor with a strobe or a tachometer, and adjust 10P on the remote accessory adapter option until the speed indicator reading is correct. Then load the motor, measure the speed with strobe or tachometer again, and adjust potentiometer 11P on the remote accessory adapter option until the speed indicator reading is correct.

DC VOLTAGE SIGNAL FOLLOWER

In cases where it is necessary to follow a DC voltage signal, from an instrument, the 3SMA1000 option may be used with a voltage generator connected as shown in Figure 1. The voltage applied across 2TB-97 and 2TB-2 must be of the indicated polarity and a protective series resistor must be used to limit the applied voltage to 12 volts maximum during overvoltage connections.

Adjustment should be performed as described on this sheet under the heading "Instrument Follower Adjustment of 3SMA1000".



NOTE 1: $R = (250) (V) - 2000 \text{ OHMS}$, WHERE V IS THE MAXIMUM OUTPUT VOLTAGE OF THE VOLTAGE SIGNAL SOURCE. IF V IS LESS THAN 8 VOLTS, CONTACT THE FACTORY FOR SPECIAL INSTRUCTIONS.

Connection Diagram for Remote Voltage Signal Source

Figure 1