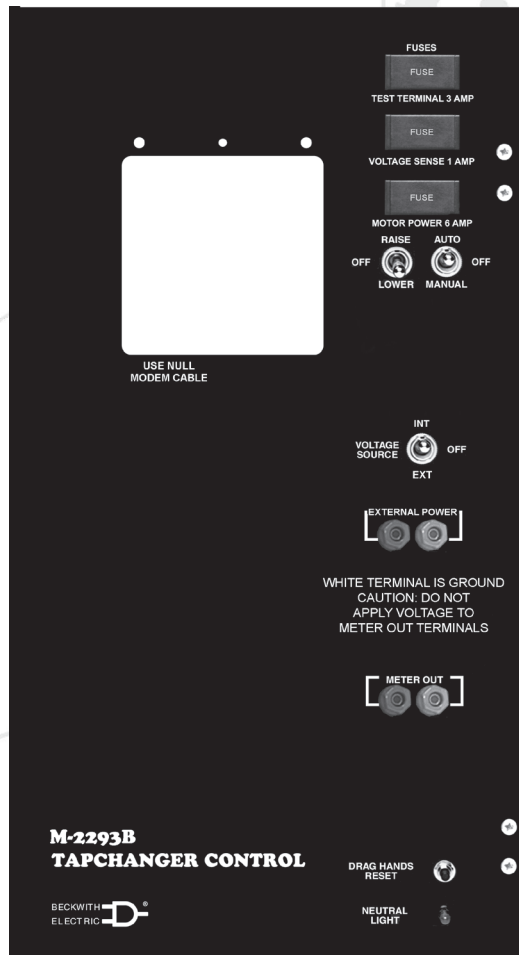


Adapter Panel M-2293B

Adapts M-2001 Series Digital Tapchanger Control to Replace Solid-State Controls for General Electric ML-32 and VR-1 Regulators, and SM-1, SM-2, and SM-2A Regulator Controls



- Provides direct mechanical replacement of the old regulator control using the same two hinge pins
- Provides built-in CT shorting protection when the M-2001 Series Digital Tapchanger Control is removed
- Optional SCADA Cutout (Local/Remote) switch (for use with SCADA enabled M-2001 controls) allows Local Blocking of SCADA commands
- Optional SCAMP™ (SCADA Controllable Auto/Manual Pushbutton) switch replaces AUTO/OFF/MANUAL toggle switch
- Optional 2 Level Local Voltage Reduction switch

M-2293B Adapter Panel – Specification

The M-2293B is an adapter panel which, when combined with the M-2001 Series Digital Tapchanger Control, provides convenient direct replacement of solid-state controls for General Electric ML-32 and VR-1 regulators, and SM-1, SM-2 and SM-2A regulator controls. The M-2293B consists of a front panel with hinge leaves, and mounts into the control cabinet using the same two hinge pins which *must be saved* from the original control.

Interface

External connections are made using a wiring harness that connects from a sixteen-position terminal block to the "NN" terminal block on the existing control cabinet. An additional terminal block provides auxiliary functions, including self-test alarm, user-programmable alarm, auto disable and manual raise/lower.

Features

Separate fuses for test terminal, voltage sensing and motor power are on the front panel, and spare fuses for each are located in the fuse holder.

Binding posts on the front panel allow easy connections for test procedures.

RAISE/OFF/LOWER, AUTO/OFF/MANUAL and **VOLTAGE SOURCE** switches, **DRAG HANDS RESET** pushbutton, and **NEUTRAL LIGHT** are standard. **AUTO/OFF/MANUAL** switch may be configured for switch status detection.

NEUTRAL LIGHT will light to indicate that the regulator is in the neutral position, for those regulators equipped with a circuit for this purpose.

The M-2293B includes the capability to change out the control and adapter panel as one component. The M-2293B wiring harness includes two plug connectors. One connector disconnects the control input wiring and the other includes built-in CT shorting to isolate the line current CT.

Options

SCADA CUTOFF switch allows Local blocking of SCADA commands (for use with SCADA enabled M-2001 controls). Use of the SCADA Cutout switch with the M-2001C, requires a M-2001C Control with firmware version D-0146V08.01.22 or later installed.

SCAMP™ (SCADA Controllable Auto/Manual Pushbutton) switch allows the Auto/Manual state on the adapter panel to be changed by a SCADA command. Use of the SCAMP pushbutton switch with the M-2001C, requires a M-2001C Control with firmware version D-0146V08.05.XX or later installed.

Voltage Reduction switch allows 2 levels of Voltage Reduction to be selected.

Testing Specifications

High Voltage: All input and output terminals will withstand 1500 Vac rms to chassis or instrument ground for one minute with a leakage current not to exceed 25 mA, for all terminals to ground. Input and output circuits are electrically isolated from each other, from other circuits and from ground.

Surge Withstand Capability: All input and output circuits are protected against system transients. Units pass all requirements of ANSI/IEEE C.37.90.1-1989 defining surge withstand capability.

Radiated Electromagnetic Withstand Capability: All units are protected against electromagnetic radiated interference from portable communications transceivers.

Environmental

Temperature Range: Functionality is maintained from -40° to +85° C.

Humidity: Functionality is maintained under 95% relative humidity (non-condensing).

Fungus Resistance: A conformal printed circuit board coating inhibits fungal growth.

Physical

Size with M-2001 Series Digital Tapchanger Control: 15.00" high x 9.25" wide x 4.185" deep (38.1 cm x 23.5 cm x 10.5 cm)

Approximate Weight: 2 lbs, 7 oz (1.11 kg)

Approximate Shipping Weight: 5 lbs, 7 oz (2.47 kg)

Approximate Weight with M-2001 Series Digital Tapchanger Control: 6 lbs, 2 oz (2.78 kg)

Approximate Shipping Weight with M-2001 Series Digital Tapchanger Control: 11 lbs, 2 oz (5.05 kg)

Warranty

The M-2293B Adapter Panel is covered by a five year warranty from date of shipment.

Specification is subject to change without notice.



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