



SIEMENS
Ingenuity for life

Voltage Regulator and Tap Changer Control

Siemens MJ-4A Control Panels help achieve optimal system voltage



The Siemens MJ-4A™ Control Panel uses a 32-bit micro-processor technology for faster processing of information and a user-friendly layout to provide the most advanced tap changer control. It features full power and energy monitoring, separate forward and reverse power flow settings, event and interval logging, date/time stamping, multiple counters, alert information and more. Standard local communications are provided via a data port on the front of the control panel, while optional two-way SCADA communications can be provided through RS232/485 or fiber optics connection utilizing popular embedded protocols.

The Siemens polarized disconnect switch (PDS) allows a quick and simple means to disconnect the control panel from the voltage regulator. Simply remove two wing nuts and pull the male half away. The PDS is specially designed for voltage regulators as it both removes voltage to the control panel and automatically shorts out the current transformer (CT) upon disconnection. No special knife switches to throw or sequences to follow. The PDS can be disconnected while the voltage regulator is energized, regardless of tap position. Siemens voltage regulators and controls have used this same PDS design for more than 40 years, so replacing an old control only takes a few minutes.



Retrofit

One disconnection allows faster field replacement with no need to remove the control panel enclosure from its mounting. Siemens regulators provide the easiest, simplest retrofit in the industry, including direct control interchangeability with all JFR regulators built since 1958.

In any typical electrical distribution system, you will find equipment ranging in age from brand new to 30, 40, or even 50 years old. Often, however, the older equipment is just as serviceable as the newer equipment and only differs in the functionality of its controls.

Regulator and tap changer controls have gone through significant technological enhancements that have allowed users to accurately monitor and control their electrical systems from remote locations and have better control over their business.

With Siemens accessories and retrofit kits, utilities can now economically elevate the performance of older regulators and tap changers to the state-of-the-art level. The Siemens MJ-4A Control Panel sets that standard for the industry. It gives users the monitoring and data communication needed to succeed now and into the future. And with unique software packages, future upgrades are straightforward.

The voltage regulator retrofit kit allows modernization of Cooper® or GE® regulators. This easy-to-install kit, plus a new Siemens control panel (sold separately), creates new opportunities for advanced monitoring, communications and control.

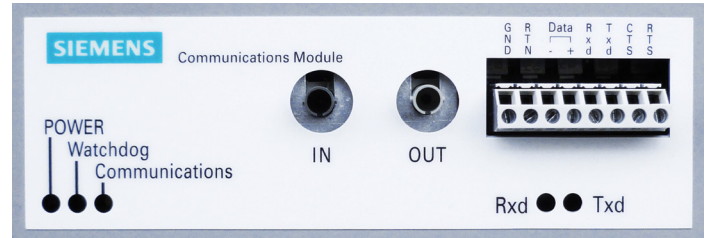
- Siemens PDS quickly connects/disconnects to the regulator allowing faster field replacement with no need to remove the control panel enclosure from its mounting
- Smaller panel allows for easy retrofit onto Cooper, Howard® or GE regulators
- Highly visible polarized LED display, even in the bright sunlight
- Quick Key allows the customer to save up to 16 different data items without the need to scroll through the menus – no codes to remember
- 32-bit microprocessor for faster data processing
- Voltage calculated from tap position for regulators with only one reference voltage, so any regulator can be used in reverse power flow applications
- Drag Hands Reset Key resets the drag hands on the position indicator and displays electronically on the control panel
- Built-in, selectable communications protocols so no protocol conversion boards are required
- Raise/lower Indicator LED gives customer another indication if the regulator is raising or lowering
- By-pass position location is located at the power and tap control switches
- Easy input/output (I/O) access terminal block located on the back of the control panel
- Fast Path Keys are frequently used keys located on the keypad on the control panel
- MJXplorer™ software used to configure and acquire information instead of retrieving information manually

- Operator-friendly keypad with tactile and audio feedback
 - Power and energy metering
 - Event logging / interval logging
 - Harmonic analysis
 - Two-way communications potential
 - SCADA functionality
 - Cyber secure
 - Warranty
- Training onsite at your location or at a Siemens training facility

Accessories

Communication for SCADA control

The Communications Module is the interface used to connect the control to SCADA. With multi-mode fiber optic cable loop or star networks, RS232 multi-drop configurations, and RS485 loop, star and open-ended configurations, the Communications Module is adaptable to any communications system. The Communications Module is easily retrofitted into existing installations or can be shipped installed on new orders.



Software updates for Siemens MJ series panels

Our firmware updates are free of charge to all customers. We are continuously adding new features and capabilities to satisfy special requirements and applications to make it easier to set up in the field. The latest instruction manuals are available as well. The MJXplorer software is a user-friendly tool used not only for easily configuring the control panel but also for downloading useful information.

Connect a control panel to your PC and update to the latest MJ-4A, MJ-XL™ or MJ-X™ embedded software with our PC program, MJXtra™. Pre-1996 panels require a flash EEPROM to allow for MJXtra upgrades, which can be configured with your order.



Communication software for two-way communications

Siemens MJXplorer communication software is a Windows application designed to facilitate two-way communications between a PC and MJ-4A/MJ-XL/MJ-X controls, either directly or through off-the-shelf modems. With the MJXplorer software, users can easily perform data extraction or continuous processing, control configuration, print reports and transfer data to popular spreadsheets. The voltage regulator simulator allows users to simulate system conditions for testing Siemens tap changer control panels. The simulator provides variable source volts, load volts and load current, lead, lag and high power factor indication, an operation counter reset test button, and a drag hand reset test button. Built into a rugged case, the simulator is easy to bring into the field for on-site control testing.

With a straightforward menu structure, users can easily change control panel settings and choose metering information with a few simple steps. The configure settings can be saved for future use and are easy to load into other MJ-4A panels. Once downloaded the data logs can be saved into a spreadsheet for review. The predictive maintenance algorithm is based on decades of historical data with the Siemens tap changer design and validated through life-cycle tests in our tap changer test cell.



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