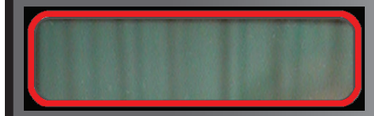
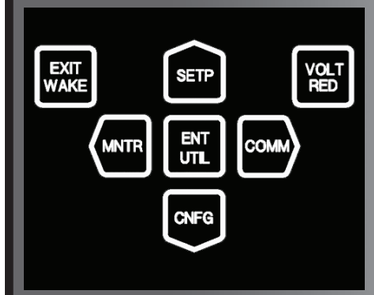
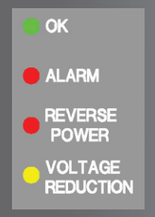
M-6200A Voltage Regulator Quick Start Guide



LCD CONTRAST: If HMI LCD is not visible, press the **MNTR** and **COMM** pushbuttons at the same time. The LCD will begin scrolling through the LCD Screen Contrast settings. When the display contrast is at the desired level, then press the **ENT** pushbutton twice to lock in that setting. Press **EXIT** to continue.





LCD SCREEN Pressing any pushbutton will wake up the HMI LCD and display the heading corresponding to the "Hot Button" label inside the pushbutton - WAKE, MNTR, SETP, CNFG, COMM, or UTIL.

EXIT/WAKE Pushbutton The **WAKE** Pushbutton is used to wake the LCD from sleep mode and start scrolling through a list of user programmed metered/calculated values. While navigating through the different HMI menus the **EXIT** pushbutton is used to:
- Exit a level to the next higher level
- Cancel data entry
- Display user lines

VOLT RED Pushbutton Activates the user defined Voltage Reduction Steps.

Shortcuts/Arrows
MNTR Access to the Monitoring Screens.
SETP Access to the Setpoints Screens.

ENT/UTIL Pushbutton Access to the Utilities screens and ENTER button.

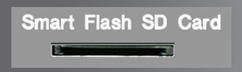
While navigating through the different HMI menus the ENT pushbutton is used to:
- Enter the edit mode of a screen
- Store a setpoint or condition in memory
- Enter the sub heading data level
- Reset certain monitoring screens

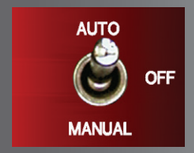
CNFG Access to the Configuration Screens.

COMM Access to the Communication Screens.

RAISE LED Out of Band Low Voltage.
LOWER LED Out of Band High Voltage.
MANUAL LED Indicates automatic control is disabled and switched into manual mode.
LOCAL LED Indicates control is switched into Local mode. Cannot command control to raise or lower via SCADA.
COM1 TX/RX LEDS Indicates when control is transmitting and/or receiving data.
OK LED Illuminates to indicate the microcontroller is functioning properly.
ALARM LED Indicates any of the programmable alarms are activated.
REV PWR LED Indicates reverse power flow.
V/RED LED Indicates voltage reduction has been invoked.
- Continuous illumination and one periodic flash indicates Level 1 Voltage Reduction.
- Continuous illumination and two periodic flashes indicates Level 2 Voltage Reduction.
- Continuous illumination and three periodic flashes indicates Level 3 Voltage Reduction.

Neutral Light LED The (green) Neutral Light illuminates when the regulator is in the neutral tap position.





USB Port Used for Direct TapTalk® Communications Connection.

SD Card Slot Used to transfer Setpoint, DNP Configuration, OSC, SOE and Data Log Files. Also used for Firmware Updates.

VOLTAGE SOURCE Switch Selects the internal (INT) voltage transformer input, or an external (EXT) voltage input and motor power source.

RAISE/LOWER Switch Allows local manual raise and lower commands to be initiated.

AUTO/OFF/MANUAL Switch Allows automatic or manual operation of the control. When in manual position, control channel is independent and outside microprocessor.

▲CAUTION: Do not reverse the ground and hot wires when connecting an external source. A 3 AG fuse (F1) is installed to protect the control from damage if these connections are accidentally reversed. With the VOLTAGE SOURCE switch in the EXT position, the sensing and motor power circuits are connected to the external Power binding post on the front panel. The unit can be tested using an external 120 V RMS source of proper polarity applied to these terminals. Testing can be accomplished by adjusting the amplitude of the external source.

EXTERNAL POWER Binding posts allow application of a 120 V RMS nominal voltage to the unit for test procedures.

METER OUT Binding posts allow reading of the input voltage when used in conjunction with the BIAS TEST VOLTAGE screen of the M-6200A Regulator Control.

SCADA CUTOUT (REMOTE/LOCAL) Allows local blocking of SCADA commands.

DRAG HANDS RESET Resets the tapchanger position indicator drag hands.

Cooper Control Cabinet Terminals
TB1-8 G Ground
TB1-10 VS Voltage Sense (120 Vac) (Note 1)
TB1-9 VM Motor Supply (120 Vac) (Note 2)
TB1-15 C1 Load Current Return
TB1-14 C3 Load Current Polarity
TB1-16 G Neutral Light Common
TB1-5 R3 Raise Limit Switch
TB1-6 L3 Lower Limit Switch
TB1-11 NL Neutral Light
TB1-12 DHR Drag Hands Reset
TB2-5 HS Motor Seal-In Input

Notes:
1. Regulated voltage for load-side sense without Reverse Power Flow Option.
2. Regulated voltage for load-side sense with Reverse Power Flow Option.

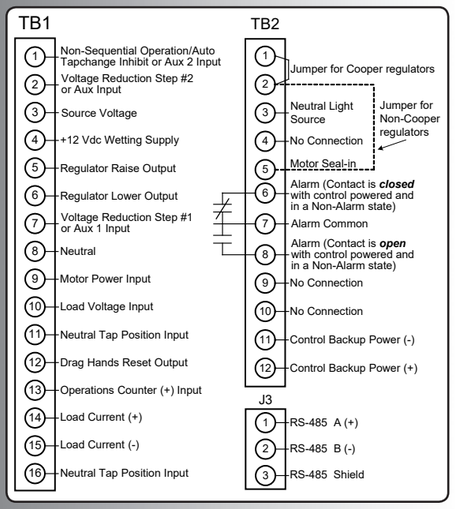
GE Cabinet Terminals
TB1-9 9 Power
TB1-8 10 Return
TB1-10 9 Power
TB1-11 9 Power
TB1-14 23 Load Current (Polarity)
TB1-15 24 Load Current (Return)
TB1-5 27 Tapchanger Raise
TB1-6 28 Tapchanger Lower
TB1-12 29 Drag Hands Reset
TB1-13 30 Operations Counter
TB1-16 31 Neutral Light

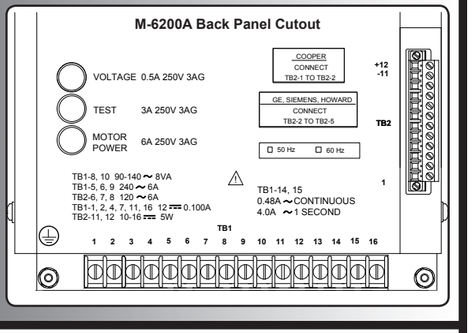
Notes:
1. Connect NN-10 to NN-26 for motor return.
2. Keep existing ground wire from NN-10 to the chassis installed.
3. See Regulator nameplate for connection of NNJ to NN-20, 21 or 22.

Howard Industries Cabinet Terminals
TB1-10 (Black) PS - Panel Power
TB1-9 (Blue) MS - Motor Power
TB1-8 (White) G - Ground
TB1-15 (Yellow) CT- CO - (Return)
TB1-14 (Orange) CT+ - C (Polarity)
TB1-12 (Gray) DHR - Drag Hands Reset
TB1-6 (Green) L - Lower Motor Winding
TB1-5 (Red) R - Raise Motor Winding
TB1-16 (Purple) NS - Neutral Switch In
TB1-13 (Brown) OC - Operations Counter

Siemens Cabinet Plug Terminals
TB1-16 U12 Neutral Light
TB1-10 P2 Voltage Sense (120 Vac)
TB1-14 C2 Load Current (Polarity)
TB1-8 E Neutral
TB1-15 E1 Load Current (Return)
TB1-9 U2 Motor and Power (120 Vac)
TB1-5 J Tapchanger Raise
TB1-6 K Tapchanger Lower
TB1-13 U10 Operations Counter
TB1-12 U11 Drag Hands Reset

GE Cabinet Terminals (SM-3)
TB1-8 P1-20 Return
TB1-10 P2-22 Voltage In
TB1-14 P1-7 Load Current (Polarity)
TB1-15 P1-5 Load Current (Return)
TB1-5 P1-13 Tapchanger Raise
TB1-6 P1-14 Tapchanger Lower
TB1-12 P1-10 Drag Hands Reset
TB1-13 P1-11 Operations Counter
TB1-16 P1-12 Neutral Light





Death or severe electrical shock can occur.
WARNING: In no case should the line current circuit be interrupted with the regulator or transformer energized. Do not remove auxiliary current transformers without shorting the current inputs.

Exercise care during installation, operation and maintenance procedures
The equipment described in this manual contains voltages high enough to cause serious injury or death. Only qualified personnel should install, operate, test, and maintain this equipment. Be sure that all personnel safety procedures are carefully followed. Exercise due care when operating or servicing alone.

WARNING:
Remove Fuses Before Service.

Scan this QR Code for direct access to product support documents.

BECKWITH ELECTRIC CO. INC.

CONFIGURATION ← SETP COMM →

- **Nameplate** ← →
  - CT Multiplier 6000 X
  - CT/Load VT Phasing X Deg
  - Load VT Multiplier 60.0 X
  - Load VT Correction X.X Volts
  - CT/Source VT Phasing X Deg
  - Source VT Multiplier 60.0 X
  - Source VT Correction X.X Volts
  - Norm. VT. Multiplier 1.00 X
  - Regulator Type TYPE A
  - Output Selection CONTINUOUS
  - Output Pulse X.X Sec
  - Low Current Block disable
  - Input Selection 1 VOLTAGE RED 2
  - Input Selection 2 VOLTAGE RED 1
  - Input Selection 3 NON SEQUENTIAL
  - Comm Block Auto DON"T SAVE
  - With SCAMP
  - Scamp Init Pwrup AUTO
  - Leading VAr Alarm XXXX kVAr
  - Lagging VAr Alarm XXXX kVAr
  - Leading PF Alarm XXX PF
  - Lagging PF Alarm XXX PF
  - VAr/PF Alrm Time Dly X Sec
  - Min I for PF Alarms XX mA
  - Load V Input-VT Conn LOAD SIDE INPUT
- **Tapchanger Type** ← →
  - Tapchanger Type REGULATOR TYPE A
  - Regulator Vendor Default
- **Tap Settings** ← →
  - Tap Position/Cal 0
  - Tap Information INTERNAL KEEPTRACK
  - Tap Limits disable
  - Tap Block Raise XX
  - Tap Block Lower XX
  - When Tap Limits Enabled
  - Intertap Delay X Sec
  - Motor Seal-In disable
  - Seal-In Fail Block disable
  - MS Current Pickup 250 mA
  - MS Current Dropout 240 mA
  - MS Current Duration 35 ms
  - Motor Seal-In Delay 10 ms
  - When Motor Seal-in is ENABLED
  - Op Counter Config 1 X
  - When Count Window is Enabled
  - Op Counter Config Count Window
  - X Mode Delay 10 ms
  - Counter Time Window 0.5 Sec
  - Op Counter Preset XXXXXX
  - Lower Counter Preset XXXXXX
  - Maximum Tap Wear 065534
  - Ntrl Counter Preset XXXXXX
  - Raise Counter Preset XXXXXX
  - Indvdl Tap Wear Alrm 100%
- **Programmable Alarm** ← →
- **System Clock** ← →
  - Set Date and Time 03/26/07 15:41:29
  - Daylight Savings disable
- **Mtr Current Profile** ← →
- **CBEMA Setup** ← →
- **Harmonics Setup** ← →
- **Data Logging** ← →
- **Run Through Neutral** ← →

UTILITIES ← COMM MNTR →

- **About** ← →
  - Serial Number XXXXX
  - Firmware Version D-0228VXX.XX.XX
- **Calibration/Test** ← →
  - Bias Voltage Status/Test Mode

MONITOR ← UTIL SETP →

Status ← → | **Motor Current** ← → | **Harmonics** ← → | **Tap Information** ← → | **Metering** → | **Present Demand** ← → | **Demand History** ← → | **Energy Metering** ← →

LCD CONTRAST: If HMI LCD is not visible, press the **MNTR** and **COMM** pushbuttons at the same time. The LCD will begin scrolling through the LCD Screen Contrast settings. When the display contrast is at the desired level, then press the **ENT** pushbutton twice to lock in that setting. Press **EXIT** to continue.

COMMUNICATION CNFG UTIL →

If Memory Card is present, then the first menu to be displayed under Communication is the Memory Card menu, otherwise the Memory Card menu is not displayed.

- **Ethernet** ← →
- **HMI** ← →
  - Set LCD Contrast: E
- **Bluetooth** ← →
- **RS232** ← →
- **Comm Settings** ← →
- **Memory Card** ← →
  - SD Quick Capture Press ENT to begin
  - Load Setpoints Press ENT to begin
  - Save Setpoints Press ENT to begin
  - Save Datalog Press ENT to begin
  - Save seq. of events Press ENT to begin
  - Save oscillograph Press ENT to begin
  - Clone save Press ENT to begin
  - Clone load Press ENT to begin
  - Load DNP Config Press ENT to begin
  - Save DNP Config Press ENT to begin
  - Save Metering Data Press ENT to begin
  - Firmware Update Press ENT to begin
  - Load User config Press ENT to begin
  - Load Ipsec config Press ENT to begin

NOTE: This guide contains frequently used menu items. For a complete list of menu items, refer to the M-6200A Instruction Book Appendix A.

At any menu screen:

Press EXIT to go to the Menu Header.

Press either ← → to move sideways to the adjacent Menu Header.

Active Setpoint Profile or Setpoint Profile Selected for Editing

SETPOINTS ← MNTR CNFG →

- **VAr Bias** 1 ← →
- **Profile Settings** ← →
- **Common Settings 1** ← →
  - Selection is not available when Linear VAr Bias is enabled
  - LDC Selection RX
  - Timer Characteristic DEFINITE
  - Timer Reset INTEGRATING
  - Rev Power Operation BLOCK
  - Power Direction Bias NONE
- **Power Flow Fwd 1** ← →
  - Bandcenter Fwd XXX.X Volts
  - Bandwidth Fwd X.X Volts
  - LDC R Fwd ←→ X Volts
  - LDC X Fwd X Volts
  - LDC Z Fwd ←→ X Volts
  - Definite Delay Fwd ←→ XX Sec
  - Or Inverse Delay Fwd
- **Power Flow Rev 1** ← →
- **Voltage Reduction 1** ← →
- **Limits 1** ← →
  - Block Raise Voltage XXX.X Volts
  - Block Lower Voltage XXX.X Volts
  - Dead Band X.X Volts
  - Current Block Limit XXX mA

Power Flow Reverse setting screens are only available when the "Reverse Power Operation" selection under "Common Settings" is selected to either REGULATE REVERSE, REG. R MEASURED SRC, DISTRIBUTED GENERATION, AUTO DETERMINE or AUTO DETERMINE MEASURED. If Distributed Generation is selected, then only LDC values can be set.