<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LCD SCREEN</td>
<td>Pressing any push button will wake up the LCD and display the heading corresponding to the “Hot Button” label inside the push button - WAKE, MNTR, SETP, CNFG, COMM, UTIL, or VR.</td>
</tr>
<tr>
<td>2</td>
<td>EXIT/WAKE Push button</td>
<td>The EXIT WAKE Push button wakes the LCD from sleep mode and begins scrolling through a list of user programmed metered/calculated values.</td>
</tr>
<tr>
<td>3</td>
<td>VR Pushbutton</td>
<td>Activates the user defined Voltage Reduction Steps</td>
</tr>
<tr>
<td>4</td>
<td>SETP</td>
<td>Access to the Setpoints screens</td>
</tr>
<tr>
<td>5</td>
<td>MNTR</td>
<td>Access to the Monitoring screens</td>
</tr>
<tr>
<td>6</td>
<td>ENT/UTL Push button</td>
<td>Access to the Utilities screens and enter button</td>
</tr>
<tr>
<td>7</td>
<td>CNFG</td>
<td>Access to the Configuration screens</td>
</tr>
<tr>
<td>8</td>
<td>COMM</td>
<td>Access to the Communication screens</td>
</tr>
<tr>
<td>9</td>
<td>LEDS</td>
<td>See page 2</td>
</tr>
<tr>
<td>10</td>
<td>USB Port</td>
<td>Out of Band High Voltage</td>
</tr>
<tr>
<td>11</td>
<td>Smart FlashCard Slot</td>
<td>Used for loading and saving setpoints, DNP files and IEC 61850 CID files, saving datalog, SOE and OSC files, clone saving and uploading, updating firmware, saving Wakeup screen parameters and all metering parameters, and can be used as an Access Code Key.</td>
</tr>
</tbody>
</table>
### Leds

<table>
<thead>
<tr>
<th>LED Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAISE LED</td>
<td>Out of Band Low Voltage</td>
</tr>
<tr>
<td>LOWER LED</td>
<td>Out of Band High Voltage</td>
</tr>
<tr>
<td>REV PWR LED</td>
<td>Indicates reverse power flow</td>
</tr>
<tr>
<td>OK LED</td>
<td>Illuminates to indicate the micro controller is functioning properly and is extinguished when a Motor Seal-in Failure Block is in effect</td>
</tr>
<tr>
<td>COM1 TX/RX LEDS</td>
<td>Indicates when control is transmitting and/or receiving data</td>
</tr>
<tr>
<td>ALARM LED</td>
<td>Indicates any of the programmable alarms are activated</td>
</tr>
<tr>
<td>V/RED LED</td>
<td>Indicates voltage reduction has been invoked</td>
</tr>
<tr>
<td></td>
<td>- Continuous illumination and one periodic flash indicates Level 1 Voltage Reduction</td>
</tr>
<tr>
<td></td>
<td>- Continuous illumination and two periodic flashes indicates Level 2 Voltage Reduction</td>
</tr>
<tr>
<td></td>
<td>- Continuous illumination and three periodic flashes indicates Level 3 Voltage Reduction</td>
</tr>
<tr>
<td>MANUAL LED</td>
<td>Indicates automatic control is disabled and in manual mode</td>
</tr>
<tr>
<td>LOCAL LED</td>
<td>Indicates control is switched into Local mode, cannot command control to raise or lower via SCADA</td>
</tr>
</tbody>
</table>

### External connection locations

**Top View**
- Control Power Backup Input
- Fiber Optic V-Pin Connector (optional)
- Fiber Optic ST Connector
- Ethernet over Fiber Optic (optional)
- RJ-45 Ethernet over Copper (optional)
- BlueTooth
- RS-485

**Bottom View**
- In-Line, 6-Pin Connector for the M-2025B, C or D Current Loop Module
- 24-Pin Blue Connector for TCC300 Adapter Panels or Direct Connection
- Source Voltage Input
- One Aux Output
- Three Aux Inputs
When an adapter panel is not used, automatic shorting of CT inputs is not provided by the TCC300/M-2050; the customer must provide a method for shorting the CT’s before the control is disconnected.

1. Motor voltage may be 120 or 240 V to neutral, or 240 phase to phase.

2. The customer is to provide an earth ground connection to the CT/VT’s neutral connection, external to the control.

3. To Motor Power Seal-in board.

4. If the TCC300 is configured for the SCAMP push button Auto/Manual Switch type, the Self-Test Alarm relay is NOT available.
**Safety information**

⚠️ **Death or severe electrical shock can occur**

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.

⚠️ **Remove Fuses Before Service**
Menu screens

Press EXIT to go to the Menu Header.
Press either ← or → to move sideways to the adjacent Menu Header.
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. Selecting BLOCK, IGNORE or RETURN TO NEUTRAL disables the Power Flow Reverse setting screens.
Menu screens

Regulator Type
TYPE A

Output Selection
CONTINUOUS

Output Pulse
X.X Sec

Low Current Block
disable

Auto/Man Sw Type
NONE/TOGGLE

Comm Block Auto
DON'T SAVE

Fast Volt Recovery
disable

Fast Volt R Setting
x.x V

CT Multiplier
6000 X

Load VT Config
LINE TO GROUND

Aux Cur Transformer
200 mA

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
x.xx

Power Display Option
SINGLE PHASE

Nameplate

Run Through Neutral

Enable/Disable
disable

Reset RTN Succ Ctr
Press ENT to begin

Max Allowed Taps
4

Taps Between Runs
1000

Max Load Current
50 mA

Max RTN Standby Ops
20

Remote Voltage Bias

Enable/Disable
disable

RVB HB Timer
5 Secs

RVB Scale Factor
1.0

Rev RVB Scale Factor
1.0

Tapchanger Type
LTC

Regulator Vendor
Default

Tap Information
disable

Tap Limits
disable/ENABLE

Not settable
even an external source
of Tap Position
is selected

Cooper Quick Drive
disable

Cam Follower
disable

Op Counter Config
1 X/2 X/
COUNT WINDOW/
CAM FOLLOWER

Hight Tap
16

Lowest Tap
-16

Intertap Delay
x Sec

Seal-in Fail Block
ENABLE

Op Counter Preset
Op Ctr = Count Window
Cam Follower

Op Counter Delay
1 X/2 X
X Mode Delay
xx ms

Rate Counter Preset
XXXXXX

Maximum Tap Wear
999999

IndTapNear Arm Set
100 %

Tapchanger Type
DISABLE

Tap Position/Cal
DISABLE

Tap Limits
disable/ENABLE

Not settable
even an external source
of Tap Position
is selected

Tap Block Raise
xx

Tap Block Lower
xx

To Data Logging
If Memory Card is present, the first menu displayed under Communication is the Memory Card menu, otherwise the Memory Card menu is not displayed.

**COMMUNICATION**

- **CNFG**
  - Load Setpoints
  - Save Setpoints
  - Save Datalog
  - Save seq. of events
  - Save oscillograph
  - Clone save
  - Load DNP Config
  - Save DNP Config
  - Save Metering Data
  - Firmware Update
  - Load IEC config
  - Save IEC Config
  - SD Quick Capture

- **UTIL**
  - DHCP Enable
  - IP Address
  - Net Mask
  - Gateway
  - Enter Modbus Port
  - Enter DNP Port
  - Auto Negotiation
  - Set LCD Contrast
  - User Line 1
  - User Line 2
  - Level 1 Access Code
  - Level 2 Access Code
  - Clear Osc Records
  - Oscillograph Message
  - Comm Settings
  - Bluetooth Enable
  - Bluetooth Reset
  - Bluetooth Protocol
  - Authentication
  - Friendly Name
  - Bluetooth Pass Reset
  - Bluetooth Mode
  - Comm1 Port Type
  - Comm2 Port Type
  - DNP Configuration
  - CID File ID
  - Src Addr Validation
  - Substation Address
  - Feeder Address
  - Comm Address
  - Baud Rate
  - Parity
  - Stop Bits
  - Sync Time
  - Control BT Device
  - Bluetooth Pass Reset
  - Bluetooth Mode
  - Comm Access Security
  - Comm Access timeout
  - TX Delay
  - Heartbeat Option

**Ethernet**

- DHCP Enable
- IP Address
- Net Mask
- Gateway
- Enter Modbus Port
- Enter DNP Port
- Auto Negotiation
- Set LCD Contrast
- User Line 1
- User Line 2
- Level 1 Access Code
- Level 2 Access Code
- Clear Osc Records
- Oscillograph Message
- Comm Settings
- Bluetooth Enable
- Bluetooth Reset
- Bluetooth Protocol
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- Substation Address
- Feeder Address
- Comm Address
- Baud Rate
- Parity
- Stop Bits
- Sync Time
- Control BT Device
- Bluetooth Pass Reset
- Bluetooth Mode
- Comm Access Security
- Comm Access timeout
- TX Delay
- Heartbeat Option

**HMI**

- Set LCD Contrast
- User Line 1
- User Line 2
- Level 1 Access Code
- Level 2 Access Code
- Clear Osc Records
- Oscillograph Message
- Comm Settings
- Bluetooth Enable
- Bluetooth Reset
- Bluetooth Protocol
- Authentication
- Friendly Name
- Bluetooth Pass Reset
- Bluetooth Mode
- Comm1 Port Type
- Comm2 Port Type
- DNP Configuration
- CID File ID
- Src Addr Validation
- Substation Address
- Feeder Address
- Comm Address
- Baud Rate
- Parity
- Stop Bits
- Sync Time
- Control BT Device
- Bluetooth Pass Reset
- Bluetooth Mode
- Comm Access Security
- Comm Access timeout
- TX Delay
- Heartbeat Option

**Bluetooth**

- Bluetooth Enable
- Bluetooth Reset
- Bluetooth Protocol
- Authentication
- Friendly Name
- Bluetooth Pass Reset
- Bluetooth Mode
- Comm1 Port Type
- Comm2 Port Type
- DNP Configuration
- CID File ID
- Src Addr Validation
- Substation Address
- Feeder Address
- Comm Address
- Baud Rate
- Parity
- Stop Bits
- Sync Time
- Control BT Device
- Bluetooth Pass Reset
- Bluetooth Mode
- Comm Access Security
- Comm Access timeout
- TX Delay
- Heartbeat Option

**RS232**

- Protocol
- Baud Rate
- Parity
- Stop Bits
- Sync Time
- Feeder Address
- Substation Address
- Comm Access Security
- Comm Access timeout
- TX Delay
- Heartbeat Option

**Comm Settings**

- Bluetooth Enable
- Bluetooth Reset
- Bluetooth Protocol
- Authentication
- Friendly Name
- Bluetooth Pass Reset
- Bluetooth Mode
- Comm1 Port Type
- Comm2 Port Type
- DNP Configuration
- CID File ID
- Src Addr Validation
- Substation Address
- Feeder Address
- Comm Address
- Baud Rate
- Parity
- Stop Bits
- Sync Time
- Control BT Device
- Bluetooth Pass Reset
- Bluetooth Mode
- Comm Access Security
- Comm Access timeout
- TX Delay
- Heartbeat Option

**Memory Card**

- Load Setpoints
- Save Setpoints
- Save Datalog
- Save seq. of events
- Save oscillograph
- Clone save
- Load DNP Config
- Save DNP Config
- Save Metering Data
- Firmware Update
- Load IEC config
- Save IEC Config
- SD Quick Capture
Complete customer documentation is available in the product pages that can be accessed through www.abb.com