The Mini8 Controller is a compact multi-loop PID controller and data acquisition unit, offering a choice of I/O and field communications and designed for mounting on a 35mm Top Hat DIN Rail. The assembled in the factory, the controller is fitted with all the I/O and communications required for the application. The controller can be configured as a stand-alone or can be run on a personal computer.

**WHAT IS THE MINI8 CONTROLLER?**
- **PID Controller:** The Mini8 Controller is a compact multi-loop PID controller and data acquisition unit, offering a choice of I/O and field communications and designed for mounting on a 35mm Top Hat DIN Rail.
- **Configuration:** The assembled in the factory, the controller is fitted with all the I/O and communications required for the application. The controller can be configured as a stand-alone or can be run on a personal computer.

**MINI8™ CONTROLLER INSTALLATION AND WIRING INSTRUCTIONS**

1. **Power Supply:**
   - **Supply Voltage:** 100-240V AC, 50-60Hz
   - **Power Requirement:** 15W max

2. **Communication Interface LEDs**
   - **DANGER:** Do not disassemble, repair or modify the equipment. Contact your supplier for repair.
   - **NOTICE:** Do not use or implement a controller configuration (control strategy) into service unless it has been tested and approved by the owner.

3. **LED Indicators**
   - **Error Code:**
     - **0V 0V:** Off – De-energized
     - **+5V to 10.8V:** On
     - **+10.8V to +28.8V:** Off
   - **State of the Controller:**
     - **Off – Offline:** Not Running
     - **On:** Running
     - **Blinking:** Comms Traffic
     - **Blinking Red:** Connection timed out
     - **Blinking Red/Green:** Power-up tests, unable to enter cyclic states
     - **Blinking Red/Green - Power-up tests:** BS 3862

4. **Cable sizing for thermocouple inputs for ETB/TCB/TC4 modules**
   - **Module:** ETB/TCB/TC4
   - **Wire Size:** 28AWG (flexible)
   - **Max Size:** 1.5mm²

5. **Technical Document Information**
   - **Model:** ETB/TCB/TC4
   - **Version:** V2.5
   - **Published:** March 2019

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INSTALLING THE MINI8 CONTROLLER

MOUNTING THE UNIT

This unit is intended to be mounted horizontally on a symmetrical DIN rail, 35 x 7.5 or 35 x 15, to the requirements of EN50322.

Notes:
1. The controller is for indoor use only and must be mounted in a suitable enclosure.
2. A gap of at least 25mm should be allowed above and below the unit, for ventilation.

DIN RAIL MOUNTING

1. Mount the DIN rail horizontally, using suitable bolts.
2. Ensure that the DIN rail has good electrical contact with the metal base of the panel.
3. Attach the upper edge of the DIN rail clip on the unit onto the top of the DIN rail.

PROTECTIVE COVER

When the units are fitted, also fit the clear protective cover to enhance thermal stability. The figure below shows the cover in place. The cover can be mounted either up or down.

COMMUNICATIONS INTERFACE

Two serial communications interfaces are provided through the LEDs across the top of the unit. All controllers have a configuration port `CC' and a field communications port `FC' on the communications module.

COMMUNICATIONS - MODBUS/TCP

Protocol is Modbus/TCP, 10BASE T on an Ethernet network. The Mini8 controller supports both the Modbus TCP and DeviceNet protocols. Enhanced DeviceNet® version uses 2 BCD rotary switches. Note: iTools can be used to configure the address when the switches are set to ‘off’.

THE ADDRESS SWITCH

This switch is situated at the bottom of the Central port. Switches 1 to 7 are used to configure the central unit parameter area. Switch 8 is used for EDF (Dynamic Address) expansion.

COMMUNICATIONS - PROFINET

Protocol is Profinet IO. Latest Profinet IO version requires all switches to be on. Applies to all protocols.

COMMUNICATIONS - DEVICE®

This instrument supports DeviceNet and Enhanced DeviceNet Protocols.

COMMUNICATIONS - ETHECAT

A gateway communications option card is installed in the Mini8 controller to implement ETHERCAT communications with masters on a PC.

COMMUNICATIONS - PROFIBUS™

Firmware upgrades require all switches to be on. This applies to all protocols.