RCS   Model TR40

Serial Communicating Thermostat

RS485 Network Interface

- **128 x 64 Backlit Graphical Display**
- **6 Buttons with On Screen Labels**
- **4 LEDs with On Screen Labels**
- **Text Messaging via Network**
- **Optional Remote Sensors**
- ***Commstar* Network and WinEVM compatible**

Standard Thermostat Functions
  - Current Temperature Display
  - Outside Temperature Display
  - Setpoint Display and Control
  - System Mode Display and Control
  - Fan Mode Display and Control
  - Time Display

LED Displays
  - 4 LEDS with Dynamic On Screen Labels

***Exclusive* Message Display**
Send text messages via the network!
  - Message Icon with instant access button
  - Message notification LED
  - Each message up to 80 Characters
  - Stores 16 messages
  - Date/Time Stamped
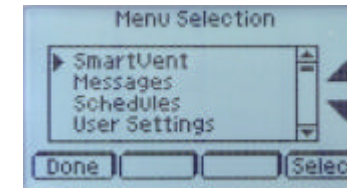
Multi-Menu Screens
  - Menu selection and scrolling
  - Main Thermostat Screen
  - Message Screen
  - Schedule Setup
  - Set Clock
  - Sensor Calibration
  - Thermostat Setup
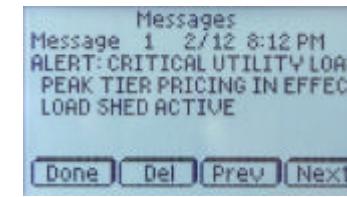 - Thermostat Info

Example Screens

Main Thermostat

Main Menu

Message Screen

HVAC System Compatibility
Works with all Standard Gas/Electric and Heat Pump HVAC systems including Multi-stage units.

- Central HVAC systems or separate heating/cooling systems with separate RH/RC transformers.
- Standard gas/electric HVAC Systems: Two stage heating/two stage cooling.
- Heat Pump HVAC Systems: Three stage heating/two stage cooling.
- Fan system: Selectable for standard or fan with heat for electric heat systems.
- Heat Pump Change Over valve (reversing valve): Selectable for change over with heat or cool operation (O or B output).
- Emergency Heat: In Heat pump mode, Emergency Heat mode is selectable from the wall display unit.

Serial Communications Interface
RS485 network communications, 3 wire, half duplex. Communications setup is 9600 baud, 8 bits, no parity and 1 stop bit. Supports RS485 network addresses up to 254 thermostats. Uses simple ASCII protocol supported by virtually all control systems.
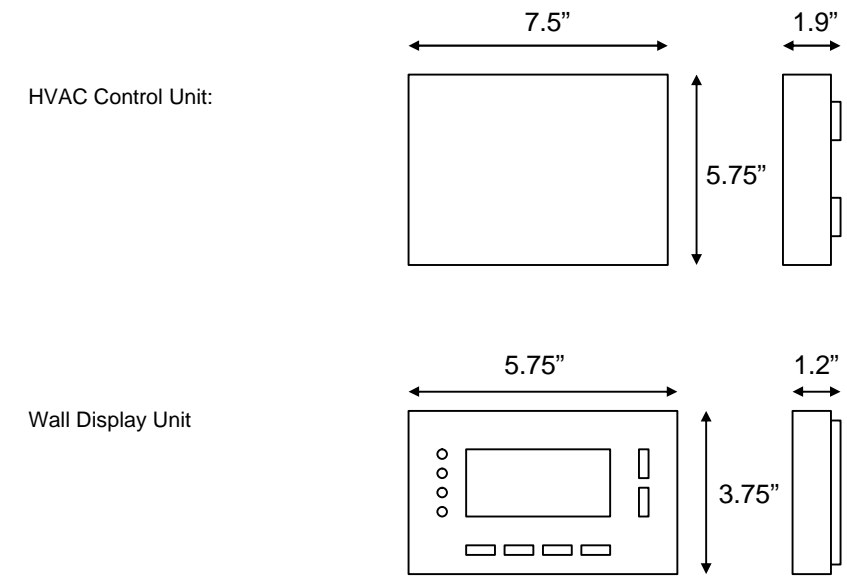
Remote Sensors. The TR40 supports up to 3 remote sensors. It features "auto detect" of any remote sensors which are connected and automatically configures the control unit to use them.   The remote sensors have address switches that allow them to be configured as (1) remote only, (2) remote averaged with internal sensor, (3) remote 2 averaged with remote 3. Uses RCS remotes sensors such as the RS15 wall mount sensor

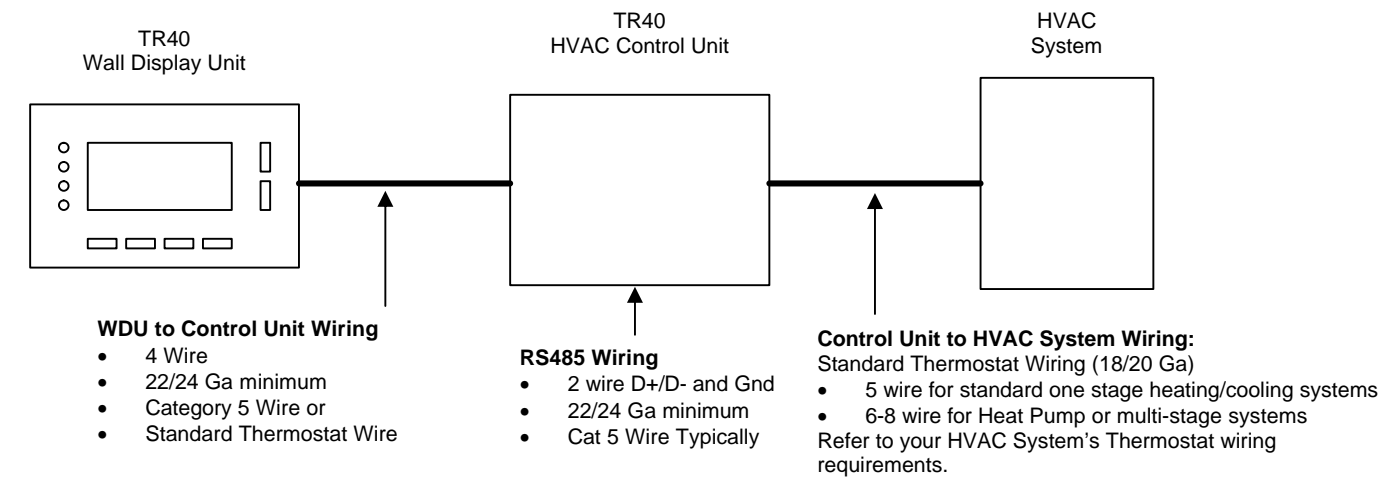| Ordering Information:	Model	Description	Part Number
	TR40-485	Thermostat with RS485 Interface	001-01080

Power:

HVAC Control Unit: 24VAC 50 mA   powered from HVAC System (Furnace or Air Handler)
Wall Display Unit: 12VDC 100 mA   powered from HVAC Control Unit

Size:

HVAC Control Unit:

7.5" 1.9"
5.75"

Wall Display Unit

5.75" 1.2"
3.75"

Wiring Recommendation:

TR40
Wall Display Unit

TR40
HVAC Control Unit

HVAC
System

WDU to Control Unit Wiring
- 4 Wire
- 22/24 Ga minimum
- Category 5 Wire or
- Standard Thermostat Wire

RS485 Wiring
- 2 wire D+/D- and Gnd
- 22/24 Ga minimum
- Cat 5 Wire Typically

Control Unit to HVAC System Wiring:
Standard Thermostat Wiring (18/20 Ga)
- 5 wire for standard one stage heating/cooling systems
- 6-8 wire for Heat Pump or multi-stage systems
Refer to your HVAC System's Thermostat wiring requirements.

TR40 Control Unit HVAC System Connections	Typical Wiring Colors		Standard HVAC System	Heat Pump HVAC System
	Blue	B	24VAC Com	24VAC Com
	Red	R	24VAC Return	24VAC Return
	White	W1	Heat 1	Heat Strips
	Orange	W2/CO	Heat 2	CO Valve
	Green	G	Fan	Fan
	Yellow	Y1	Cool 1	Comp 1
	Black	Y2	Cool 2	Comp 2