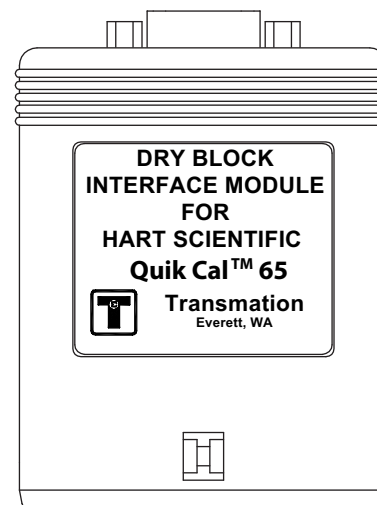




QUIKCAL™ 65T DRY BLOCK INTERFACE MODULE USER'S GUIDE



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PN 1886455 April 2002
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NOTE!

Do not discard this user's guide. The information provided in this document is essential to safe equipment operation and maintenance. To prevent possible personal injury or equipment damage through misuse, the procedures outlined in this document should be performed by qualified service personnel.



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INTRODUCTION

The QuikCal™ 65T Dry Block Interface Module is designed to plug into a QuikCal™ 195/196 Base Unit. The QuikCal 65T is designed to set and read the process temperature of Hart Scientific Dry Block Calibrators.

NOTE!

The QuikCal 195/196 Base Unit must be running software version 4.5 or higher to communicate with the QuikCal 65T.

SPECIFICATIONS

The Model 65T communicates with and controls the process temperature of the following Hart Scientific Models:

9105, 9122, 9140, 9141, and 9150

Communication Protocol: Serial port supporting RS-232C protocol (DTE)
2400 baud, 8 data bits, 1 stop bit, no parity

Communication Cable Required: Null modem DB9 with female pins on both ends
(Supplied with the Hart Scientific Dry Block Calibrator)

Operating Temperature Range: -10°C to 50°C (14°F to 122°F)

Storage Temperature Range: -40°C to 85°C (-40°F to 185°F)

Power: 5 VDC ± 4% @ 60 mA DC nominal



WARRANTY

Transmation products are warranted to be free from defects in material and workmanship (excluding fuses, batteries and leads) for a period of one year from the date of shipment. Warranty repairs can be obtained by returning the equipment prepaid to our factory. Products will be replaced, repaired, or adjusted at our option. *Transmation gives no other warranties, including any implied warranty of fitness for a particular purpose.* Also, Transmation shall not be liable for any special, indirect, incidental or consequential damages or losses arising from the sale or use of its products.



Isolation: 250V RMS from DB9 pins to Base Unit power supply

Overload Protection: ±15 VDC for 30 seconds from DB9 ground (pin 5) to all other DB9 pins

Input/Output Jack: Standard male pin DB9 connector

Housing: Black ABS/Polycarbonate (UL 94 V-O)

Case Size (HWD): 80 mm x 64 mm x 51 mm (3.1" x 2.5" x 2")

Weight: ~0.154kg (5.5 oz.)

OPERATION

NOTE!

The screen illustrations are representative of the screens a user will see during normal QuikCal operation. As new features and enhancements are incorporated, the actual screens may be visually different from the illustrations; however, they will continue to function as described.

INSERTING/REMOVING A MODULE

The QuikCal 65T can be installed into either of the two slots in a QuikCal 195/196 Base Unit. A module may be installed or removed while power is applied to the Base Unit. The Base Unit will indicate a successful connection as soon as communication has been established.

To insert a QuikCal 65T module into a Base Unit, do the following:

1. Orient the module so the data label is facing forward (towards the keypad).
2. Insert the module into one of the slots and firmly press down until the module seats.

To remove a QuikCal 65T module from a Base Unit, do the following:

1. Push inward on the locking tab on the rear of the module while pulling upward on the module.



USING THE SETUP FEATURE

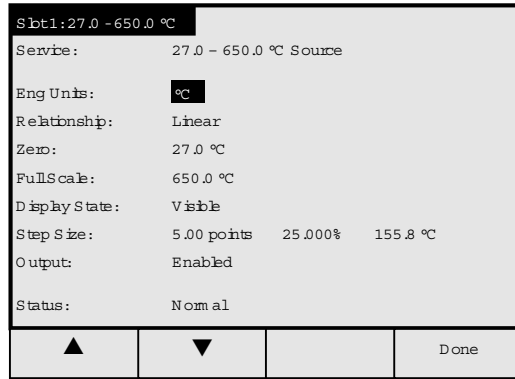
The Setup key allows the configuration of the QuikCal 65T or the Base Unit. To review and/or modify a setup parameter, do the following:

1. Press **Setup** to call up the Setup list.
2. Select the desired item, then press **Enter**.

```
Base: 4.000 - 20.000 mA
Slot1: 27.0 - 650.0 °C
```

The Setup screen will be displayed. Each Setup screen displays parameters and information pertinent to the combination of module and slot in use.

3. Use the ▲ and ▼ keys to select a parameter, then press **Enter** to call up the selection list or data entry window associated with the selected item.
4. Select an item from the selection list or enter a value, then press **Enter**.



5. When finished, press the **Done** key and then the **Save Changes** key to save the changes and exit the Setup screen.

PERFORMING A QUICK TEST

The Quick Test feature allows a pre-configured test to be performed and recorded with just a few keystrokes.

The following test parameters can be configured:



FACTORY SERVICE

Should Factory service become necessary, the QuikCal 65T should be returned to the nearest service facility for repair or replacement. Do not return any item to Transmation without first contacting us and obtaining an authorization number. This number should appear clearly on the outside of all packages sent to Transmation and on all associated paperwork. When contacting Transmation for service help, please assist our service department by clearly and thoroughly describing the problem.



1. Insert the QuikCal 65T into Slot 1 (or Slot 2) of a Base Unit.
2. Select the appropriate data window.
3. Turn on the Dry Block Calibrator.
4. Verify that the Dry Block's Communication Interface BAUD Rate is set to 2400 (See Hart Scientific Instruction Manual).
5. Connect one end of the Null Modem DB9 Cable to the Model 65T DB9 jack and the other end to the Dry Block's DB9 jack. *Note: a new plug-in event will occur. Wait for the Module startup screen to appear. Press the F1 softkey to accept the dry block settings.*
6. Press **Setup** to set Service: to *Source* as instructed in "Using the Setup Feature" on page 4.
7. Place the temperature probe into the dry block calibrator.
8. Connect the temperature probe to the input of the transmitter under test.
9. Connect the -OUT of the transmitter to the white XMTR terminal on the 195/196 base unit. Connect the +OUT of the transmitter to the red 24V terminal on the 195/196 base unit. This allows the 195/196 to power the transmitter and measure its output current.
10. Press the commands key to call up the Commands list. Select "Quick Test," and follow the instructions outlined on page 4, "Performing a Quick Test."

NOTE: Data from the test is automatically saved for later printing or downloading to a supported CMS package.

MAINTENANCE

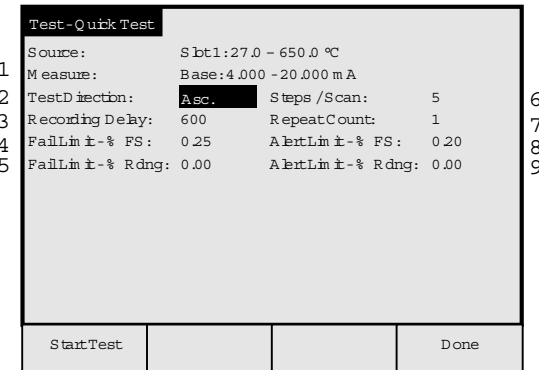
Since the QuikCal 65T was designed as a low maintenance unit, field service procedures are limited to cleaning the case exterior. Use a damp, soft cloth with mild non-abrasive detergent; solvents or abrasives should not be used since they can damage the case finish. We are continuously making improvements to the QuikCal modules.

CALIBRATION

Calibration of the QuikCal 65T is not required.



- | | | |
|---|----------------------------|--|
| 1 | Source/Read | The configured ranges and service (Source or Read) for the QuikCal 65T and the Base Unit. These values must be configured via the Setup feature as described in "Using the Setup Feature." For the 65T, set the service to Source. |
| 2 | Test Direction | The direction of the test (Ascending, Descending, or Both). |
| 3 | Recording Delay | The delay (in seconds) before data recording begins. |
| 4 | Fail Limit - % Full Scale | The fail limit as a percentage of full scale. |
| 5 | Fail Limit - % Reading | The fail limit as a percentage of reading. |
| 6 | Steps/Scan | The number of steps during the test. |
| 7 | Repeat Count | The number of times the test is performed. |
| 8 | Alert Limit - % Full Scale | The alert limit as a percentage of full scale. |
| 9 | Alert Limit - % Reading | The alert limit as a percentage of reading. |

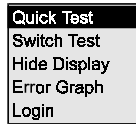


To perform a Quick Test, do the following:

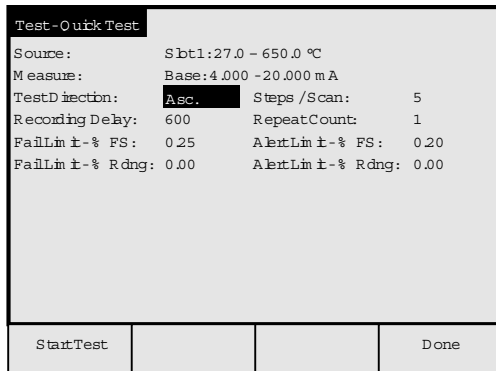
1. Insert the QuikCal 65T into Slot 1 (or Slot 2) of a Base Unit.
2. Select the appropriate data window.
3. As required, press **Setup** to configure the Source and Read parameters as described in "Using the Setup Feature" on page 4.
4. Perform the applicable connections from the QuikCal 65T to the device under test.
5. Press the **Commands** key to call up the Commands list.



- Select "Quick Test", then press **Enter**.



- Verify that the test parameters are correct. If not, do the following:
 - Press **Setup**.
 - Use the **▲** and **▼** keys to select a parameter, then press **Enter** to call up the selection list or data entry window associated with the selected item.
 - Select an item from the selection list or enter a value, then press **Enter**.
- Press the **Start Test** key to start the Quick Test.



- When the test sequence is complete, the test results will be shown.

Source (°C)	Read (mA)	Expected (mA)	Error (mA)	Tolerance (mA)
27.0	4.000	4.000	0.000	0.040 P
182.8	8.000	8.000	0.000	0.040 P
338.5	12.000	12.000	0.000	0.040 P
494.3	16.000	16.000	0.000	0.040 P
650.0	20.000	20.000	0.000	0.040 P

Save As Found Done

- When the test results have been noted, press the **Done** key. If you want to save the test data, press the **Save As Found** key.
- Press the **Done** key to exit the Quick Test screen.



INPUT/OUTPUT TERMINALS

The input/output jack on the QuikCal 65T consists of a standard male pin DB9 connector.

ERROR CONDITIONS

The display will flash if a value falls outside the measurement range of the QuikCal 65T or the Base Unit. Five exclamation points ("!!!!") will be displayed if a measured value is significantly beyond the measurement range of the module or Base Unit. An asterisk next to the displayed value indicates that an error condition has been detected. The Status field in the data window will indicate the cause of the error.

Module communications error: A communication error has been detected. Check the serial cable for secure connections to the 65T module and the Hart Dry Block Calibrator. Make sure the Dry Block Calibrator is turned on and that the baud rate is set to 2400.

USING THE QUIKCAL 65T

CHECKING YOUR SYSTEM

With the combination of the Transmaton QuikCal 195/196 and the QuikCal 65T, you can perform a system test on temperature devices in the field.

