



TR100 / TR200
Temperature /
Humidity Data
Loggers

Users Manual



TR100 / TR200

Temperature / Humidity Data Loggers

Users Manual

TR100200_Rev001

© 2008 Amprobe Test Tools.

All rights reserved.

English

Limited Warranty and Limitation of Liability

Your Amprobe product will be free from defects in material and workmanship for 1 year from the date of purchase. This warranty does not cover fuses, disposable batteries or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Amprobe's behalf. To obtain service during the warranty period, return the product with proof of purchase to an authorized Amprobe Test Tools Service Center or to an Amprobe dealer or distributor. See Repair Section for details. THIS WARRANTY IS YOUR ONLY REMEDY. ALL OTHER WARRANTIES - WHETHER EXPRESS, IMPLIED OR STATUTORY - INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, ARE HEREBY DISCLAIMED. MANUFACTURER SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY. Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

Repair

All test tools returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the test leads with the meter. Non-warranty repair or replacement charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Amprobe® Test Tools.

In-Warranty Repairs and Replacement – All Countries

Please read the warranty statement and check your battery before requesting repair. During the warranty period any defective test tool can be returned to your Amprobe® Test Tools distributor for an exchange for the same or like product. Please check the "Where to Buy" section on www.amprobe.com for a list of distributors near you. Additionally, in the United States and Canada In-Warranty repair and replacement units can also be sent to a Amprobe® Test Tools Service Center (see address below).

Non-Warranty Repairs and Replacement – US and Canada

Non-warranty repairs in the United States and Canada should be sent to a Amprobe® Test Tools Service Center. Call Amprobe® Test Tools or inquire at your point of purchase for current repair and replacement rates.

In USA

Amprobe Test Tools
Everett, WA 98203
Tel: 877-AMPROBE (267-7623)

In Canada

Amprobe Test Tools
Mississauga, ON L4Z 1X9
Tel: 905-890-7600

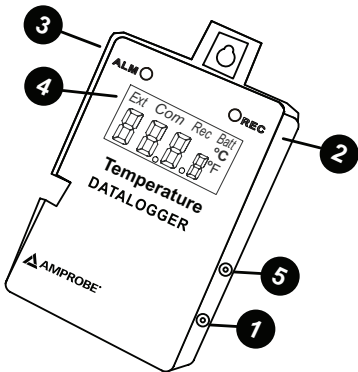
Non-Warranty Repairs and Replacement – Europe

European non-warranty units can be replaced by your Amprobe® Test Tools distributor for a nominal charge. Please check the "Where to Buy" section on www.amprobe.com for a list of distributors near you.

European Correspondence Address*

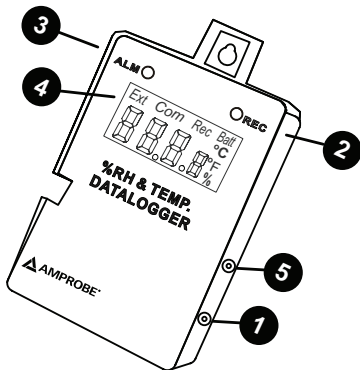
Amprobe® Test Tools Europe
Beha-Amprobe GmbH
In den Engematten 14
79286 Glottertal, Germany
Tel.: +49 (0) 7684 8009 - 0

*(Correspondence only – no repair or replacement available from this address. European customers please contact your distributor.)



TR100

- ① RS232 input jack
- ② Recording indicator LED
- ③ Alarm Indicator LED
- ④ LCD display
- ⑤ External temperature probe jack



TR200

CONTENTS

Introduction.....	5
Unpacking and Inspection.....	5
Features	5
LED Indicators.....	5
ALM	5
REC.....	6
LCD Display.....	6
Battery Replacement.....	6
Instrument Connection.....	7
RS232 PC interface capabilities.....	7
Download Suite Software installation	7
Operation.....	8
Downloading	9
Specifications.....	9
Troubleshooting	9
Error Codes	10

INTRODUCTION

Congratulations on your purchase of this temperature or temperature/relative humidity data logger. Please, read the manual completely before using the meter.

Use the unique Amprobe Download Suite software to setup the meter to record, download the recorded data, and analyze the data.

This meter is a valuable tool to monitor ambient condition in greenhouses, warehouses, food transport, aircraft cabins, refrigeration truck, containers, railway, art galleries and museums, incubation process, hatcheries, HVAC field (Heat, Ventilation, Air Conditioning), collecting data for QC.....etc.

UNPACKING AND INSPECTION

Your shipping carton should include:

- 1 x TR100/TR200 temperature or temperature/humidity data logger
- 1 x Manual
- 1 x Battery: CR2 (3.0V lithium)
- 1 x RS232 cable
- 1 x CD Download Suite

If any of the items are damaged or missing, return the complete package to the place of purchase for an exchange.

FEATURES

- Up to 16K sample reading in real-time
- Digital display
- Programmable sample interval from 1 sec to 12 hours
- Temperature unit: °C/ °F Selectable
- User-defined High / Low limit alarm
- Up to 3 different start modes
- Data retained when battery is low or has been removed
- IP64/IP54 housing design
- Embedded mounting hook for easy hanging on the wall
- Auto power off function

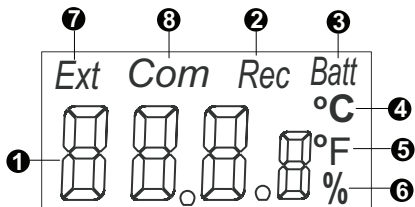
LED INDICATORS

ALM

The "ALM" led will flash when the measured value is higher than HI limit or less than LO limit that has been set. The logger alarm is not designed to be audible. The LED alarm is to warn users that the measurement is over the limit. The ALM LED flashes to warn about exceeding threshold limits when in Monitoring mode and not in Record mode.

REC

When in Record mode, both LEDs will flash to indicate being in record mode. The ALM LED will flash but does not indicate if you are over or under the limits. Analyzing the recorded data will indicate if the HI or LOW thresholds were crossed. .

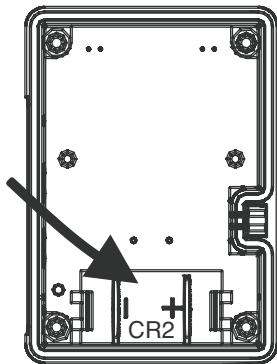


LCD DISPLAY

- 1 Display Temperature reading (TR100) or Temperature and Humidity (TR200)
- 2 Rec - "Rec" is displayed during the logging process. When logger stops logging and in monitoring mode, "REC" will not appear on LCD.
- 3 Batt - Batt appears when the battery power is too low for operation.
- 4 °C - Temperature displays reading in Celsius
- 5 °F - Temperature displays reading in Fahrenheit
- 6 % - Relative Humidity %. (TR200 ONLY)
- 7 Ext - External probe temperature. When an external probe is plugged in, the air temp./ external probe temperature and RH%(TR200 ONLY) will appear in turn. (Not supplied with instrument)
- 8 Com - When the logger is communicating with computer, "COM" is shown on the top of the LCD.

BATTERY REPLACEMENT

The data logger is designed with a waterproof housing and O-rings but allows the user to replace the battery when necessary.



Follow these steps to remove and replace battery:

1. Unscrew the rear cover of data logger.
2. Do not remove o-ring and make sure the o-ring is in its place (groove).
3. Remove the expired battery.
4. Insert a new battery CR2 battery with correct polarity.
5. Re-screw the rear cover .

INSTRUMENT CONNECTION

1. Plug the RS232 cable to the meter to turn it ON.
2. Connect the meter with the PC using the RS232 cable provided
3. Start the Download Suite software program
4. Use the Download Suite software to program Sleep mode to turn off the unit. Or turn Sleep mode off to keep the unit in recording mode and turned on.

RS232 PC INTERFACE CAPABILITIES

The RS232 cable and the Download Suite software are required to transfer data to a PC. The RS232 port is located on the right side of the instrument. There is an optional USB converter kit (RS-USB) available for PCs with no available RS232 port.

Download Suite Software installation

1. Insert the Download Suite CD into the CD-ROM drive.
2. To install the software, follow the on-screen instructions.

Operation

Open the program, double-click the Download Suite icon.

The screenshot shows the TR100/200 Control Panel dialog box. It is divided into several sections: Device, Recording, and Alarm. The Device section includes fields for Time and date (4/24/2008, 9:16:20 AM, Now), Sleep mode (checkbox), Units (F), and Version (V30). The Recording section includes Identifier (Fridge), Start mode (Magnetic), Scheduled start time (4/24/2008, 9:14:50 AM), Sample points (4000), Sample rate (0 hr, 10 min, 0 sec), and Recording length (9 d, 6 hr, 10 min, 0 sec). The Alarm section includes Channel (Temperature), Low / high limits (100, 20.0), and a note: "NOTE: Clicking OK while recording will erase stored data." At the bottom are buttons for Help, OK, and Cancel.

1. Time and date
2. Sleep mode
3. Units
4. Identifier
5. Start mode
6. Scheduled start time
7. Sample points
8. Sample rate
9. Channel
10. Low / high limits
11. NOTE: Clicking OK while recording will erase stored data.
12. OK
13. Help

1. Set date and time manually or click NOW to use the PC date and time
2. Click to turn sleep mode on and off
3. Click to select °F, °C, or %
4. Comments field (Click and type)
5. Click to select the starting mode
 - Schedule: Recording will start at the setting date and time
 - Magnetic: Recording will start by using a magnet on the rear of the instrument for more than 2 seconds.
 - Immediate: Recording will start immediately
6. Set scheduled start time
7. Click to select the sample point
8. Click to select the sample rate

9. Click to select the channel for the alarm (Temperature or Humidity)
10. Click to set low and high limits for the alarm
11. Click to start the recording or the logging
12. Click to exit the program
13. Click for help

Downloading

To download a recording session, click on Visualizations of the Download Suite toolbar.

SPECIFICATIONS

Description	TR100	TR200
Temperature range	-40 to 85°C (-40 to 185°F)	
Humidity range	N/A	0 to 100 %RH
Accuracy:		
<i>Temperature</i>	± 0.6°C / 1°F (-20 to 50°C / -4 to 122°F), ±1.2°C / 1.2°F all others	
<i>Relative Humidity</i>	N/A	±3% (25°C, 10-90%), ±5% all others
Sample points	1K / 2K / 4K / 8K / 12k / 16K	
Resolution:		
<i>Temperature</i>	0.1°C / 0.1°F	
<i>Relative Humidity</i>	N/A	0.1%
LED response	Red: Hi, LO Alarm; Yellow: Record	
LCD Display	13 x 13 mm	
Dimension	75 x 55 x 23 mm (2.95 x 2.16 x 0.9 in)	
Housing	IP65	IP54

TROUBLESHOOTING

Cannot connect and the display won't turn on

Ans: Make sure you have selected the correct baud rate. Select 9600 baud rate for all models.

Meter is programmed as Magnetic but could not start

Ans: Set up Magnet start in the Download Suite software. Use a magnet on the rear side of the meter for more than 2 seconds, the logger should be activated and the REC flashes. If not, change a new and stronger magnet and try it again.

Cannot stop the downloading before completing all sample points

Ans: Make sure the sample rate is greater than 1-sec

ERROR CODES

Error Code	Description
E01	Probe is disconnected
E02	Value under the lower limit
E03	Value over the upper limit
E04	Value fails because of the relative original data error.
E11	RH Calibration Error The humidity sensor accuracy cannot be calibrated by the end user due to special equipment requirements. Please contact a qualified calibration lab for calibration.
E32	Read/Write EEPROM Error
E33	Hardware Error

Visit www.Amprobe.com for

- Catalog
- Application notes
- Product specifications
- User manuals



Please Recycle