Checkline RMS-TD-180 Digital Humidity Temperature Transmitter Instructions

Contents

Checkline RMS-TD-180 Digital Humidity Temperature Transmitter

Specifications

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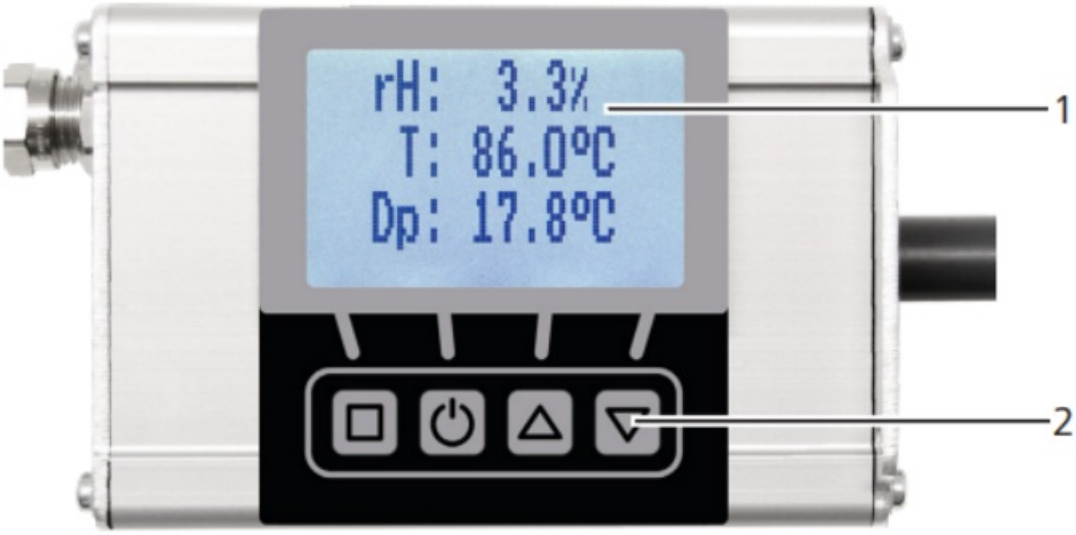
Frequently Asked Questions

Q: What should I do if I encounter incorrect measurements?

A: Incorrect measurements can result from various factors. Ensure proper usage following the instructions in the manual. If issues persist, contact customer support for assistance.

PRODUCT OVERVIEW



1. Display
2. Keyboard

Introduction

Information about this operating manual

This operating manual is designed to enable you to use the RMS-TD safely and effectively. It i s part of the device, has to be stored nearby and must be easily accessible to users at all times. All users are required to carefully read and make sure that they have understood this operating manual before using the RMS-TD . All of the safety and operating instructions detailed in this manual have to be observed to ensure the safety of the device.

Limitation of liability
All of the information and instructions provided in this operating manual have been compiled on the basis of the current standards and regulations, the state of the art, and the extensive expertise and experience of Checkline Europe BV. Checkline Europe BV does not accept any liability for damage associated with the following, which also voids the warranty:

- Non-observance of this operating manual
- Improper use
- Inadequately qualified users
- Unauthorized modifications
- Technical changes
- Use of unapproved spare parts

This fast measuring procedure can be affected by a range of different factors. We, as the manufacturer, do not accept any liability for any incorrect measurements and associated consequential damage.

Customer service
For technical advice, please contact our customer service. Your purchased measuring instrument can be calibrated, and the adjustment checked by using suitable test ampoules / calibration ampoules. For this purpose, use only the calibration solutions distributed by Checkline Europe.

For your safety

The device complies with the following European directives:

- Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) •
- Electromagnetic compatibility (EMC) The device corresponds to state-of-the-art technology. However, it is still associated with a number of residual hazards. These hazards can be avoided through strict observance of our safety information.

Proper use

- Transducer for measuring and transmitting relative humidity and temperature in fixed i nstallation • The sensor technology used makes it possible to detect even small fluctuations in humidity and their tendencies quickly and reliably so that preventive actions can be taken.
- For some applications (e.g. installation in sewage pipes) it is necessary to use a remote measuring probe for the reason of temperature adjustment.

Improper use

The device must not be used in ATEX.

User qualifications

The device must only be operated by people who can be expected to reliably take the measurements. The device must not be operated by people whose reaction times may be slowed due to, e.g. the use of drugs, alcohol or medication.
All persons using this device must have read, understood and follow the instructions provided in the operating manual.

General safety information
The following safety information has to be observed at all times to avoid damage to objects and injury to people:

In case of damages or loose parts on the device, contact Checkline Europe.
All of the device's technical features have been inspected and tested before delivery. Every device has a serial number. Do not remove the tag with the serial number.

Warranty
The warranty does not apply to:

- Damage resulting from non-observance of the operating manual
- Damage resulting from third-party interventions
- Products that have been used improperly or modified without authorisation
- Products with missing or damaged warranty seals
- Damage resulting from force majeure, natural disasters, etc.
- Damage from improper cleaning

On receipt of your device

Taking the device out of its packaging

- Take the device out of its packaging.
- Next, make sure that it is not damaged and that no parts are missing.

Making sure that all of the components have been included
Make sure that all of the components have been included by checking the package contents against the following list:

Scope of supply

- RMS-TD
- Connecting cable of 1.9 m length
- Operating manual

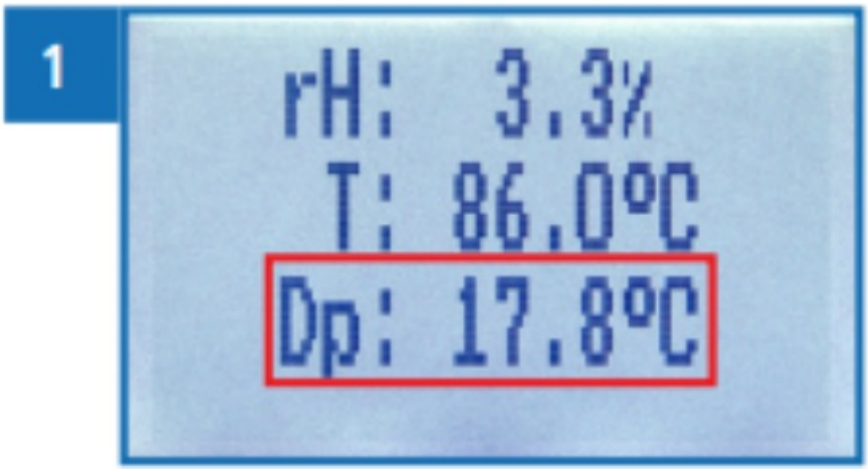
  Optional accessories (not all available for RMS-TD):
- Relay output for moisture for RMS-TD
- Mounting bracket for RMS-TD
- Drip-catcher for RMS-TD
- RS232 interface – described in a separate operating manual
- USB interface – described in a separate operating manual
- Custom-made design – flat rate for air humidity transmitter series per order
- Factory calibration certificate, calibration equipment, certified calibration ampoules and reference devices – for continuous monitoring

Using the device – Basics

Selecting the product type

To do so: The device has to be in the measuring window.
For an overview of the different product types and the criteria for selecting them, please refer to “3. Product types”.

Press the  or  button to move from one product type to the next. » The product type you selected will now be shown at the top of the display.



Taking a measurement

In order to obtain current measuring values, the device must be in the measuring window.

Product types

The product types “absolute Humidity” and “specific humidity” are only available with RMS-TD 60 and RMS-TD 90.

Product type	Definition	Unit	Measuring range
absolute Humidity	absolute air humidity	g/m³	0 to 130 g/m³
Dew Point	Dew Point	°C or °F	55 °C to +60 °C
specific humidity	specific humidity	g/kg	LF-TD 60: 0 to 125 g/kg LF-TD 90: 0 to 150 g/kg
relative Humidity	relative Humidity	% RH	0 to 100 %

Definition of product types

- **Absolute humidity**
  The absolute air humidity shows the contained amount of water in gramme per cubic metre of air. The absolute

humidity is a direct degree for the amount of water vapour contained in a certain air volume. It shows how much condensate can precipitate or how much water has to be evaporated in order to obtain the desired humidity.

- **Dew Point**
  The dew point is the temperature to which the air that is not completely saturated with water vapour must be cooled so that it is completely saturated. When a room with the current relative humidity cools down to the dew point temperature, the water vapour begins to condense.
- **Relative humidity**
  Indicates the relationship between the current water vapour pressure and the maximum possible, the so-called saturation vapour pressure.
  The relative humidity shows the degree the air is saturated with water vapour.
- **Examples:**
  50% relative humidity: At the current temperature and pressure, the air is half saturated with water vapour.
  100% relative humidity means that the air is totally saturated with water vapour. If the air has more than 100% humidity, the excessive humidity would condense or precipitate as mist.
- **Specific humidity**
  The specific humidity indicates the mass of water in grams contained per kilogram of air. The specific humidity remains unchanged with changes in volume as long as no moisture is added or removed.

Checking the device's status

1. Press  twice or hold for 2 seconds.
2. Select Status . To do so, press  or  and confirm by pressing  .
   The display will then show the status indicator humimeter.

   The display will show the following information (figure 2):

No.	Name
1	Serial number
2	Software version
3	Battery status
4	Memory status

3. Confirm by pressing .
4. Press to leave the main menu .

Configuring the device

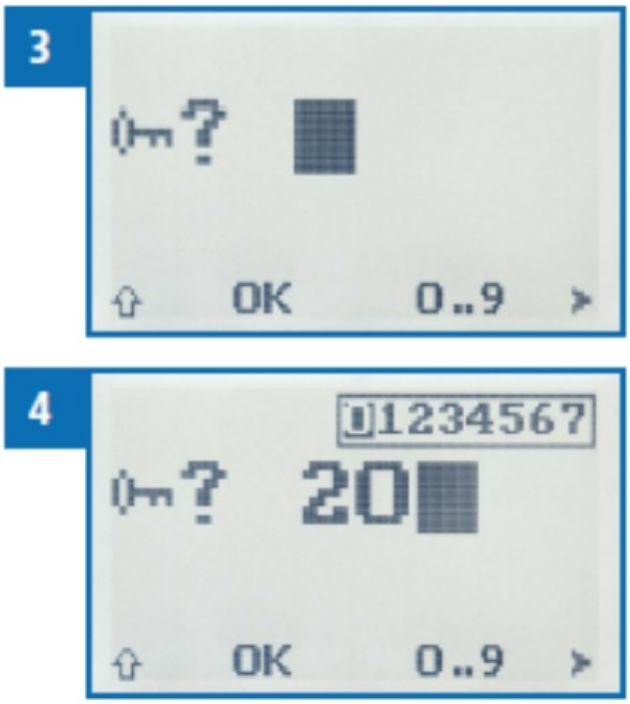
Selecting a language

1. Press twice or hold for 2 seconds.
2. Select Options. To do so, press or and confirm by pressing .
3. Select Language. To do so, press or and confirm by pressing .
4. Navigate to the required language. To do so, press or and confirm by pressing .
   The setting has been saved.
5. Press to leave the Options menu.
6. Press to leave the main menu.

Activating options

1. Press twice or hold for 2 seconds.
2. Select Options. To do so, press or and confirm by pressing .
3. Select Unlock. To do so, press or and confirm by pressing .
   The display will now appear as shown in figure 3.
   On delivery, the four-digit password is the device's serial number.
4. Inputting numbers:
   Press and hold 0..9 to quickly scroll to the required number and either press it for 3 seconds or press to

confirm the selected number (figure 4).



5. Moving back:

   Press to switch to another input level.

   To move back press .
6. Confirm the four-digit password by pressing.

   The setting has been saved.

   The °C/°F, Auto Inc, Anybus, Password, Reset options are now activated.
7. Press to leave the Options menu.
8. Press to leave the main menu.

Deactivating options

Once the device has been switched restarted, the °C/°F, Auto Inc, Anybus, Password, Reset options will be deactivated again.

Selecting °C/°F

To do so: All of the options must be activated (see “5.2 Activating options”).

1. Press twice or hold for 2 seconds.
2. Select Options. To do so, press or and confirm by pressing .
3. Select °C/°F. To do so, press or and confirm by pressing .
4. Navigate to the required temperature scale, i.e. Celsius (°C) or Fahrenheit (°F).

   To do so, press or and confirm by pressing .

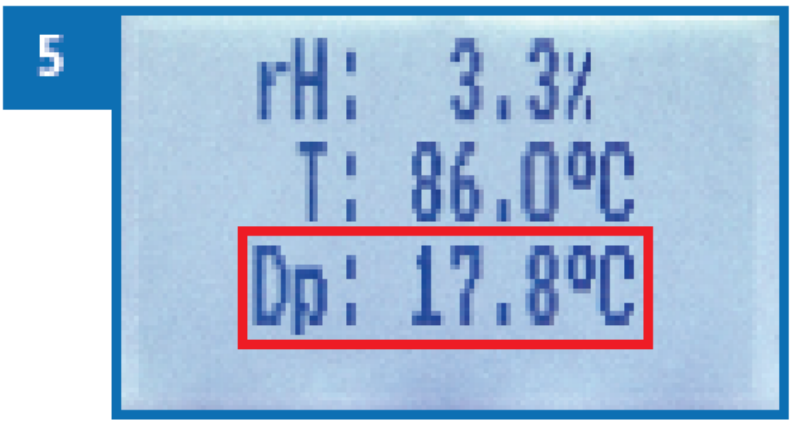
The setting has been saved.

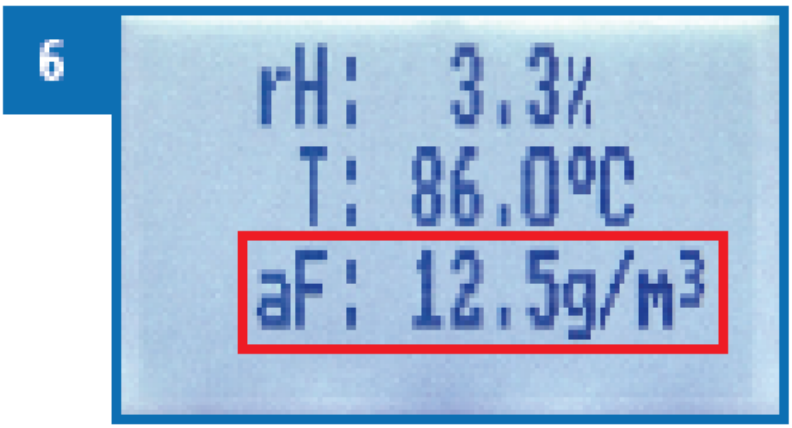
5. Press  to leave the Options menu.
6. Press  to leave the main menu.

Calibrating the device
The calibration function is described in a separate operating manual.

Auto Inc
To do so: All of the options must be activated (see “7.2 Activating options”).

1. Press  twice or hold for 2 seconds.
2. Select Options. To do so, press  or  and confirm by pressing  .
3. Select Auto Inc. To do so, press  or  and confirm by pressing  .





The setting has been saved.

Now the measuring value displayed in the third line automatically changes between “Absolute humidity”, “dew point” and “specific humidity” every 30 seconds.

4. Press  to leave the Options menu.
5. Press  to leave the main menu.

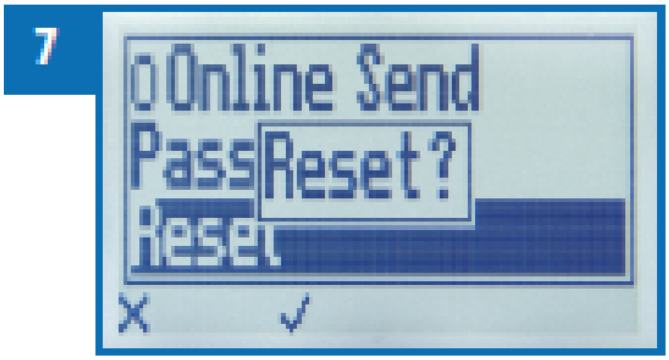
Anybus
The Anybus function is described in a separate operating manual

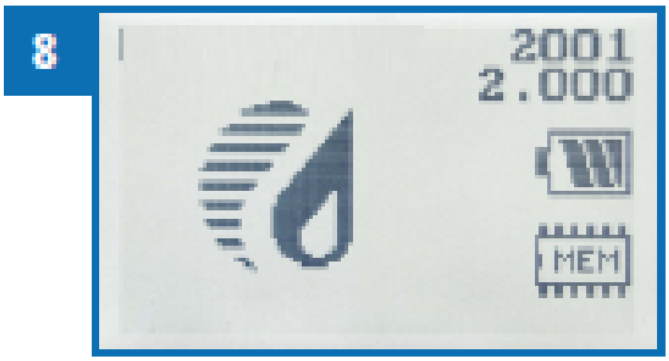
Changing the password
To do so: All of the options must be activated (see “7.2 Activating options”).

1. Press twice or hold for 2 seconds.
2. Select Options. To do so, press or and confirm by pressing .
3. Select Password. To do so, press or and confirm by pressing .
   The display will show the current password
4. Overwrite the current password. To do so, press and hold to quickly scroll to the required number and either press it for 3 seconds or press to confirm the selected number.
   Moving back:
   Press to switch to another input level.
   To move back, press .
5. Confirm the new four-digit password by pressing OK.
   The setting has been saved.
6. Press to leave the Options menu.
7. Press to leave the main menu.

Resetting the device to its factory settings
To do so: All of the options must be activated (see “7.2 Activating options”).

1. Press twice or hold for 2 seconds.
2. Select Options. To do so, press or and confirm by pressing .
3. Select Reset. To do so, press or and confirm by pressing .
   The display will then show the message Reset? (figure 7).
4. Confirm by pressing .
   The device will now be reset to its factory settings.





All of your personal settings will be lost.
The display will show the status indicator humimeter (figure 8).
Resetting the device will not affect the saved measuring values.

Device information

Technical data

Display resolution	0.1 g/m3 absolute humidity, 0.1 % rel. air humidity, 0.1 °C / 0.3 °F dew point, 0.1 g/kg specific humidity, 0.1 °C/ 0.3 °F temperature
Measuring range specific humidity	RMS-TD 60: 0 to 125 g/kg RMS-TD 90: 0 to 150 g/kg
Operating temperature	Sensor dependent -20 °C to +85 °C (electronics)
Storage temperature	-20 °C to +60 °C
Temperature compensation	Automatic
Power supply	12 to 29 VDC
Current consumption	60 mA (with display backlight, without output)
Menu languages	English, German, French, Italian, Spanish, Portuguese, Czech, Polish, Russian, International
Display	128 x 64 illuminated matrix display
Housing dimensions	70 x 32 x 120 mm
Device IP rating	IP 54

Warranty

- Checkline Europe (Checkline) warrants to the original purchaser that this product i s of merchantable quality and confirms i n kind and quality with the descriptions and specifications thereof. Product failure or malfunction arising out of any defect i n workmanship or material i n the product existing at the time of delivery thereof which manifests i tself within one year from the sale of such product, shall be remedied by repair or replacement of such product, at Checkline's option, except where unauthorized repair, disassembly, tampering, abuse or misapplication has taken place, as determined by Checkline. All returns for warranty or non-warranty repairs and/or replacement must be authorized by Checkline, i n advance, with all repacking and shipping expenses to the address below to be borne by the purchaser.
- THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE WARRANTY OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE OR APPLICATION. CHECKLINE SHALL NOT BE RESPONSIBLE NOR LIABLE FOR ANY CONSEQUENTIAL DAMAGE, OF ANY KIND OR NATURE, RESULTING FROM THE USE OF SUPPLIED EQUIPMENT, WHETHER SUCH DAMAGE OCCURS OR IS DISCOVERED BEFORE, UPON OR AFTER REPLACEMENT OR REPAIR, AND WHETHER OR NOT SUCH DAMAGE IS CAUSED BY MANUFACTURER'S OR SUPPLIER'S NEGLIGENCE WITHIN ONE YEAR FROM INVOICE DATE.
- Some State jurisdictions or States do not allow the exclusion or limitation of incidental or consequential

damages, so the above limitation may not apply to you. The duration of any i mplied warranty, including, without limitation, fitness for any particular purpose and merchantability with respect to this product, is limited to the duration of the foregoing warranty. Some states do not allow limitations on how long an implied warranty lasts but, notwithstanding, this warranty, in the absence of such limitations, shall extend for one year from the date of invoice.

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Documents / Resources

	**Checkline RMS-TD-180 Digital Humidity Temperature Transmitter** [pdf] Instructions RMS-TD-180, RMS-TD-120, RMS-TD-W, RMS-TD-180 Digital Humidity Temperature Transmitter, RMS-TD-180, Digital Humidity Temperature Transmitter, Humidity Temperature Transmitter, Temperature Transmitter, Transmitter

References

- **Checkline Europe - Your Partner For Measuring Equipment**
- **Checkline Europe - Your Partner For Measuring Equipment**
- **User Manual**