

HUMIDIFICATION

**HUTC-10**

**TRAVEL FOGGER**

USER MANUAL





Contronics Engineering B.V., Ambachtsweg 8, 5492 NJ Sint-Oedenrode, The Netherlands, hereby declares that product HUTC-10, produced and delivered by Contronics Engineering B.V., is in accordance with the following CE directives:

EMC-Directive : 2004/108/EG

Directive for low-voltage  
electrical installation : 2006/95/EG

# Table of content

1. PREFACE .....	4
2. INTRODUCTION .....	5
3. SAFETY REGULATIONS .....	5
4. PACKING .....	6
5. CONNECTIONS, FUNCTIONS AND INSTRUCTIONS .....	6
6. ELECTRICAL CONNECTIONS .....	7
7. WATER CONNECTIONS AND FLUSHING CYCLE .....	8
8. AIR CONNECTIONS.....	8
9. SWITCHING ON AND STARTING UP/FUNCTIONAL TEST .....	9
10. MAINTENANCE .....	10
11. REPLACING SPARE PARTS.....	10
12. MENU OVERVIEW .....	10
13. FACTORY SETTING AND RANGE .....	12
14. MALFUNCTIONS.....	13
15. TECHNICAL SPECIFICATIONS .....	14

## 1. PREFACE

This user manual contains the operating, installation and maintenance instructions for the ultrasonic humidifier HUTC-10.

### **WARNING**

**It is possible that bacteria could be present in the humidifier's water supply. Some bacteria (Legionella) could be harmful to health if they are present in the aerosols that are blown out by the humidifier.**

Through the construction and materials used, Contronics has ensured that the stimulation of bacterial growth is kept to the absolute minimum. In order to ensure the supply of pure water, it is strongly recommended that demineralised water is used (see the Contronics product range). Contronics cannot be held liable for any harm caused by bacteria or micro-organisms. It is the responsibility of the user to regularly carry out maintenance and to check the quality of the supplied water.

### **WARNING**

**It is possible that bacteria could be present in the humidifier's water supply. Some bacteria (Legionella) could be harmful to health if they are present in the aerosols that are blown out by the humidifier.**

- The Travel Fogger is specially developed for humidification in mobile areas including cargo area of (cool) trucks, containers and railway carriages.
- The humidifier continues to work even though this experience G-forces during movements.
- The reservoir is closed.
- Movements up to 45° from the vertical axis are allowed.

## 2. INTRODUCTION

### Principle of ultrasonic air humidification

Minute water droplets with a size of 1 to 3 microns are ejected above the water surface by means of high-frequency vibrations (1.7 MHz). The humidifier's air movement system ensures that these water droplets are then blown into the area to be humidified. The major advantages of this humidifier are the very low energy consumption, the limited amount of maintenance required and the low noise level.

### Water quality

Even though the humidifier itself can be connected to plain tap water up to 8° German hardness, Contronics recommends demineralised water. This will limit the maintenance of the device to a minimum and the service life of the transducer will be considerably extended.

This will also prevent certain substances that are contained in tap water, such as calcium, salts, minerals and bacteria, ending up in the area to be humidified. Contronics has various filters available in its product range, operating on the basis of reverse osmosis. (See also the warning on page 4).

## 3. SAFETY REGULATIONS

### IMPORTANT

**The following measures must always be observed:**

- **Always disconnect the 12V supply voltage from the humidifier before moving it and/or carrying out maintenance activities.**
- **Always keep the humidifier horizontal and motionless while it is in operation and for up to 2 minutes afterwards.**
- **Ensure that the water is always discharged via the outlet and ensure that this is never blocked.**
- **It is not necessary to mount the humidifier in level position. It also works under an angle of < 45°.**
- **The humidifier may only be dismantled by authorized Contronics technicians.**

## 4. PACKING

The HU is delivered in recyclable packaging that should be kept for re-shipping the unit for maintenance activities. Any shipment using other packaging could cause damage to the HU for which the manufacturer cannot be held liable.

It is possible that some traces of water could be found in the packaging; all the functions of the HU are thoroughly tested during the quality control and, for this reason, some water could still remain in the HU before it is packed.

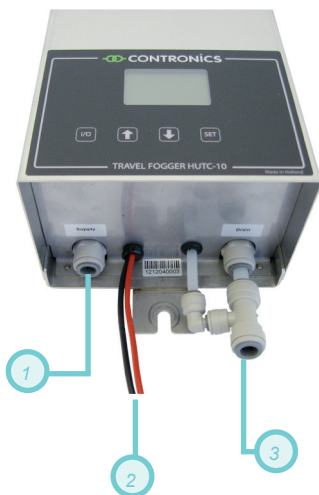
The package contains:

- HU humidifier.
- Instructions for use.
- PVC connection to 40 mm.

## 5. CONNECTIONS, FUNCTIONS AND INSTRUCTIONS

### IMPORTANT

**The guarantee will become void if the humidifier is installed incorrectly or if it is handled in an improper manner.**



### Connections and functions

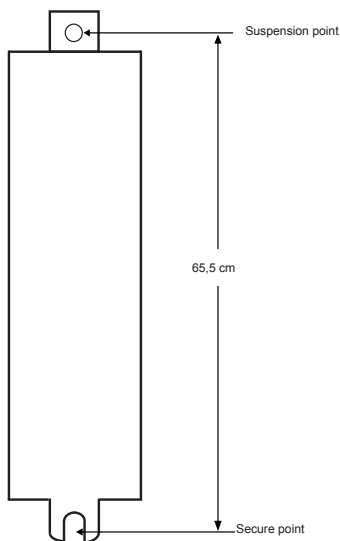
1. Water supply 3/8" John Guest push-in fitting, min. 0,1 bar / max. 6 bar.
2. Supply voltage connection 12V.
3. Waterafdischarge 3/8" John Guest push-in fitting.
4. Pushbuttons for adjustments.
5. Display.

### Installation

1. Mount the humidifier in an environment with a temperature between 0°C and 35°C and humidity < 100%.
2. The humidifier upright mount. See mounting instructions.

### Mounting

The humidifier is attached at the top and secured at the bottom. See drawing below.



## 6. ELECTRICAL CONNECTIONS

### Supply voltage (12-14V DC)

Ensure a stable power supply.

## 7. WATER CONNECTIONS AND FLUSHING CYCLE

### IMPORTANT

**Thoroughly flush out the piping before connecting the humidifier in order to prevent installation debris from blocking the intake valve.**

#### Water supply

Demineralised (R.O.) water must be used for the humidifier and will provide adequate protection against bacteria. The use of plain tap water will lead to faster contamination of the water tank and transducers, which will result in a shorter service life. Moreover, the dissolved calcium and mineral particles in ordinary tap water will be blown into the area to be humidified together with the fog droplets and will be precipitated in the area. Depending on the hardness of the water, this could cause a layer of dust after only a few days (see also the warning on page 4).

#### Water discharge

Connect a hose with a diameter of 3/8" to the humidifier's water discharge connection point so that any excess water can be discharged from the humidifier. The outlet of this hose or pipe must be free; the end may not be hanging in the water. The water discharge from the humidifier is unpressurised.

### IMPORTANT

**The water discharge connection point on the humidifier must constitute the highest point on the water discharge channel. The water discharge is not pressurised. A blocked outlet could damage the humidifier.**

## 8. AIR CONNECTIONS

#### Air supply

Ensure a clean air supply without water droplets.

#### Air outlet

The air outlet must always be extended by a 75 cm pipe to allow larger droplets to be captured. Mount the outlet so that it slopes towards the humidifier to ensure that any condensed fog can flow back.

The connected pipe must be free from dust, dirt and oil residues. The length of the air outlet channel to the outlet may not exceed 3 m with a diameter that remains the same.



## 9. SWITCHING ON AND STARTING UP/FUNCTIONAL TEST

### Switching on

Check the following before the humidifier is switched on for the first time:

- The humidifier is mounted.
- All pipes are connected.
- The water discharge channel has been connected according to the instructions.
- The water supply has been connected according to the instructions. The water piping has been flushed in order to prevent any installation debris blocking the water valve.

### Start up and functional test

- Open the water valve.
- Switch on the power, check and take the following steps if:
  - Control a. On the display appears the text 'stand by'.
  - Action b. Push the I/O for 2 till 3 seconds (audio signal is given), the appliance start.
  - Control c. In about 10 seconds the reservoir is filled with water.
  - Control d. Depending on the ambient air humidity the humidification will start.
  - Action e. If there is no fog formed set in the menu the humidity setpoint on 99% and the production of fog will start after a few seconds.
- Switch the humidifier off with the I/O button and check if:
  - a. The water content is drained away.
  - b. After 30 sec. the remaining water is discharged from the pump.
  - c. After about 1 minute the water reservoir is emptied completely. (disconnect the hose from the water discharge).
- Connect the water drain and check for leakages.
- Switch on the main supply again.
- Put the set point in the desired position.
- Adjust, if necessary, the airspeed. (See the menu overview on page 11 ).

### IMPORTANT

**If the humidifier becomes overheated it will switch off. Once it has cooled down it will automatically switch on again. In case of overheating, an "Alarm" will sound and information appears on the display.**

**The following conditions could cause overheating:**

- **A blockage in the air inlet.**
- **A blockage in the air outlet.**
- **Air intake temperature too high.**
- **Water temperature too high.**
- **Water discharge blocked.**
- **Ambient temperature too high.**
- **Ventilator speed set too low.**

### Low Level

If the water level in the humidifier becomes too low, the humidification will stop. An alarm will sound and information appears on the display.

## 10. MAINTENANCE

### IMPORTANT

**All maintenance must be carried out by Contronics or an organisation authorized by Contronics.**








## 11. REPLACING SPARE PARTS

### Replacing the transducers

The replacement of the transducers can only be done by Contronics or representatives authorised by Contronics.

## 12. MENU OVERVIEW

### Settings

- Push on  to activate the menu.
- Scroll to the desired setting using the  or  button.
- Press  to confirm the selection.
- Scroll using the button  or  to <<.
- Press  to leave the menu.

### Screen display:



On the display the text 'standby' appears.  
Push the I/O briefly and on the display appears information about % RH.  
Push the 'set' button and the main menu appears.

### HYGROSTAT MENU:

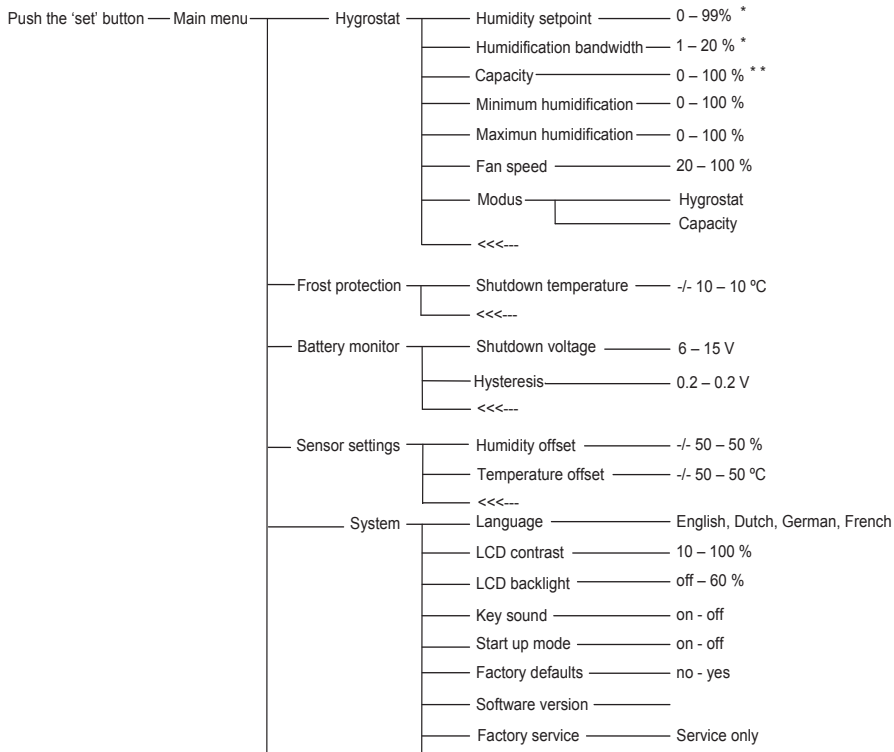
- Setting the hygrostat RH. \*
- Setting the bandwidth. \*
- Setting the capacity. \*\*
- Setting the maximum and minimum humidification.
- Setting the fan speed.
- Modus --> hygrostat or capacity

### SYSTEM MENU:

- Setting the language.
- Setting the display contrast.
- Setting the background lighting.
- Setting the key tone.
- Consult the software version and return to factory settings.

Push the I/O button to start the humidifier ————— Start screen with text 'standby'

Hold the I/O button briefly ————— Information screen RH%



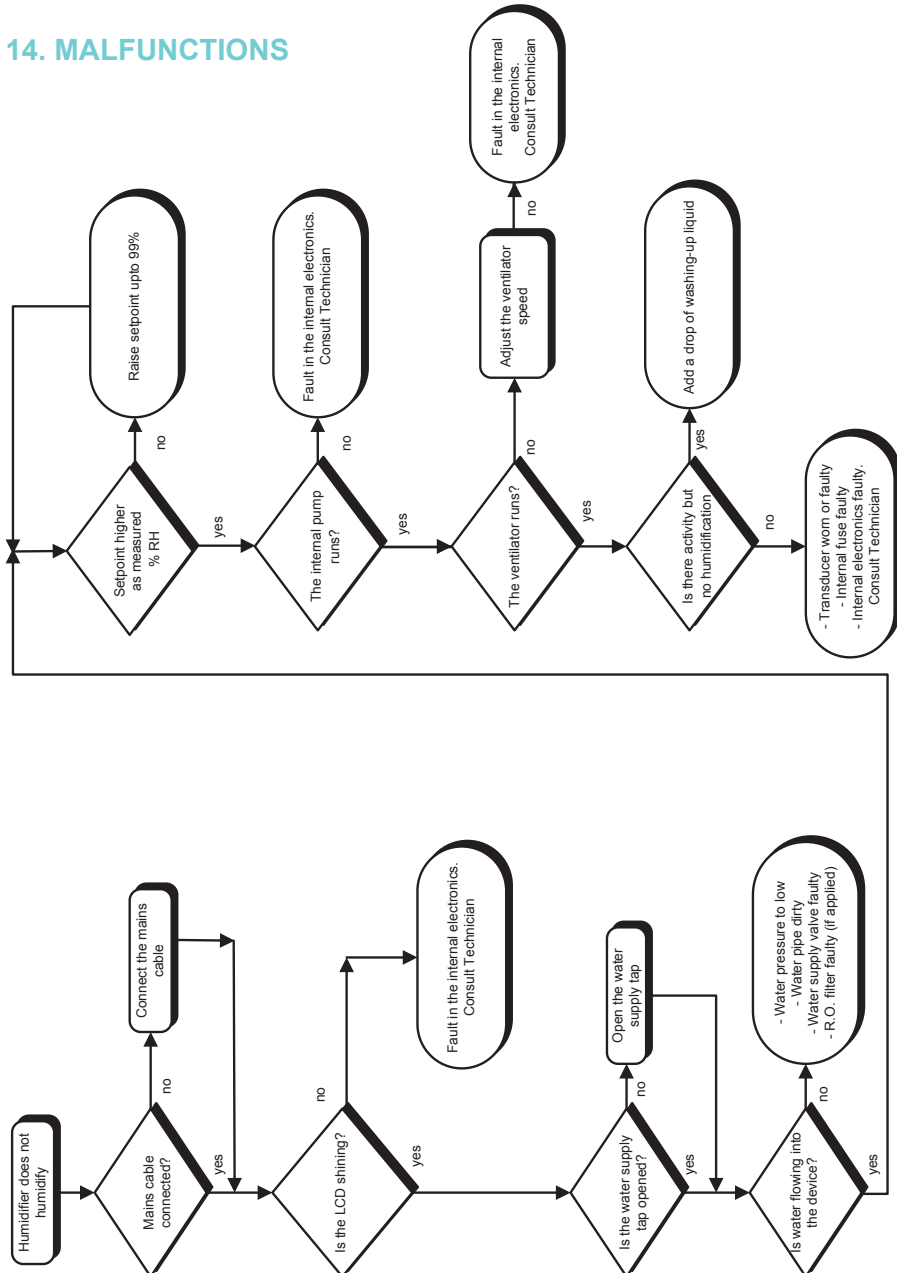
\* Setting only available in hygrostat modus.

\*\* Setting only available in capacity modus.

### 13. FACTORY SETTING AND RANGE

Parameter			Max.	Min.	Factory settings	Unit
HU settings	Hygrostat	Setpoint humidity	99	0	0	%
		RH bandwidth	20	1	3	%
		Capacity	100	0	50	%
		Minimum humidification	0	100	0	%
		Maximum humidification	100	0	100	%
	Fan	Fan speed	100	20	100	%
	Frost protection	Shutdown temperature	10	-10	0	°C
	Battery	Shutdown voltage	15	6	11	V
		Hysteresis	2.0	0.2	1.0	V
	Sensor settings	Humidification off-set	50	-50	0	%
		Temperature off-set	50	-50	0	°C
	System settings	LCD contrast	100	0	50	%
		LCD background light	60	Off	30	sec.

## 14. MALFUNCTIONS



## 15. TECHNICAL SPECIFICATIONS

	HUTC-10
Transducer frequency	1,7 MHz
Maximum capacity	0-0,8 kg/hour (adjustable)
Service life of the transducers	10.000-20.000 hour
Size of the water droplets	1-3 micron
Diameter of the outlet flange	1 x 40 mm
Airflow	Adjustable
Outlet pipe length	3 meter
Water pressure	0.1 - 6 bar
Water connection	3/8" John Guest fitting
Maximum water hardness	Demineralised water
Water discharge	3/8" John Guest fitting
Mains voltage	12 - 14V DC
Power consumption	120W
Ambient temperature	0 °C till 35 °C
Water temperature	0 °C till 35 °C
Air temperature	0 °C till 35 °C
Ambient temperature compared to supply ait temperature	Non condensing
Dimensions (LxWxH)	110 x 155 x 600 mm
Housing	RVS 316L
Weight	8 kg

#### DISCLAIMER

Contronics works continuously on the further development of its humidifiers. We therefore reserve the right to modify the design, construction and technology of the product at any time. For this reason, no claims can be made based on the data, illustrations and description in this user manual.

**Additional, up-to-date information is available on [www.contronics.nl](http://www.contronics.nl).**



P.O. Box 144  
5490 AC Sint-Oedenrode  
The Netherlands  
Telephone: +31(0)413-487000  
Telefax: +31(0)413-473903  
Website: [www.contronics.nl](http://www.contronics.nl)  
E-mail: [info@contronics.nl](mailto:info@contronics.nl)