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***Ultrasonic - Evaporation Transmitter***

**6.1432.10.0xxx**



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# 1 Models

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Order-No.	Meas. range	Electr. Output	Connection
6.1432.10.040	0... 100 mm	0... 20 mA	5 m Kabel LiYCY 4 x 0,25 mm <sup>2</sup>
6.1432.10.041	0... 100 mm	4... 20 mA	5 m Kabel LiYCY 4 x 0,25 mm <sup>2</sup>
6.1432.10.073	0... 100 mm	0... 5 VDC	5 m Kabel LiYCY 4 x 0,25 mm <sup>2</sup>

## 2 Application / Mode of Operation

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The Ultrasonic-Evaporation Transmitter serves for the automatic measurement of the water level in an evaporation pan (Class A). Based on a reference height the changing water level is measured constantly by means of an ultrasonic sensor and is output as analogue power- or voltage signal.

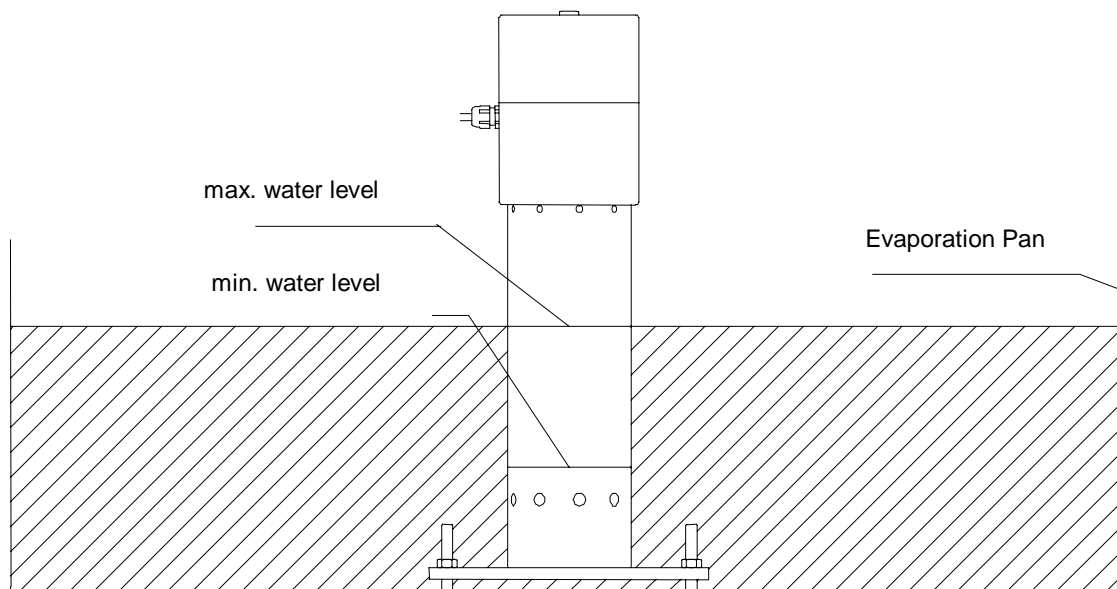
The instrument is well-suited for garden centres, plant- and seed breeding establishments, as well as for agro-economical research institutes for determination of plant water demand resp. for the artificial field irrigation, in order to achieve an optimum harvest.

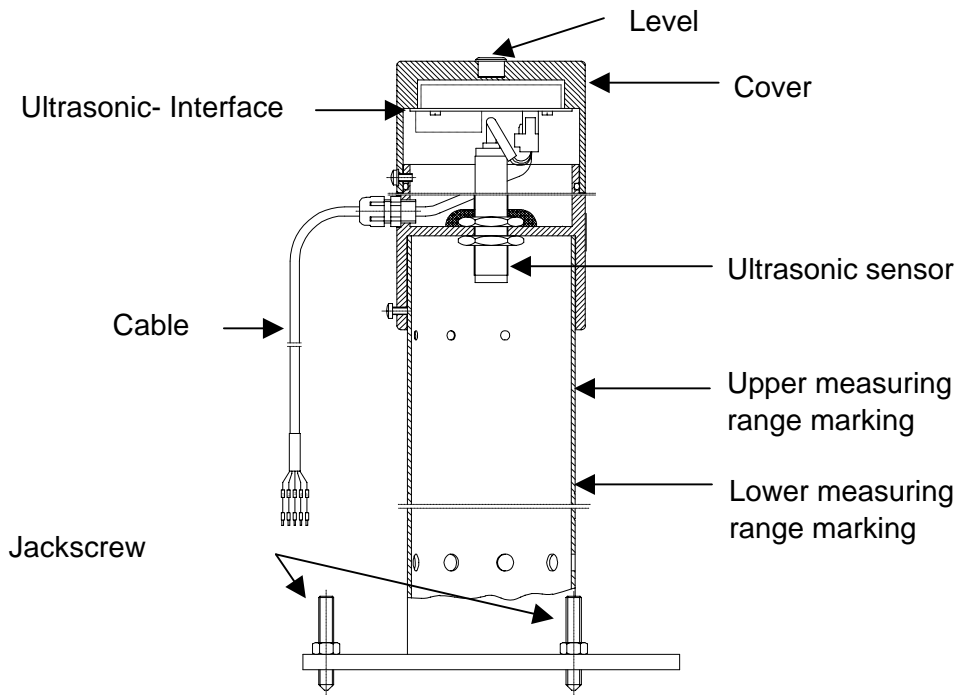
## 3 Mechanical Mounting

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Put the Ultrasonic-Evaporation Transmitter into the evaporation pan. The instrument is to be aligned by means of the level and the jackscrew. Afterwards, fill the evaporation pan with water up to the upper measuring range marking at the Ultrasonic-Evaporation Transmitter.

The Water level has to be always between the two marks, as the instrument was adjusted by the manufacturer within this measuring range.





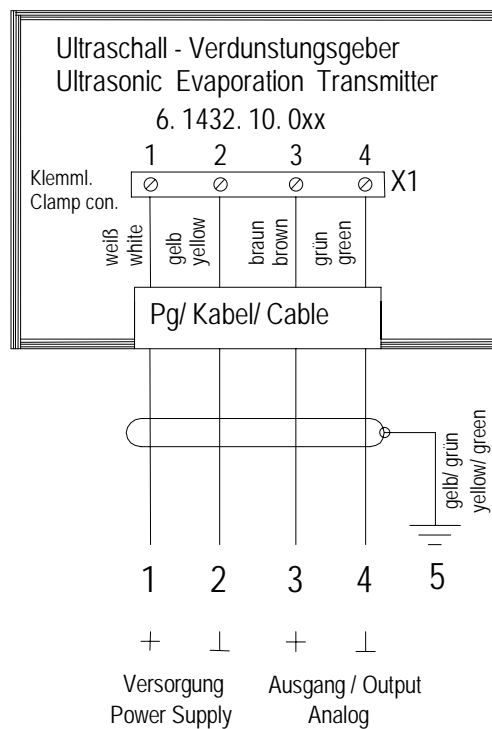
## 4 Electrical Mounting

Order- No.

6.1432.10.040

6.1432.10.041

6.1432.10.073



Bestell - Nr. Order - No.	Versorgung Power Supply	Ausgang / Output Analog = 0...100 mm	Bürde Load
6. 1432. 10. 040	15...24V DC	0 ... 20 mA	max 500 Ohm
6. 1432. 10. 041	15...24V DC	4 ... 20 mA	max 500 Ohm
6. 1432. 10. 073	12...24V DC	0 ... 5 V	min. 1 K Ohm

## 5 Maintenance

After proper mounting the instrument works maintenance free.

For test purposes:

The ultrasonic interface in the cover is protected against humidity by sealing compound. There are terminal strips, LED's, adjusting potentiometers and test points sticking out of the sealing compound, which are described in the following table.

Clamp connector 1 (X1)	Clamp connector 2 (X2)	LED
Pin 1 = supply (+)	Pin 1 = + VCC sensor	D 1 = is shining (red) when current flows via analogue output (only with
Pin 2 = supply (GND)	Pin 2 = signal sensor	D 2 = s shining when air temperature in the measuring tube is $\leq 25^{\circ}\text{C}$
Pin 3 = output (+)	Pin 3 = GND sensor	D 3 = ready for operation (red)
Pin 4 = output (GND)		D 4 = is shining when air temperature in the measuring tube is $\geq 25^{\circ}\text{C}$

When LED D3 is not shining, the instrument is defect, and has to be returned to the factory for repair.

The ultrasonic interface was adjusted by the manufacturer with the adjustment potentiometers 1...5. The test points (TP) protruding from the sealing compound, serve for the manufacturer's adjustment.

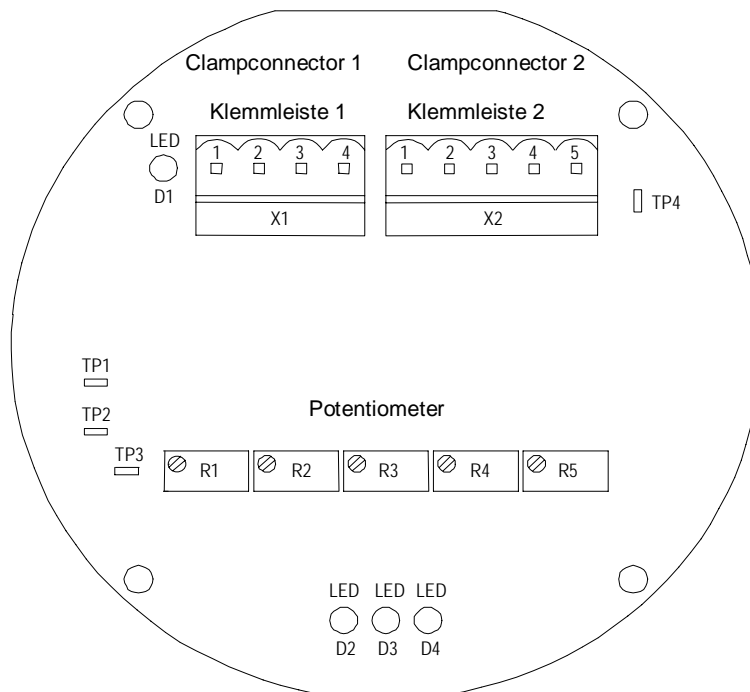
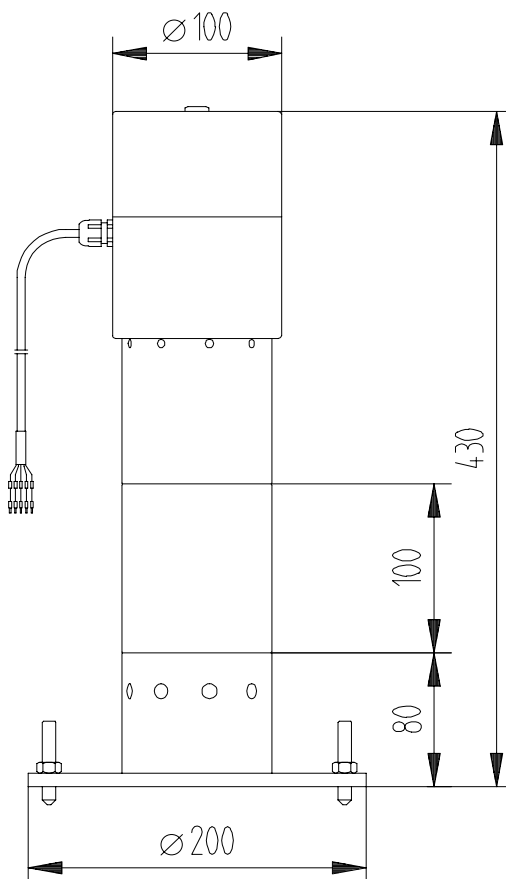


Figure 1: Ultrasonic-Interface

## 6 Technical Data

Measuring range	0...100 mm
Resolution	< 0,1 mm
Accuracy	± 1,5% of meas. range @ 0... 50°C
Measuring principle	Propagation time of the ultrasound with temperature compensation
Electrical output	0-20 mA / 4-20 mA / 0-5 V depending on model 0 / 4 mA resp. 0 V @ water at the upper measuring range marking 20 mA resp. 5 V @ water at the lower measuring range marking
Load	
For power output (mA)	max. 500 Ohm (at operating voltage > 15 V)
For voltage output (V)	min. 1 KΩ
Operating voltage	15...24 V DC/AC, ca. 40 mA + Iout
Ambient temperature	-15... +50°C
Connection	Cable, 5m long, Type: LIYCY
Dimensions	See dimensional drawing
Weight	3.5 Kg

## 7 Dimension diagram



# 8 EC-Declaration of Conformity

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Manufacturer: **ADOLF THIES GmbH & Co. KG**

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Description of Product: **Ultrasonic Evaporation Transmitter**

Article No.                    **6.1432.10.040**                    **6.1432.10.041**                    **6.1432.10.073**

specified technical data in the document: **021028/12/08**

The indicated products correspond to the essential requirement of the following European Directives and Regulations:

- 2004/108/EC     DIRECTIVE 2004/108/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC
- 2006/95/EC     DIRECTIVE 2006/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits
- 552/2004/EC     Regulation (EC) No 552/2004 of the European Parliament and the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (the interoperability Regulation)

The indicated products comply with the regulations of the directives. This is proved by the compliance with the following standards:

Reference number	Specification
IEC 61000-6-2: 2005	Electromagnetic compatibility Immunity for industrial environment
IEC 61000-6-3: 2006	Electromagnetic compatibility Emission standard for residential, commercial and light industrial environments
IEC 61010-1: 2001	Safety requirements for electrical equipment for measurement, control and laboratory use. Part 1: General requirements

Place: Göttingen

Date: 03.12.2008

Legally binding signature:

issuer:

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Wolfgang Behrens, General Manager

.....  
Joachim Beinhorn, Development Manager

This declaration certifies the compliance with the mentioned directives, however does not include any warranty of characteristics. Please pay attention to the security advises of the provided instructions for use.



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