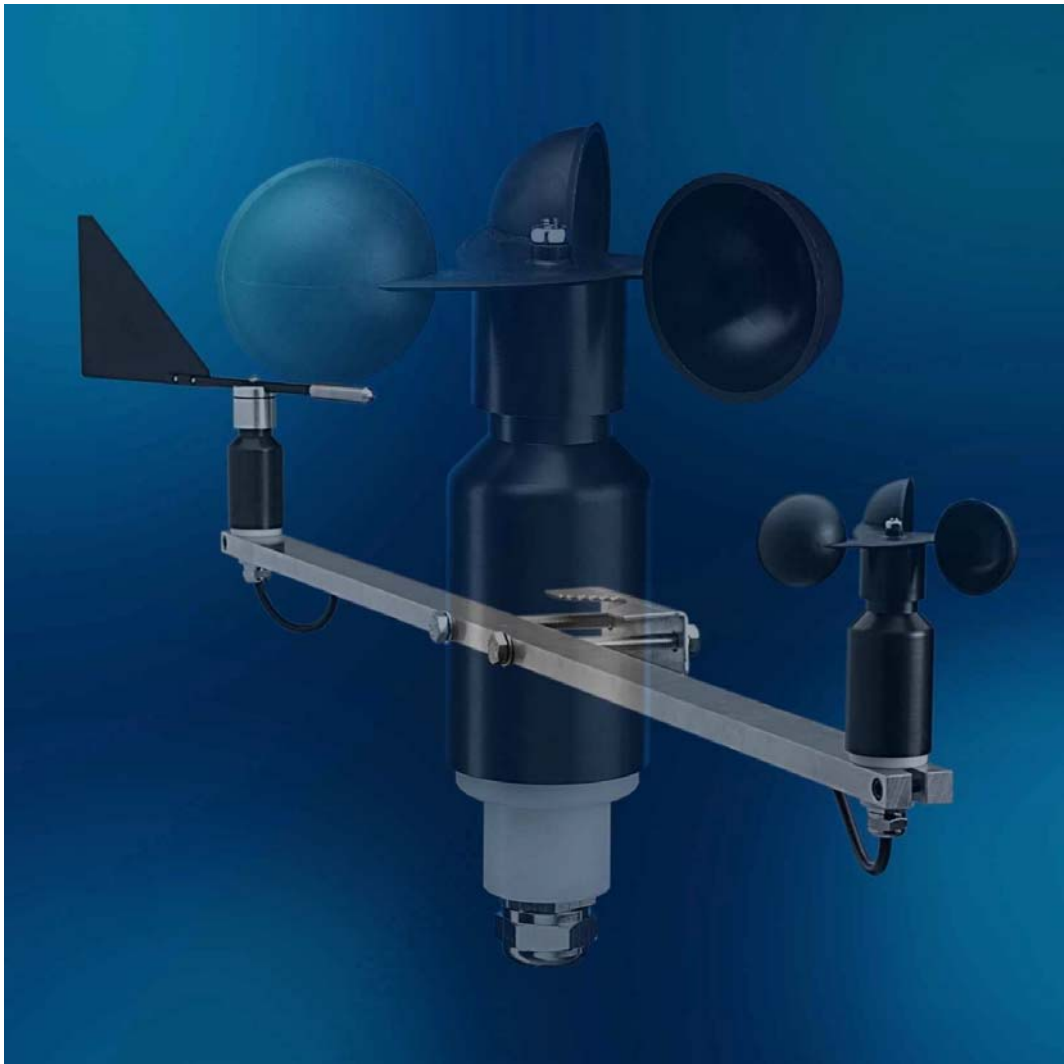


# Manual **WIND SENSORS**

(heated and unheated)

Version V3/ 29.07.2004



## Table of contents

<b>1</b>	<b><u>GENERAL</u></b>	<b>3</b>
<b>2</b>	<b><u>OPERATION TIPS AND MAINTENANCE</u></b>	<b>4</b>
<b>3</b>	<b><u>WIND SENSOR, UNHEATED (8368.03)</u></b>	<b>5</b>
<b>4</b>	<b><u>WIND SENSOR, HEATED (8368.04)</u></b>	<b>6</b>
<b>5</b>	<b><u>COMBINED WIND SENSOR, UNHEATED (8368.01)</u></b>	<b>7</b>
<b>6</b>	<b><u>COMBINED WIND SENSOR, HEATED (8368.02)</u></b>	<b>8</b>
<b>7</b>	<b><u>MOUNTING ON A MAST</u></b>	<b>9</b>

## 1 General

The wind speed sensor provides information on horizontal wind velocity.

Wind speed sensor with DC generator. Corrosion resistant plastic cup rotor with ball bearing axle. The wind velocity is converted into tension signals.

The wind sensor needs no additional energy and can be directly connected to an indicating instrument or a recorder.

The wind direction sensor provides information on the horizontal wind direction.

The potentiometer is open at 2° south. The anodized aluminium vane with ball bearing connected to a 1000 Ohm precision potentiometer offers excellent sensitivity and fast response. Resistance signals in ohm as measuring element.

The wind sensor needs no additional energy and can be directly connected to an indicating instrument or a recorder.

The external parts of the sensor are made out of a corrosion resistant plastic material and the aluminium parts are additionally protected by an anodic film.

Labyrinth seals protect the internal sensitive parts from humidity.

**Important: mounting tools can affect the measurement by causing artificial turbulences.**

The technical data of the wind sensor can be found on the internet under the following address:

<http://www.lufft.com>

## 2 Operation tips and maintenance

### Selecting the measuring site:

A wind sensor is usually used to record the wind motions over a large area around. The measurement should be carried out at 10m height above horizontal, open terrains which means that the distance between the wind sensor and the potential obstacle should be at least 10 times the height of the obstacle (s. VDI 378 ) in order to get comparable values for the determination of the surface wind. In case this direction cannot be complied with, the wind sensor should be installed at a height which possibly prevents the measuring values from being affected by local obstacles (ca. 6-10 m above the disturbance level).

In case of flat roofs : it is advisable to place the wind sensor in the centre instead of at the edge to avoid the measurement being affected in one direction or in the other.

### North orientation:

Slowly rotate the sensor base and the vane so that the marks on both parts match and establish a reference point on the horizon for True North. True North is usually determined by reading a magnetic compass. Tighten the set screws while holding the vane position.

### Maintenance

The wind sensor operates maintenance free provided that all instructions contained in this manual are complied with.

**Important : a severe environmental contamination can cause build-up of dirt in the fence between the rotative and the immovable parts.**

**Ensure to always keep this fence free from dirt!**

### 3 Wind sensor, unheated (8368.03)



**Important:** the sensor supports 2 measuring ranges (0...100km/h and 0...50m/s). The measuring range is selectable via the following connections:

**Connection „red“ :**  
0...1V corresponds to a wind velocity of 0... 100km/h

**Connection „orange“ :**  
0...1V corresponds to a wind velocity of 0... 50m/s

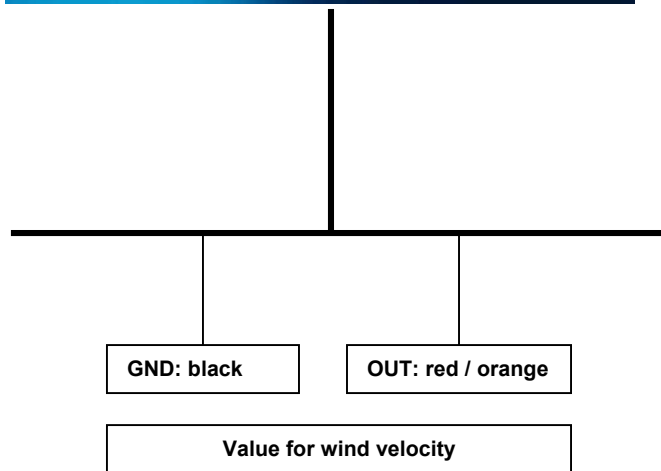


Figure : connection of the unheated wind sensor

#### 4 Wind sensor, heated (8368.04)



**Important:** the sensor supports 2 measuring ranges (0...100km/h and 0...50m/s). The measuring range is selectable via the following connections:

**Connection „red“ :**  
0...1V corresponds to a wind velocity of 0... 100km/h

**Connection „orange“ :**  
0...1V corresponds to a wind velocity of 0... 50m/s

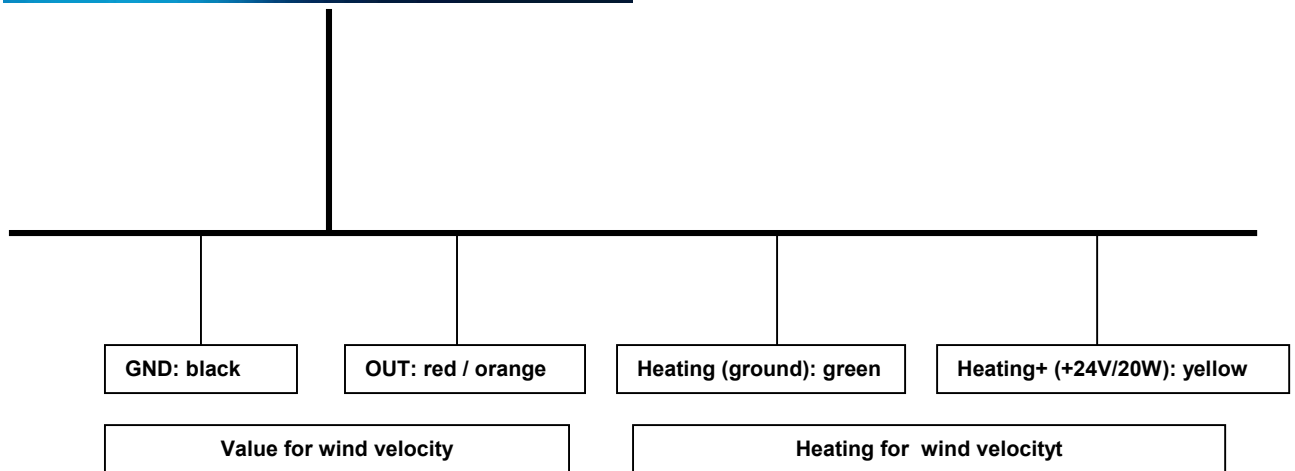


Figure: connection of the unheated wind sensor

## 5 Combined wind sensor, unheated (8368.01)

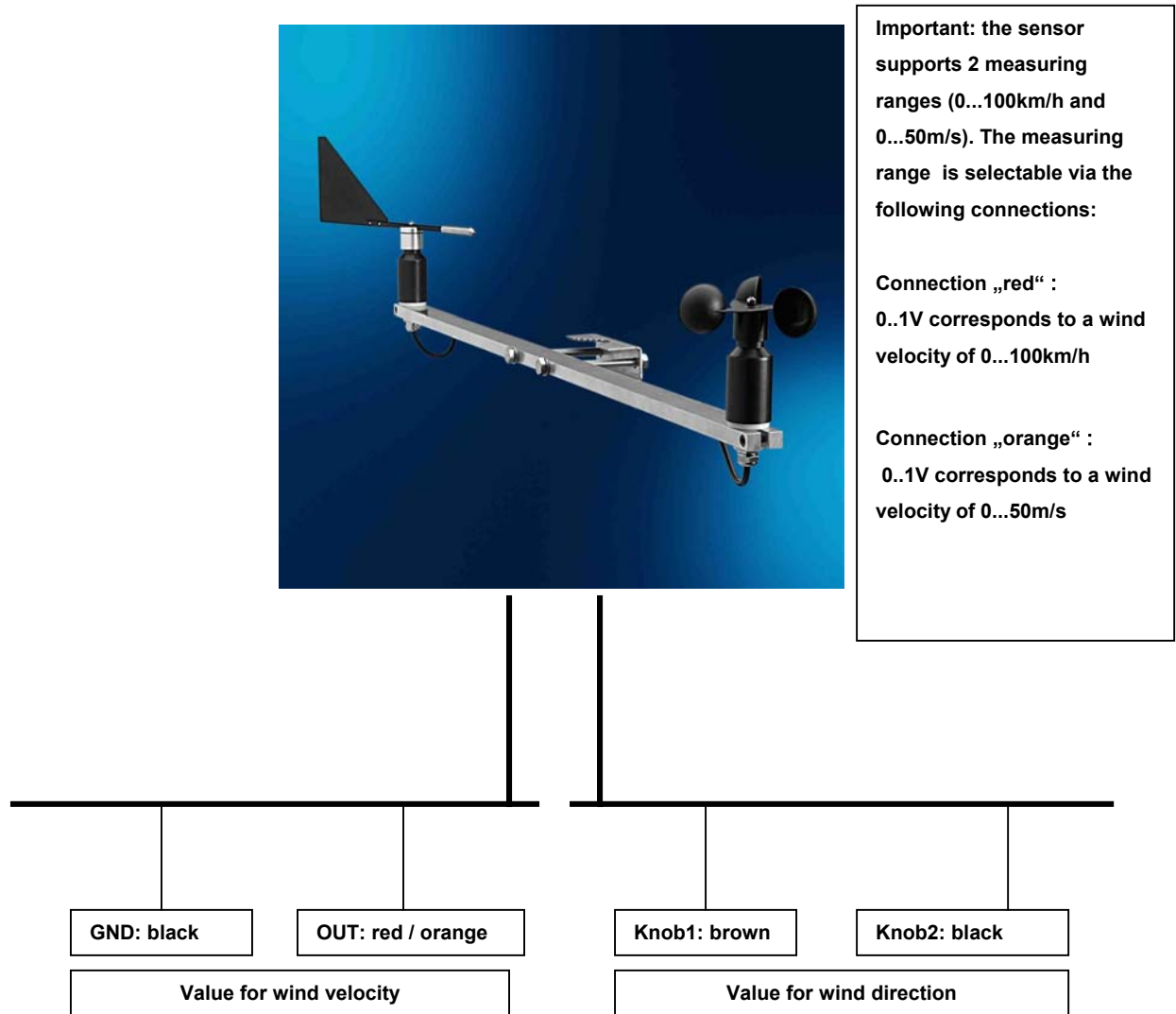


Figure: connection of the combined wind sensor without heating

6 Combined wind sensor, heated (8368.02)



Important: the sensor supports 2 measuring ranges (0...100km/h and 0...50m/s). The measuring range is selectable via the following connections:

Connection „red“ :  
0..1V corresponds to a wind velocity of 0...100km/h

Connection „orange“ :  
0..1V corresponds to a wind velocity of 0...50m/s

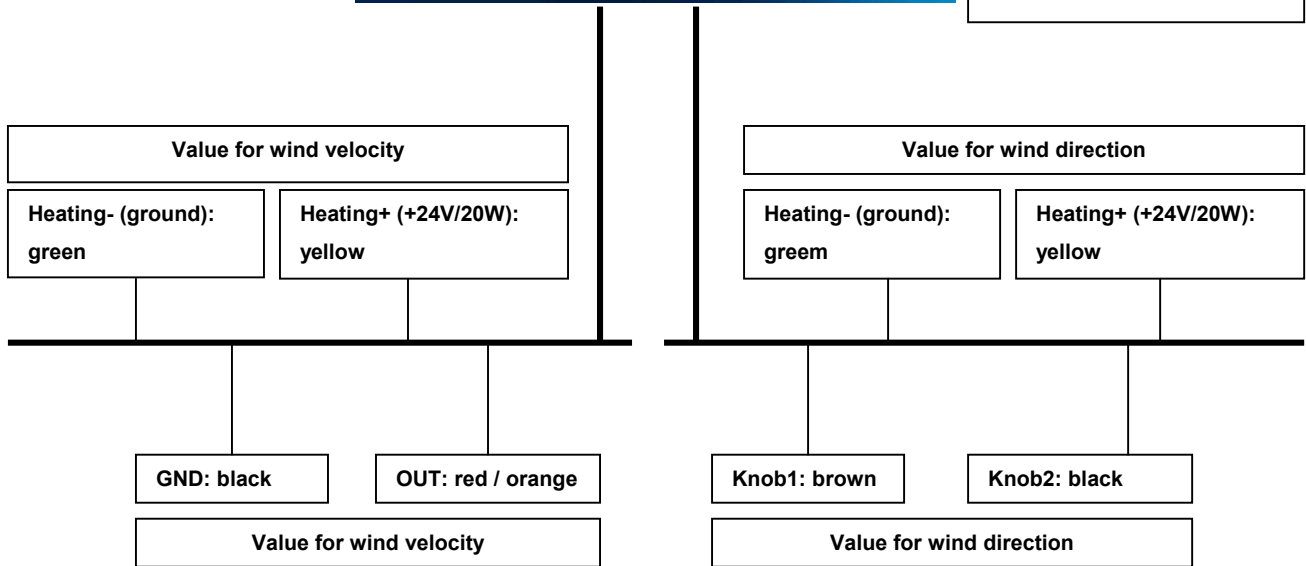


Figure: connection of the combined wind sensor with heating

## 7 Mounting on a mast

All our wind sensors are equipped with a mounting tool for fastening them on a mast.

This mounting tool is to be used for masts with diameters of 40...80mm..