

Wind Direction Transmitter -compact

Instruction for use 4.3129.xx.140 ... 767



Range of Application

The wind direction transmitter detects the horizontal wind direction. The measured values are available at the output as analogue voltage or current signal to control for instance wind power plant..

An electronically-regulated heating system has been installed for winter time use, in order to prevent the ball-bearing and the external rotation parts from freezing.

Power for the heating system could be provided for instance by our **Power Supply Unit**, order - no. **9.3388.00.000**.

When using fastening adapters (angle, traverses, etc.) please take a possible effect by turbulences into consideration .

Mode of Operation

The wind vane (in ball-bearing) is moved by the wind. The opto-electronic direction scanning produces a coded signal which is converted into an analogue signal by the integrated measuring transformer.

The outer parts of the instrument are made of corrosion-resistant materials. Labyrinth gaskets protect the parts inside the instrument against precipitations.

Models

Order - No.	Elect. Output	Meas. range	Heating power	Connection
4.3129.00.140	0 ... 20 mA	0...360°	20 W	12 m cable LiYCY 6 x 0.25 mm ²
4.3129.00.141	4 ... 20 mA	0...360°	20 W	12 m cable LiYCY 6 x 0.25 mm ²
4.3129.00.161	0 ... 10 V	0...360°	20 W	12 m cable LiYCY 6 x 0.25 mm ²
4.3129.00.167	0 ... 2 V	0...360°	20 W	12 m cable LiYCY 6 x 0.25 mm ²
4.3129.00.173	0 ... 5 V	0...360°	20 W	12 m cable LiYCY 6 x 0.25 mm ²
4.3129.00.741	4 ... 20 mA	0...360°	20 W	7 pole plug
4.3129.00.761	0 ... 10 V	0...360°	20 W	7 pole plug
4.3129.00.767	0 ... 2 V	0...360°	20 W	7 pole plug
4.3129.05.140	0 ... 20 mA	0...360°	20 W	15 m cable LiYCY 6 x 0.25 mm ²
4.3129.05.141	4 ... 20 mA	0...360°	20 W	15 m cable LiYCY 6 x 0.25 mm ²
4.3129.02.141	4 ... 20 mA	0...360°	10 W	2 m cable 6 x 0.56 mm ²

Technical Data

Measuring Range	0 ... 360°
Resolution	11.25° (5 bit Gray-code)
Accuracy	± 5°
Measuring principle	opto-electronic (code disc)
Electrical Output	See model
Load	
For current output (mA)	max. 500 Ohm (für > 13 V DC operating voltage)
For voltage output (V)	min. 1 KΩ
Operating voltage	8...30 V DC or 24 V AC
for 0 -10 V output	13...30 V DC or 24 V AC
Operating voltage heating	24 V DC/AC, max. 20 W (10 W*)
Ambient temperature	- 30 °C ... + 70 °C
connection	See model
dimensions	See dimensional drawing
Mounting	For ex. onto a mast tube with boring thread Pg 21 or boring Ø 29 mm
Protection	IP 55
Weight	0.60 – 1.20 kg depending on model

* For wind direction transmitters with 10 W heating the stated ambient temperature is possible only without icing.

Remark:

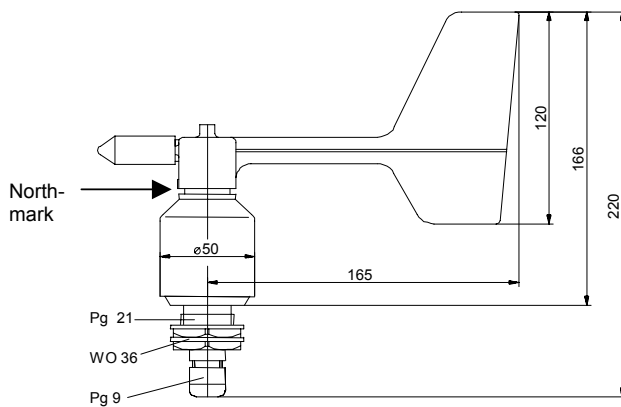
The electrical output is carried out in 32 steps due to the code disc resolution.

Example for 4.3129.00.141: step 0 = 0.00 – 11.25° = 4.0 mA
 step 1 = 11.25 – 25.50° = 4.5 mA
 step 31= 348.75 - 0.00° = 19.5 mA

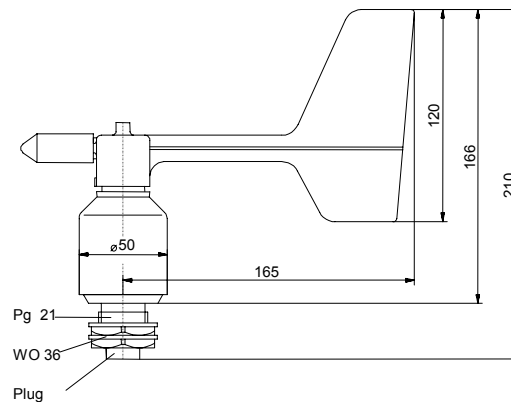
Example for 4.3129.00.140: step 0 = 0.00 – 11.25° = 0.000 mA
 step 1 = 11.25 - 25.50° = 0.625 mA
 step 31= 348.75 - 0.00° = 19.375 mA

Dimensional Drawing

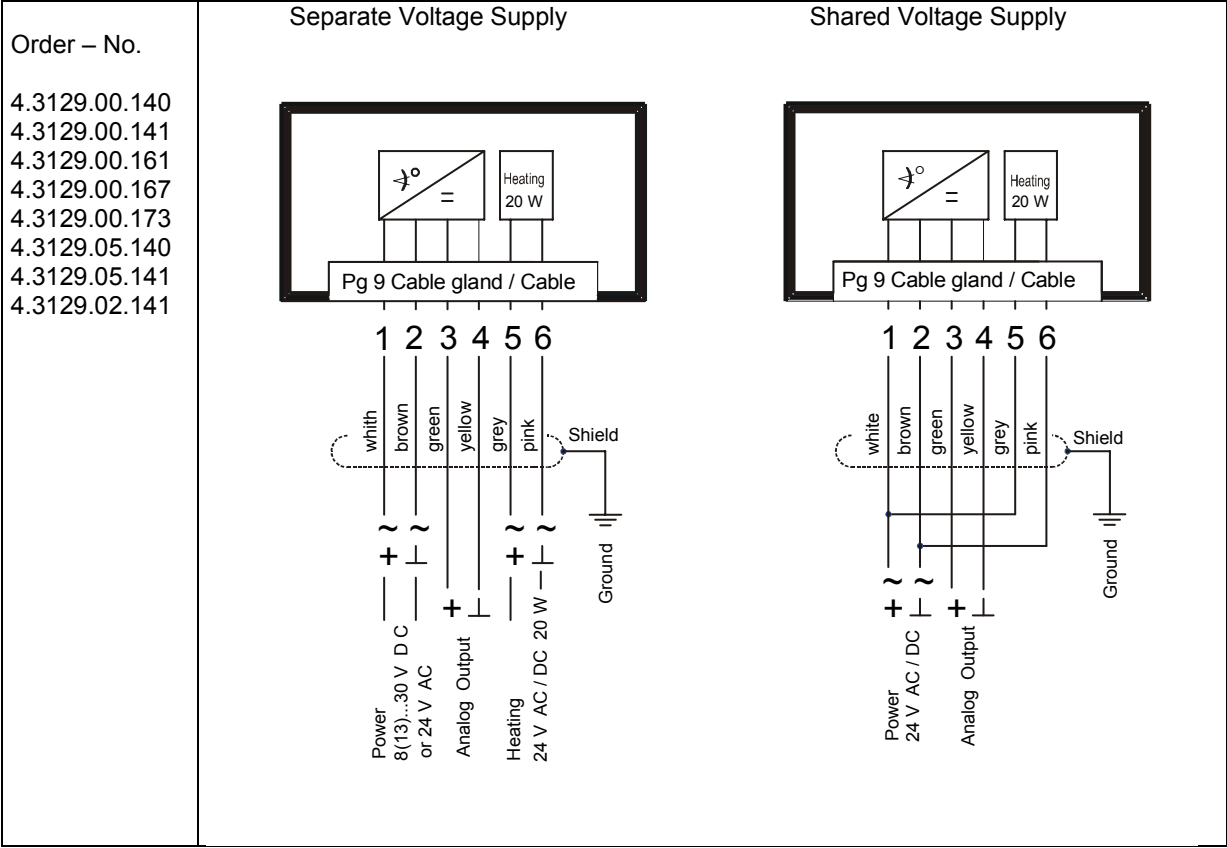
Model: cable gland



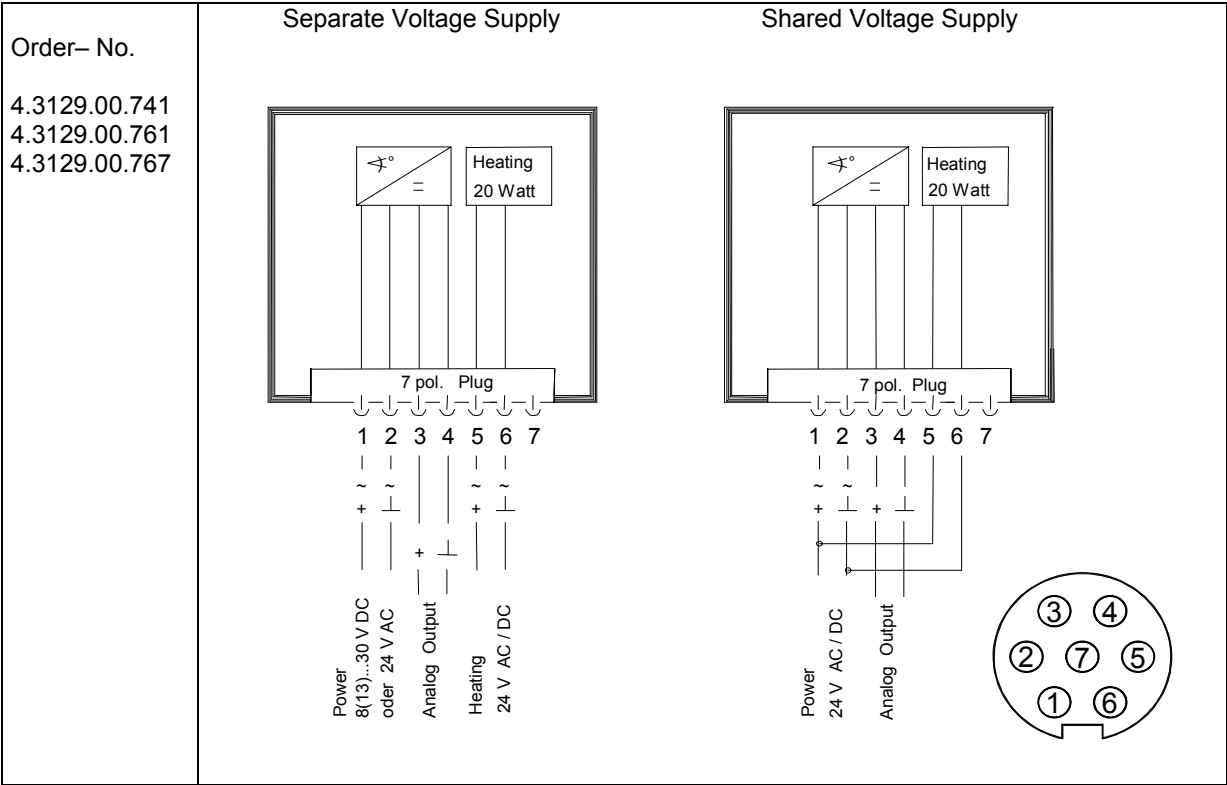
Model: plug



Connecting Diagram for Models with fixed Connecting Cable



Connecting Diagram for Models with Connector



Preparation for Use

Selecting a Site

In general wind measurement instruments should be able to detect the wind conditions of a large area. In order to obtain comparable values when determining the surface wind, measurements should be taken at a height of 10 meters over an even area with no obstacles. An area with no obstacles means that the distance between the wind direction transmitter and an obstacle should be at least 10 times the height of the obstacle (s. VDI 3786). If it is not possible to fulfil this condition then the wind direction transmitter should be set up a height where local obstacles do not influence the measured values to any significant extent (approx. 6-10 m above the obstacle). The wind direction transmitter should be set up in the centre of flat roofs and not on the edge in order to avoid any preferential directions.

Mounting

The mounting of the wind direction transmitter could be done for example on a central mast tube with a Pg 21- boring thread or on hangers or the like with a boring of \varnothing 29 mm (for example traverse *compact*, order-no. 4.3171.30.000)

The connecting cable or the connector is guided through the boring, and the wind direction transmitter is fixed, after the north alignment, with a hexagon nut (WO 36). For electrical connection please refer to the connecting diagram.

Attention: **Storing, mounting and operation under weather conditions is permissible only in vertical position, as otherwise water can get into the instrument.**

North alignment

Rotate the case markings on the shaft and on the protective cap until they are aligned. Then select an obvious point in a northerly direction in the surroundings (a tree, a building etc.) with the aid of a compass. Take a bearing on this point over the metal deflector and rod of the wind vane and when these coincide screw the transmitter into place (*the north mark must indicate the geographical North*).

Maintenance

After proper mounting the instrument works maintenance free.

Heavy pollution can clog up the slit between the rotating and the stationary parts of the wind transmitter. This slit must be kept clean.



Technical Alteration reserved