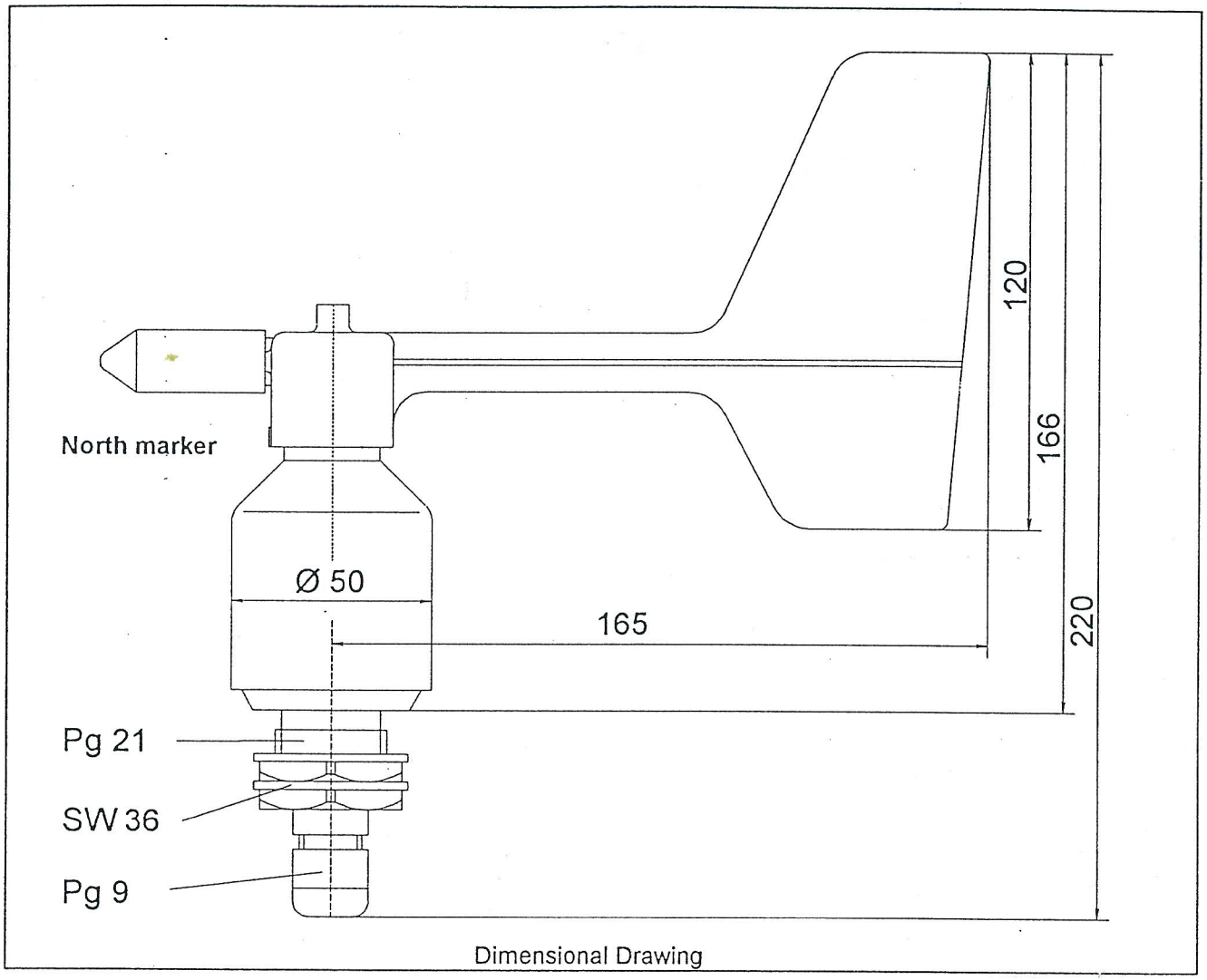
Wind Direction Transmitter-compact

Thies CLIMA

Instruction for Use

4.3128.xx.000	*Output 2 - 4 bit parallel*
4.3129.00.000	*Low power Output 5 bit serial-synchronous*
4.3129.00.xxx	*Analog Output*



Dimensional Drawing

Range of application

nical Data

neral

Measuring range	: 0 ... 360°
Accuracy	: 5°
Scanning	: Light barrier – Code disc
Heating	: 24 V AC/DC max. 20 W
Ambient Temperature	: - 30 °C ... + 70 °C
Mounting	: onto. mast tube (boring thread M 28 x 2) or onto traverse, boring ∅ 28 mm

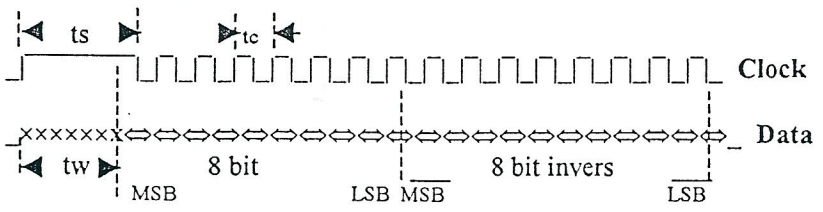
Order - No.: 4.3128.xx.000

Output code	: 4 bit Gray code
Resolution	: 90° / 45° / 22,5° see connecting diagram
Electr. Output	: 2 bit / 3 bit / 4 bit Gray code
Output signal	: open Collector (source)
max. current	: 50 mA (20 V DC , R out = 100 ohms)
Operating voltage	: 18 - 27 V DC
Current input	: 20 mA
Supply Cable	: LiYCY 8 x 0,25 mm^2, 5 m long
Weight	: 0,60 kg

Order-No.: 4.3129.00.000

Output code	: 5 bit Gray code
Resolution	: 11,25°
Elect. Output	: serial synchronous 5 bit Gray code
Output signal	: U_L = O / $U_H \approx U_B$
max. current	: 10 mA
Serial interface	: see interface specification
Operating voltage U_B	: 5 ... 18 V DC
Current input	: Standby-Operation < 15 µA example 20 Hz < 500 µA } at 5 V Supply
Supply cable	: LiYCY 6 x 0,25 mm^2, 12 m long
Weight	: 1,10 kg

Interface specification:



Parameter	Symbol	Min	Max	Unit
Startpulse (1. Clockimpuls)	ts	2	10	ms
Conversion time until data valid	tw	-	1,5	ms
Clock pulse length	tc	0,2	10	ms
Measuring valve scan rate	f	-	30	Hz

Order-No.: 4.3129.00.xxx

Resolution	: 11,25°	5 bit Gray code
Electr. Output		
Ord.-No. **4.3129.00.040**	: 0 - 20 mA	Load max. 500Ω (> 13 V DC Operating voltage)
4.3129.00.041	: 4 - 20 mA	Load max. 500Ω (> 13 V DC Operating voltage)
4.3129.00.061	: 0 - 10 V	Load resistance min. 1 kΩ
4.3129.00.067	: 0 - 2 V	Load resistance min. 1 kΩ
4.3129.00.073	: 0 - 5 V	Load resistance min. 1 kΩ
Operating voltage	: 9 - 18 V DC or 24 V AC/DC	
	(13 - 18 V DC for 0 - 10 V Output)	
	see connecting diagrams	
Current input	: approx. 10 mA	
Supply cable	: LiYCY 6 x 0,25 mm^2, 12 m long	
Weight	: 1,10 kg	

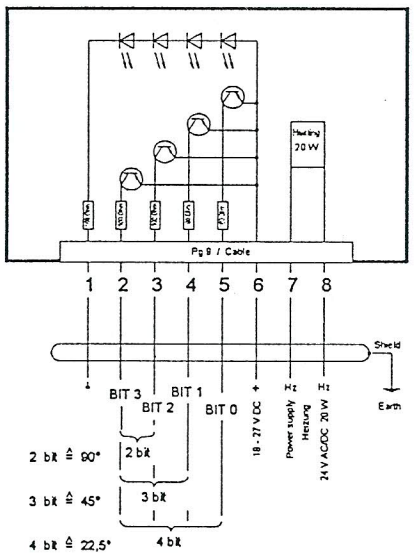
Connecting Diagrams

Order - No. : 4.3128.00.000

with Heating

Order - No.: 4.3128.10.000

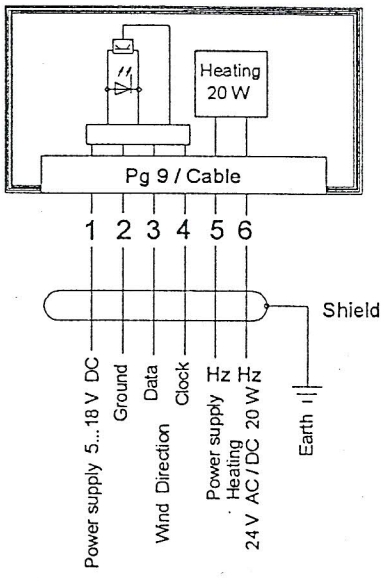
without Heating, Pin 7 and Pin 8 not connected



Cable – Colour code

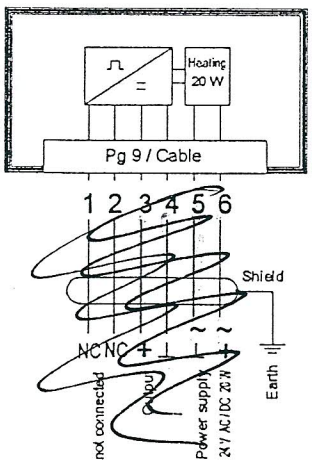
Cable-No.	Colour
1	white
2	brown
3	green
4	yellow
5	grey
6	pink
7	blue
8	red

Order-No. : 4.3129.00.000



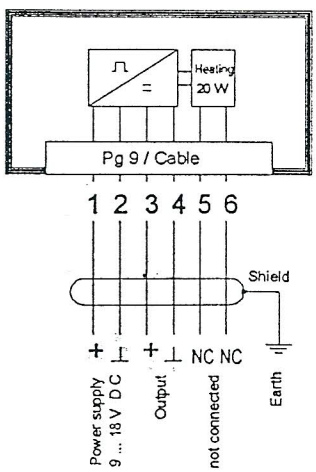
Order-No.: 4.3129.00.xxx

Operation with Heating



In case of power supply for heating at pin 5 and 6, power supply voltage ***must be*** galvanic separated from signal voltage (pin 3 and 4).

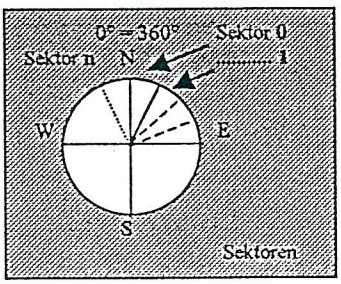
Operation without Heating



...struction and mode of operation

...e wind direction transmitter is designed to detect the wind direction and to transform them into electrical ...ignals. The wind direction is recorded by means of a low-inertia light metallic wind vane the ball-bearing axis of which is connected to a slotted disk. This code disc is scanned opto-electronically and has been provided with a 4 bit Gray code (resolution 22,5°) resp. a 5 bit Gray-Code (resolution 11,25 ° - see technical data).

The electrical signals are supplied according to the actual position of the wind vane.The instrument is made of corrosion-restistance material (plastic) and the aluminium parts are additionally protected or varnished resp. by means of an anodic coat. Labyrinth sealing protect sensitive parts inside the instrument against humidity



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. 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 not on the avoid bias in the direction (privileged directions).

Mounting

The mounting of the transmitter could be done for example at a traverse with a boring of 28 mm Ø or on hangers with a boring of 28 mm Ø.

When using fastening adapters (angle, traverses etc.) please notice that turbulences could possibly influence the characteristic curve

After flexible connection cable is passes through the boring, wind direction transmitter could be fixed with hexagonal nut (SW36) after being in its right position. For electrical connection please refer to the connection diagram.

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.

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.

TÜV CERT DIN EN ISO 9001 Zertifikat: 04/100/1684