

# Wind Vane

## PVC Housing, Rotor in black painted Stainless Steel

### Type DWS-D-DAC13



- Wind vane for relative wind direction
- Opto-electronic detection
- PNP- & NPN-open collector outputs in the same unit
- Indication of 0° and 90° intervals
- 10 to 28 VDC supply voltage
- All inputs and outputs are protected against reverse polarity and transients
- Built-in heater
- Dust sealing

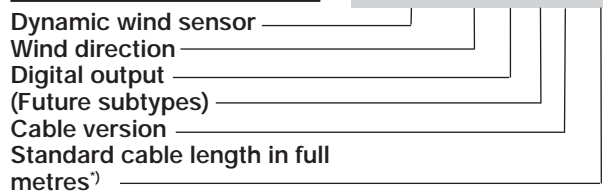
### Product Description

DWS-D-DAC13 is a relative wind vane designed mainly for the windmill industry for measurement of the relative wind direction. The product contains both PNP- and NPN open collector outputs, in which a fixed current is switched according to the selected direction. A built-in self-regulated heater reduces the risk of glazing. The heater is supplied separately, which

makes it possible to control the heating. The DWS-D-DAC13 is equipped with a specially designed protection mechanism, which protects the bearings and the electronic parts against dirt and humidity. The body of the sensor is made of black PVC, and the rotor is produced in stainless steel.

### Ordering Key

**DWS-D-DAC13**



<sup>1)</sup> can be specified by customer

### Specifications

Rated operational voltage	$U_B$	12 to 24 VDC
	$U_C$	10 to 28 VDC
Supply current (without heater)	Approx. 20 mA (all outputs off)	

### Output Specifications

Signal	NPN Open Collector constant current sink	Square wave 12.5 mA $\pm$ 2mA
	PNP Open Collector constant current source	Square wave 12.5 mA $\pm$ 2mA
Output power	$\leq$ 250 mW	
Load supply voltage	Min. 10 VDC Max. 28 VDC	
Voltage drop	Typ. 4.9 VDC	

### General Specifications

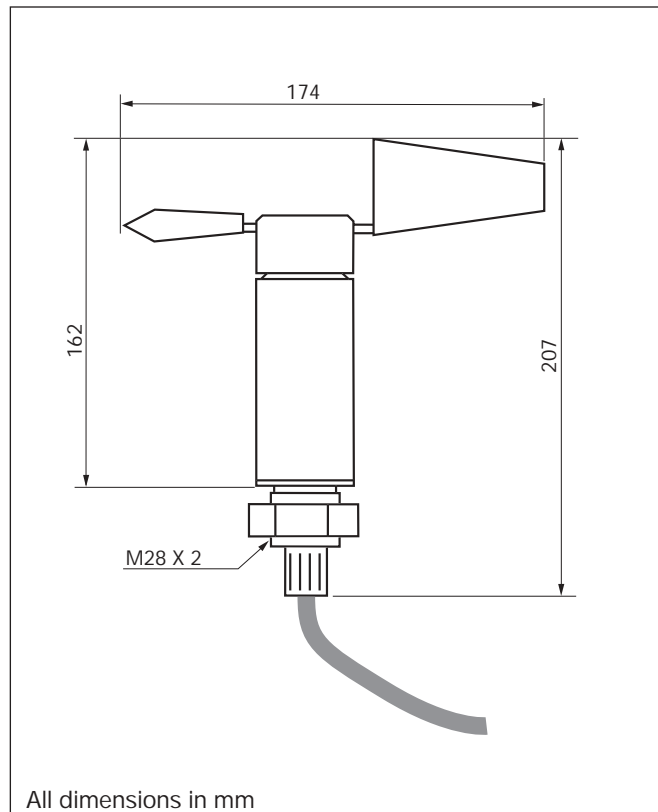
Dimensions	Wind vane length	145 mm
	Thread	External thread: M28 x 2 with one nut
Materials	Body	Black PVC
	Rotor	Stainless steel (AISI 303), black painted
	Bearings	Instrument ball bearings, stainless steel
Cable	Shielded grey PVC, 8 x 0.25 mm <sup>2</sup>	
Rotor/housing tightening	Dust labyrinth	
Environment	Degree of protection	IP54
	Ambient humidity	0 to 100% RH
	Climatic protection	Against high humidity, salt and dust
Ambient temperature	Operating temperature	-20 to 60°C (-4 to +140°F)
	Storage temperature	-20 to 60°C (-4 to +140°F)
Heating system	Heater	> -20°C (> -4°F)
	Heater	PTC-element
	Supply voltage	12 to 24 VAC/DC on separate wires



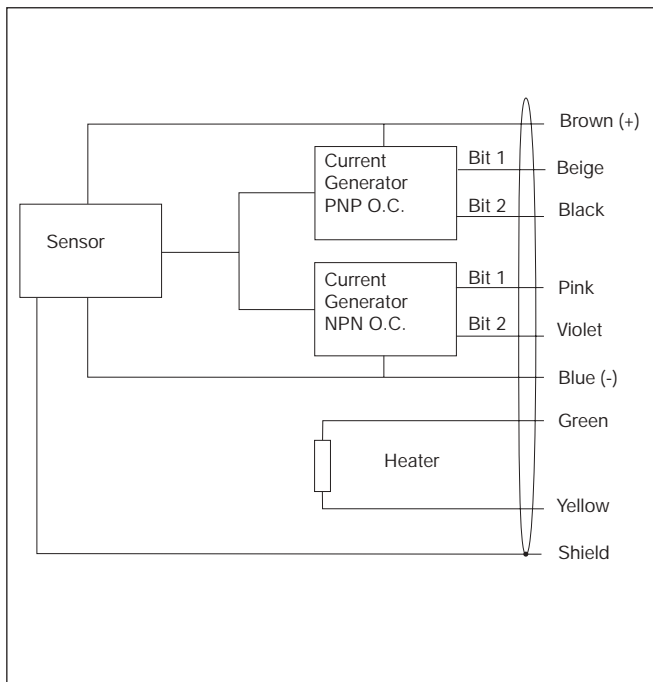
## General Specifications (cont.)

Inrush current	1.5 A
Power consumption	@ -20°C (-4°F): app. 10 W @ +20°C (+68°F): app. 5 W @ +60°C (+140°F): app. 1.5 W
<b>EMC</b>	
IEC 61000-4-2	
Contact discharge	± 4 kV
Air discharge	± 8 kV
IEC 61000-4-3	
Radiated radio-frequency	15 V/m
Electromagnetic fields	
IEC 61000-4-4	
Fast transients/burst	
Power port, performance B	± 2 kV
Signal port, performance B	± 1 kV
IEC 61000-4-5	
Surge 1.2/50 µs	
Power port, Ri = 2 Ω	500 V
Signal port, Ri = 47 Ω	2000 V
IEC 61000-4-6	
Conducted disturbances induced by radio-frequency fields	12 V <sub>rms</sub>
<b>Mounting instruction</b>	Mounted vertical with M28 thread. Marking (dot) on the housing indicates 0° position.
<b>Weight</b>	1.1 kg incl. 13 m cable and packaging

## Dimensions



## Wiring Diagram



## Signal

Wind direction	Bit 1	Bit 2
0° to 90°	0	1
90° to 180°	0	0
180° to 270°	1	0
270° to 360°	1	1
0°	Alternation between 0 - 1	

