

Wind Vane

PVC Housing, Rotor in black painted Stainless Steel

Type DWS-D-DDC13



- Wind vane for relative wind direction
- Opto-electronic detection
- PNP- & NPN-open collector outputs in the same unit
- Indication of $\pm 7^\circ$ of wind direction and left/right
- 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-DDC13 is a relative wind vane designed mainly for the windmill industry for measurement of the relative wind direction. The wind vane registers deviations in the wind direction (left/right) from the starting point. 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

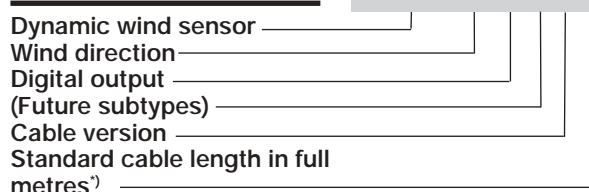
glazing. The heater is supplied separately, which makes it possible to control the heating.

The DWS-V-DDC13 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-DDC13



¹⁾ 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

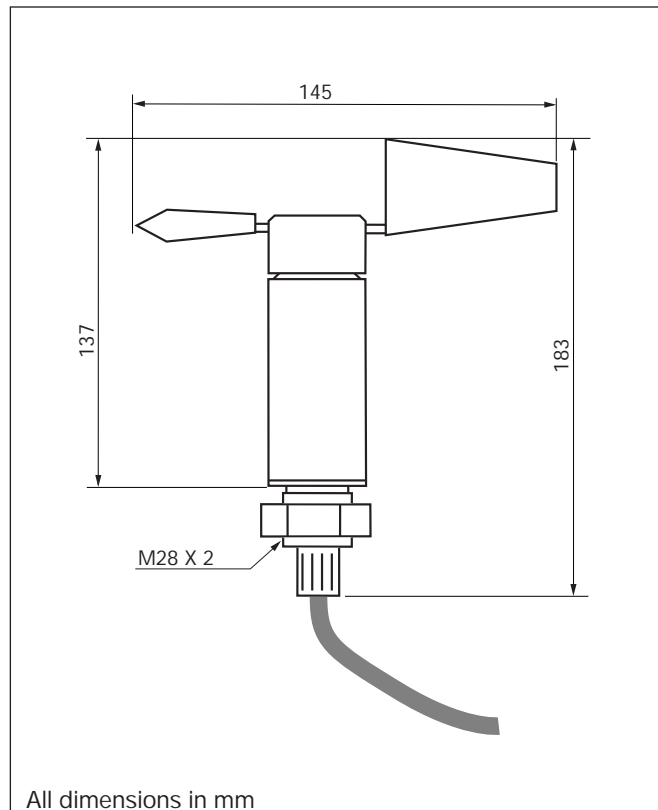
Dimensions	
Wind vane length	145 mm
Thread	External thread: M28 x 2 with one nut
Materials	
Body	Black PVC
Rotor	Stainless steel (AISI 303), black painted
Bearings	Instrument ball bearings, stainless steel
Cable	Shielded grey PVC, 8 x 0.25 mm ²
Rotor/housing tightening	Dust labyrinth
Environment	
Degree 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)
Supply voltage	PTC-element 12 to 24 VAC/DC on separate wires



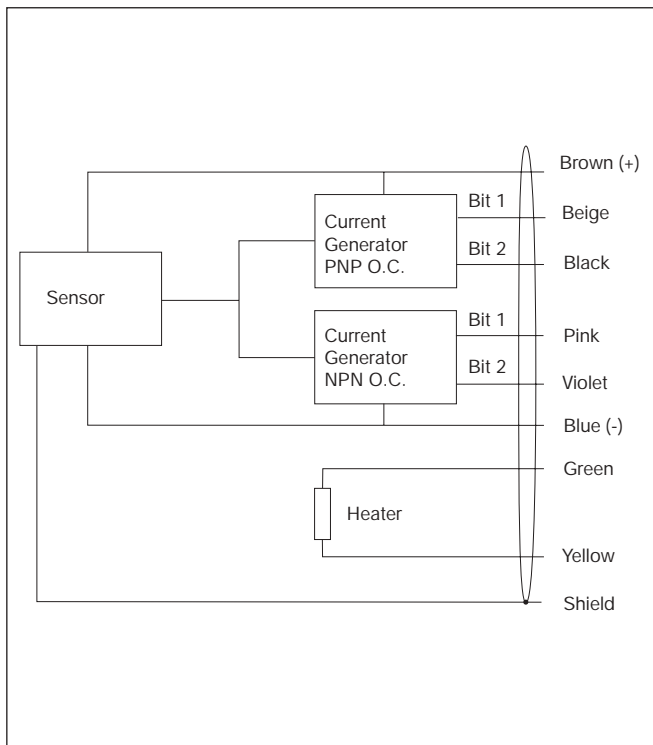
General Specifications (cont.)

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
EMC	
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 _{rms}
Mounting instruction	Mounted vertical with M28 thread. Marking (dot) on the housing indicates 0° position.
Weight	1.1 kg incl. 13 m cable and packaging

Dimensions



Wiring Diagram



Signal

Wind direction	Bit 1	Bit 2
0° to 7°	0	1
7° to 180°	1	1
180° to -7°	1	0
-7° to 360°	0	0

"1" (ON) = current sourcing

