# Cup Anemometer PVC Housing, Rotor of black painted Stainless Steel Type DWS-V-DAC13





- Anemometer with opto-electronic detection
- Measuring range: 2 to 30 m/s
- PNP and NPN open collector outputs in the same unit
- Current source outputs
- 10 to 28 VDC supply voltage
- All inputs and outputs are protected against reverse polarity and transients
- High ESD protection
- Built-in heater
- Dust sealing

#### **Product Description**

DWS-V-DAC13 is a cup anemometer designed for measuring air speed in a wide variety of applications, including wind turbines, buildings, cranes, weather stations, green-houses, etc. The product contains both PNP- and NPN open collector outputs, in which a fixed current is switched proportionally to the air speed at the rate of 10 pulses per m/s.

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-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-V-DAC13** 

Type —	
Air velocity	
Digital output —	
(Future subtypes)	
Cable Version —	
Standard cable length in full	I metres*)

\*) can be specified by customer

#### **Specifications**

Rated operational voltage	
$U_B$	12 to 24 VDC
Uc	10 to 28 VDC
Supply current (without heater)	Approx. 20 mA (all outputs off)
Measuring range	1.5 to 30 m/s
Operating range	≤ 75 m/s
Accuracy	$\leq$ 3 m/s: ±0.5 m/s $\geq$ 3 m/s: ±10%

#### **Output Specifications**

Signal output NPN Open Collector			
constant current sink PNP Open Collector	Square wave 12.5 mA ± 2mA		
constant current source	Square wave 12.5 mA ± 2mA		
Output frequency	10 Hz per m/s		
Output power	≤ 250 mW		
Load supply voltage	Min. 10 VDC Max. 28 VDC		
Voltage drop	Typ. 4.9 VDC		

#### **General Specifications**

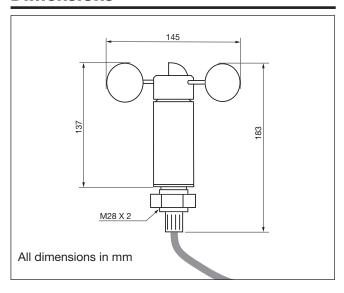
<b>Dimensions</b> Rotor diameter Thread	145 mm External thread: M28 x 2 with one nut	
Materials		
Body	Black PVC	
Rotor	Stainless steel (AISI 303), black painted	
Bearings	Instrument ball bearings, stainless steel	
Cable	13 m shielded grey PVC, 6 x 0.25 mm <sup>2</sup>	
Rotor/housing tightening	Dust labyrinth	
Environment Degree of protection Ambient humidity Climatic protection	IP54 0 to 100% RH Against high humidity, salt and dust	
Ambient temperature Operating temperature Storage temperature	-20 to 60°C (-4 to +140°F) -20 to 60°C (-4 to +140°F)	
Heating system Heater Supply voltage	> -20°C (> -4°F) PTC-element 12 to 24 VAC/DC on separate wires	



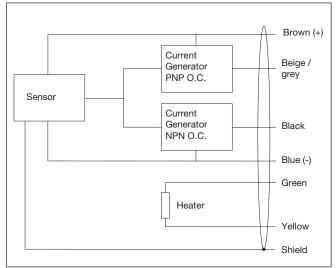
## **General Specifications (cont.)**

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

#### **Dimensions**



## **Wiring Diagram**



## PV output versus wind speed

