



- Very high precision sensor even in extreme environmental conditions
- Use of a patented, high-performance natural ventilation protection screen: SMarT CELLino
- Sensor compliant with the performances prescribed by the WMO (guideline n°8 Annex 1.A)

# Description

SMART provides very accurate and reliable air temperature measurements. The sensitive element consists of a Pt100 platinum thermo-resistor with precision class according to IEC751, DIN 43760 and BS1904 standards of 1/3 DIN and 4-wire connection. The sensitive element is protected by the patented natural ventilation screen, SMarT CELLino, which isolates it from interference (errors) connected to solar radiation and at the same time ensures perfect ventilation. The screen is made of anti-UV plastic material (UV stab. ASA) and assembled with stainless steel screws. The patented "S" section of the screen plates creates natural internal ventilation even in calm wind conditions (<1 m/s), which constitutes an ideal measurement environment in all weather and climatic conditions. The sensor can be supplied with natural output (4 wires), or with normalized electrical outputs (voltage, current) or digital (Modbus or SDI-12). The sensor is supplied with power cable (if present) and signal cable (4m).



## Main Features

- **Wide measurement range -30 °C ÷ +60 °C**
- **High accuracy**
- **Compact and affordable**
- **Easy to maintain**
- **Low power consumption**
- **Protection against overvoltages**

## Technical Specifications\*

### Measurement performance

Temperature [°C]

Transducer	Pt100 1/3 DIN 43760		
Measurement range	-30 ÷ +60		
Natural output accuracy	1/3 DIN 43760		
Current, tension, serial outputs accuracy	1/3 DIN 43760 ± 0.1		
Resolution	0,03		
Operating conditions			
Temperature	-30°C ÷ +60°C		
Humidity	0% ÷ 100%		
Outputs			
Natural	Pt100 4 fili		
RS485-Modbus	Temperature		
SDI – 12	Temperature		
Tension	0 ÷ 2 V ↔ -30 ÷ 60 °C		
Current	4 ÷ 20 mA ↔ -30 ÷ 60 °C		

### Power supply and Consumption (-I/-V/-S/-12 versions)

Supply voltage	7 ÷ 30 Vdc		
Power consumption (mA)	Min	Typical	Max
RS485-Modbus / SDI – 12 / 0 ÷ 2 V	-	1	3
4 ÷ 20 mA	5	-	25

### Mechanical specifications

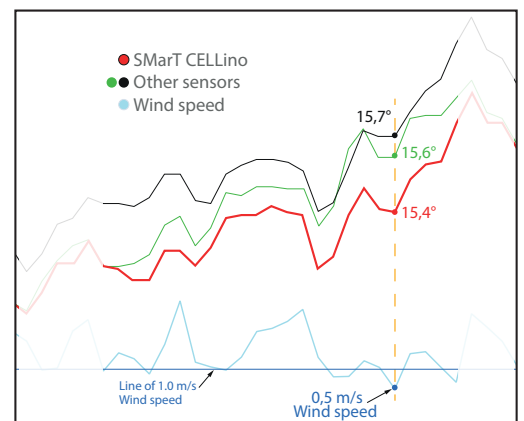
Protective body	Plastic material (ASA) and stainless steel screws
Weight	1.4 kg
Dimensions	Ø = 175 mm; Height = 310 mm
Electrical connections	IP67 / 7 male poles

### Ordering codes

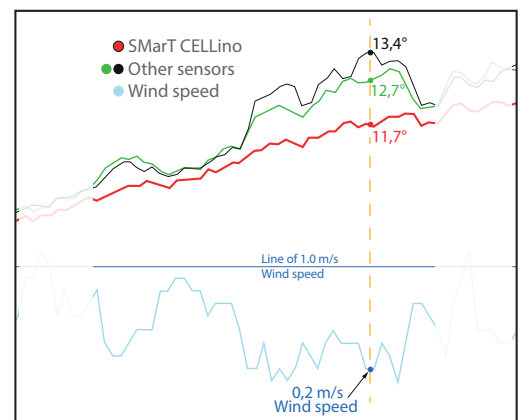
Natural output	PSM-t001i-SMART-N
Current/tension/serial output	PSM-t001j-SMART-IVS
SDI-12 serial output	PSM-t001k-SMART-12

\*Changes on technical performances can be applied upon request of specific calibration

### Comparative tests with reference solar screens



Excellent reactivity even for high temperature gradients



With wind lower than 1 m/S SMarT CELLino guarantees more accurate measurements