

# 일체형 기상 측정기 (All- in one weather sensor)

초음파 풍향, 풍속, 온도, 습도, 기압 측정센서

## 용도




- 대기 기상(풍향, 풍속, 온도, 습도, 기압 등) 측정.

## 특징





- 최대 6개의 측정센서 구성 가능.
- 다양한 현장상황에 따라 두 가지 크기의 센서 버전
- ModBus-RTU를 사용하여 타사 Data logger 및 LSI Data logger에 손쉬운 연결
- Heated Versions(Standard version only)
- ISO17025



**Model : DNB200**

Technical Specifications	COMPACT SERIES		
	DNB200 - DNB200.2	DNB201 - DNB201.2	DNB202 - DNB202.2
P/N (without heater )			
Wind speed	X	X	X
Wind direction	X	X	X
Air Temperature	X	X	X
Relative Humidity and Dew Point	X	X	X
Pressure	X	X	X
Solar radiation	-	-	X
Rain	-	X	-
Material	Plastic		
Output	DNB200: RS485 DNB200.2: RS232	DN201: RS485 DNB201.2: RS232	DNB202: RS485 DNB202.2: RS232
Power supply	12...30 Vdc		
Power consumpt.@12 Vdc	13 mA	55 mA	18 mA
Size	170x126 mm		
Weight	0.7 Kg	0.75 Kg	0.95 Kg
Protection	IP65		

**STANDARD SERIES**

P/N (without heater)	DNB300 - DNB300.2	DNB301 - DNB301.2	DNB302 - DNB302.2	DNB304 - DNB304.2
P/N (with heater)	DNB300.1	DNB301.1	DNB302.1	
				
Wind speed	x	x	x	-
Wind direction	x	x	x	-
Air Temperature	x	x	x	-
Relative Humidity and Dew Point	x	x	x	-
Pressure	x	x	x	-
Solar radiation	-	-	x	-
Rain	-	x	-	x
Material	Aluminium			
Output	DNB300-300.1: RS485  DNB300.2: RS232	DNB301-301.1: RS485  DNB301.2: RS232	DNB302-302.1: RS485  DNB302.2: RS232	DNB304: RS485  DNB304.2 RS232
Power supply	12...30 Vdc			
Power consumption @12 Vdc (sensor only)	13 mA	55 mA	18 mA	45 mA
Power consumption @24 Vdc (heater) (see P/Ns with heater)	10 A			NO
Size	170x126 mm	170x126 mm	170x126 mm	170x80 mm
Weight	1.5 Kg	1.5 Kg	1.65 Kg	1.05 Kg
Protection	IP66			

		Compact Series	Standard Series
Wind speed	Principle	Ultrasonic	Ultrasonic
	Range	0...60 m/s	0...60 m/s
	Accuracy	± 0.3 m/s 5% (0,02...35 m/s) 10% (>35 m/s)	± 0,2 m/s 3% (0,02...35 m/s) 5% (>35 m/s)
	Threshold	0.02 m/s	0.01 m/s
	Resolution	0.01 m/s	0.01 m/s
Wind direction	Principle	Ultrasonic	Ultrasonic
	Range	0...360°	0...360°
	Accuracy	±3° (>1 m/s)	±2° (>1 m/s)
	Threshold	0.2 m/s	0.2 m/s
	Resolution	0.1°	0.1°

		<b>Compact Series</b>	<b>Standard Series</b>
<b>Rain total</b>	Principle	Optical	Optical
	Measurement	Rain total: mm/min, mm/hr, mm/day, Total	Rain total: mm/min, mm/hr, mm/day, Total
	Range of measurement	0...400 mm/hr	0...400 mm/hr
	Repeatability	3%	3%
	Resolution	0.08 mm/hr	0.08 mm/hr

### Common Technical Specifications

<b>Output</b>	Digital	RS-232, RS-485 (see each PN)
	Protocol	Modbus-RTU
	Baud rate	9600 bits
<b>Cable</b>	Connector	Aerospace type
	Cable	Not included (see Accessories)
<b>Protection</b>	Housing protection	IP66 (with mounting kit attached)
<b>Operative conditions</b>	Temperature	-40...70°C
	Humidity	5...100% RH
<b>Compatibility</b>	LSI LASTEM's data Logger	Versions with RS232 output: M-Log (ELO008) E-Log Versions with RS485 output: A-Log
<b>Installation</b>	Mounting	On pole $\varnothing$ 35...50 mm using bracket (included)

<b>Temperature</b>	Principle	Diode voltage	Diode voltage
	Range	-40...80 °C	-40...80 °C
	Accuracy	$\pm 0.3^{\circ}\text{C}$ (-35...60°C), otherwise $\pm 0.5^{\circ}\text{C}$	$\pm 0.3^{\circ}\text{C}$ (-35...60°C), otherwise $\pm 0.5^{\circ}\text{C}$
	Resolution	0.1°C	0.1°C
<b>RH%</b>	Principle	Capacitive	Capacitive
	Range	0...100%	0...100%
	Accuracy	3%	3%
	Resolution	0.1%	0.1%
<b>Dew Point</b>	Type	Calculation	Calculation
<b>Pressure</b>	Principle	Piezoresistor	Piezoresistor
	Range	600...1100 hPa	600...1100 hPa
	Accuracy	$\pm 0.5$ hPa @ 25°C	$\pm 0.5$ hPa @ 25°C
	Resolution	0.1 hPa	0.1 hPa
<b>Solar Radiation</b>	Principle	Photodiode	Photodiode
	Spectral range	300...3000 nm	300...3000 nm
	Range	0...2000 W/m <sup>2</sup>	0...2000 W/m <sup>2</sup>
	Resolution	1 W/m <sup>2</sup>	1 W/m <sup>2</sup>
	Accuracy	5%	5%
	Temperature response	5%	5%
	Directional error 0< $\theta$ <80°	$<\pm 10$ W/m <sup>2</sup> (@ 1000 W/m <sup>2</sup> )	$<\pm 10$ W/m <sup>2</sup> (@ 1000 W/m <sup>2</sup> )
Non-linearity	Max 3% (0...1000 W/m <sup>2</sup> )	Max 3% (0...1000 W/m <sup>2</sup> )	