

# ▶ Temperature and Water content inside materials

Technical features - MODELS



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## Temperature and Water content monitoring sensors inside materials

Sensor for the monitoring of water content and temperature inside compost heaps during the bio-oxidation process or in bio filters for continuous measurements. The sensor is suitable for measurements in homogeneous and compact materials, without water and no air between the two measuring electrodes, with a maximum temperature of 60°C. The sensor can be inserted in a stainless steel well (DYA105) so as to create a hole suitable for the measurement point.

Versions with analog (4-20 mA) or digital (RS-485-Modbus) output are available. All signals can be received and managed by LSI-LASTEM data acquisition systems (M/E-Log).

To run by radio 4-20 mA signals generated by versions with 4-20 mA output, it is needed to connected these sensors to EXP820 unit, which sends – via radio – signals to EXP304 (n.8 4-20 mA outputs) receivers/converters.

Order numb.	EXP427	EXP487
Output	2x4÷20 mA	RS-485-Modbus RTU
Configuration	Via RS-232 with terminal emulation program	
Power supply	9 ÷ 30 Vca/cc	9 ÷ 30 Vca/cc
Power consumption	2 W	
Signal and power supply connector	Waterproof male connector for DWA3xx cables	
Output values	Temperature, Water Content	
Electric protections	Against power supply polarity inversion; electrostatic discharge on sensors line and power supply line	Against power supply polarity inversion; electrostatic discharge on sensors line and on RS-485 communication line

### Common features

Temperature	<i>Measuring range</i>	-10÷60 °C
	<i>Sensitive Element</i>	Pt100
	<i>Accuracy</i>	±0,2 °C
	<i>Resolution</i>	0,05 °C
	<i>Response Time (T63)</i>	80"
Water Volume	<i>Measuring range</i>	0÷100% water volumetric content
	<i>Sensitive Element</i>	TDR (Time-Domain-Reflectometry)
	<i>Accuracy</i>	@ 0÷40%: 2,5%, @ 40÷70%: 3,5%
	<i>Resolution</i>	1%
	<i>Response Time (T63)</i>	15"
	<i>Measuring Volume</i>	Ø 160x100 mm
General information	<i>Operating Temperature</i>	-10÷60°C
	<i>Dimensions</i>	H. 2170 mm Ø 50 mm
	<i>Tips</i>	L. 85 mm. Ø 6 mm
	<i>Weight</i>	5 Kg
	<i>Material</i>	Radio box: reinforced polyester Shank: watertight PVC + metal tips
	<i>Protection</i>	Sensor: IP66
	<i>Mounting</i>	Vertically inserted using stainless steel well DYA105
	<i>Calibration</i>	Every 12 months
	<i>Maintenance</i>	Sensor cleaning

