

Air temperature and Relative humidity

Technical features - MODELS



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Thermohygrometer (direct output)

Air temperature and RH% sensor. Pt100 output for temperature and 0-1 Vdc output for RH%. For outdoor application it should be coupled with a radiant screen.

Precise and reliable, this sensor is suitable for continuous measurements also in severe environments and in presence of steep thermal and hygrometric variations.

Order numb.	DMA672.1	DMA672.5	DMA672.4
Output	RH%: 0÷1 Vdc. °C: Pt100 DIN-IEC 751 table (EN 60751)		
Power supply	6÷18 Vdc		
Connector	L.3 m free wires (8 wires)	L.3 m + Femela connector for DWA9xx extension	L.3 m + Male connector for ELU00x enclosure
Data logger compatibility	M-Log (ELO007-008) R-Log (ELR515) E/X-Log (all models)	M-Log (ELO009) R-Log (ELR510)	Pluvi-ONE

Common features

Temperature	<i>Principle</i>	Pt100 1/3 DIN B (Class AA)
	<i>Measuring range</i>	-50÷70°C
	<i>Accuracy</i>	0,1°C (@0°C)
	<i>Output</i>	Pt100 DIN-IEC 751 table (EN 60751)
	<i>Resolution</i>	0,01°C (X/M/R/ELog)
	<i>Response time (T90)</i>	3 min. with filter, 20 sec. without filter (0,2 m/s air speed)
Relative humidity	<i>Principle</i>	Capacitive
	<i>Measuring range</i>	0÷100%
	<i>Accuracy</i>	±1,5% RH (@5÷95%)
	<i>Output</i>	0÷1 Vdc
	<i>Response time (T90)</i>	10 min. with filter, 30 s. without filter (0,2 m/s air speed)
General information	<i>Cable</i>	L = 3 m
	<i>Protection type</i>	IP54
	<i>Operative temperature</i>	-40÷+80°C
	<i>Power consumption</i>	2 mA

Accessories

Order numb.



DYA230	Multi plate natural ventilation radiant screen
DYA233	Multi plate natural ventilation radiant screen for DYA046 arm
DYA231	Multi plate forced ventilation radiant screen. 12 Vdc power supply
DPA232	Multi plate forced ventilation radiant screen. 24 Vac power supply
DZC301.S	Temperature and RH% calibration certificate. ISO9000 type
CSIT.T10	Temperature calibration certificate. ACCREDIA type
DZZSIT8	RH% calibration certificate. ACCREDIA type
DYA049	Mast-mounting device for ø 45-65 mm pipe





Thermohygrometer (analog, RS485, Radio output)

Instruments for accurate measurement of air temperature and relative humidity in severe outdoor environments. On models DMA980-975-875, an high efficiency natural ventilation radiant screen (with special black painting on the lower surface of the plates) ensures that the sensing element is protected by sun rays for accurate air temperature readings. For even better results in low wind and high solar radiation conditions, models DMA867 are equipped with a forced ventilation screen. DMA980 model measures temperature and relative humidity and barometric pressure. Output of the models DMA980-975 is RS485 using Modbus RTU® or TTY-ASCII protocols. EXP815 model is equipped with an internal radio to send measurement up to 600 m far to data logger equipped with radio receiver.

Order numb. **EXP875 (1)** **DMA980 (2)** **DMA975 (2)** **DMA875 (3)** **DMA867 (3)**

Measurements	°C/RH%	°C/RH%/hPa		°C/RH%	
Output	Radio	RS485		2x4÷20 mA	
Frequency	869,450 MHz	-		-	
Radio transmission power	25 ± 3 mW	-		-	
Radio transmission distance (line-of-sight)	600 m	-		-	
Transmission rate	10'	-		-	
Battery life	>2 years	-		-	
Protocol	-	Modbus RTU®, TTY-ASCII		-	
Programmable output	-	Instant, max., min., ave. (1÷3600 s)		-	
Configuration	-	Hyperterminal		-	
RS485 protection	-	Galvanic insulation (3 kV, UL1577)		-	
RS485 speed	-	1200÷115 kbps		-	
hPa measurement range	869,450 MHz	800÷1100 hPa	-	-	
hPa accuracy	25 ± 3 mW	0,5 hPa	-	-	
hPa thermal drift	600 m	0,25 hPa/10°C	-	-	
Power supply	Battery (AA 3,6 V)	10÷30 Vac/dc			
Power consumption	<10 µW stand-by 250 mW in transmission	1 W	1 W	3 W	
Electric protections	NO (electrically insulated system)	Tranzorb and Emifilter			
Ventilation		Natural		Forced	

Response time (T90)

continued

Air temperature Relative humidity
MW9000-ENG



**Common features**

Temperature	<i>Principle</i>	Pt100 1/3 DIN B (Class AA)
	<i>Measuring range</i>	Programmable: -30÷70°C, -50÷50°C, -50÷100°C
	<i>Accuracy</i>	0,2°C (@ 0°C)
	<i>Resolution</i>	0,04°C
	<i>Response time (T90)</i>	3 min. with filter 20 s without filter (0,2 m/s air speed)
Relative humidity	<i>Principle</i>	Capacitive
	<i>Measuring range</i>	0-100%
	<i>Accuracy</i>	±1,5% RH (@5-95%)
	<i>Response time (T90)</i>	10 min with filter 1 min without filter (0,2 m/s air speed)
General information	<i>Connector</i>	7 pin IP65 watertight connector
	<i>Protection type</i>	IP65
	<i>Operative temperature</i>	-40÷80°C

Accessories**Order numb.**

DZC301.S	Calibration certificate
DYA049	Mast-mounting device for ø 45-65 mm pipe
DWA505	Cable L = 5 m
DWA510	Cable L = 10 m
DWA525	Cable L = 25 m
DWA526	Cable L = 50 m
DWA527	Cable L = 100 m
MG2251	7 pin free female connector
DMA672.1	Sensitive element (spare part)
EXP301	Radio signal receiver from EXP815 radio sensors Output compatible with data loggers (M/E-Log) Maximum number of receivable sensors: 200 Battery: NiCd 9 V Power supply: 12 Vdc Connection cable to data logger: DWA601

