

Conductivity, resistivity, concentration transmitter Model 9125



Applications

- Drinking and waste water
- Industrial process control : chemical, petrochemical, pulp and paper, Food and beverage, sugar, steel, surface treatment industries
- Pure and ultrapure water analysis : steam generation and electricity production, semiconductors , pharmaceuticals industries

Benefits

- Universal transmitter : accepts 2–electrode or inductive Polymetron sensors
- Specific temperature compensation capabilities
 - fixed programmable coefficient in %/°C or in %/°F
 - non–linear for ultrapure water
 - non–linear freely programmable for concentration
 - specific software to conform to USP24 pharmaceutical regulations.
- 2–electrode sensor self–checking: constant auto–adaptation of the signal frequency applied to the sensor allows compensation for polarization or coating errors. A system alarm can be programmed if frequency limits are reached (patented).
- Several communication outputs available : 2 analog outputs, 4 relays, RS 485 serial bus
- Choice of calibration method:
 - 1 or 2–point, electrical or process
 - cell constant freely programmable

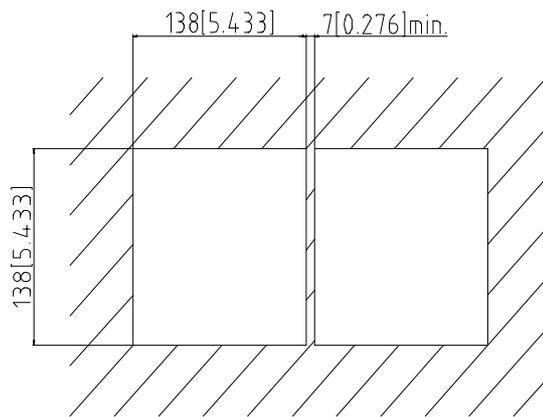
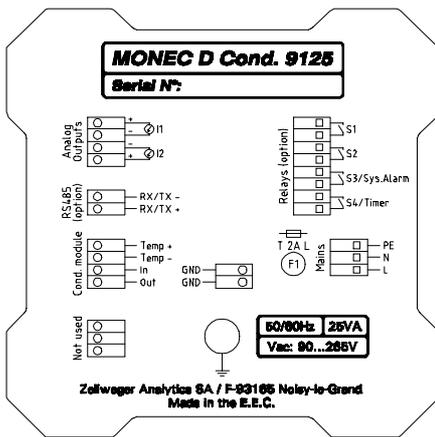
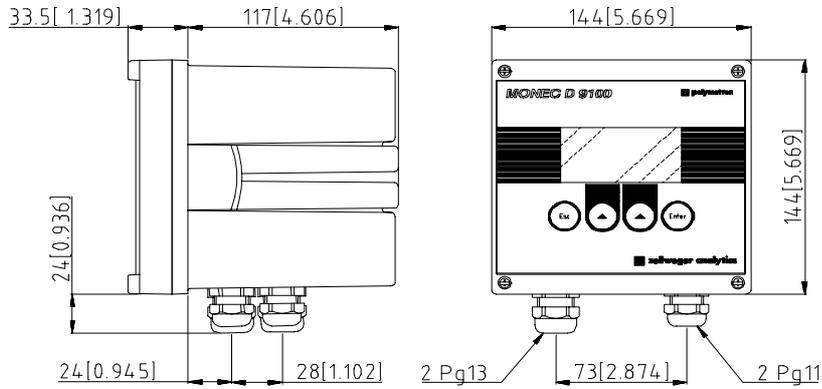
**The conductivity and concentration 9125 transmitter,
a unique answer for all your needs.**

- Mechanical strength and easy mounting
Polyester-coated metallic housing, NEMA 4X (IP65)
Universal mounting bracket suitable for wall, panel or tube installation
- Clear graphic backlit display
 - Multi-lingual display: English, French, German, Italian, Spanish, Dutch
 - Numerous units available : conductivity (S, μ S, mS, per m or cm), resistivity (G, kG, mG, per m or cm), concentration (% or g/l)
 - simultaneous display of measure and associated temperature
 - display of relay limits and analog outputs
- Independent access levels (with separate entry codes) for calibration, programming and service
- Total galvanic isolation :
 - between sensors and transmitter
 - between micro-processor and power supply, between other circuitry boards and analog outputs
- 2 "smart" analog outputs: 0/4–20 mA
 - linear, bilinear or logarithmic mode
 - simulation of the analog loop signal for testing purposes
 - programmable averaging for fast changing processes
 - bold capability of the 4-20 mA output for calibration, alarm, maintenance purpose
- Data retrieval for quality management
 - date and values of last calibration
 - self-diagnostic data
 - conformity certificate to specifications
- Options available :
 - relay board (part number 09125=A=4000)
 - relay 1: low or high setpoint
 - relay 2: low or high setpoint
 - relay 3: low or high setpoint or system alarm
 - relay 4: low or high setpoint or timer output
 relays output : 250 V AC, 3 A max., 100 V DC, 0,5 A max.
 - RS485 board: galvanically serial link isolated (part number 09125=A=1100)
 - Detailed test certificate (part number : 09125=T=0000)
- 9125 Transmitter

Measurement		model	part number
resistivity / conductivity	concentration		
x		standard 220 V	09125=A=0000
x		with relay output	09125=A=0004
x		with RS485 output	09125=A=0011
x		with RS485 and relay output	09125=A=0015
x	x	standard 220 V	09125=A=0100
x	x	with relay output	09125=A=0104
x	x	with RS485 output	09125=A=0111
x	x	with RS485 and relay output	09125=A=0115

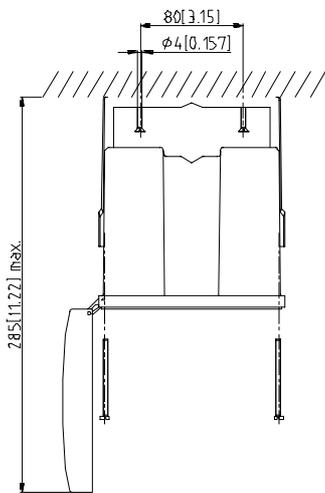
These models also exist in 24 V.

Dimensions in mm [inches] and connections

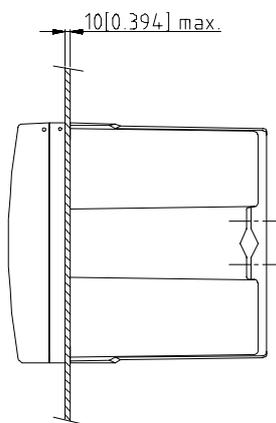


Panel cutout

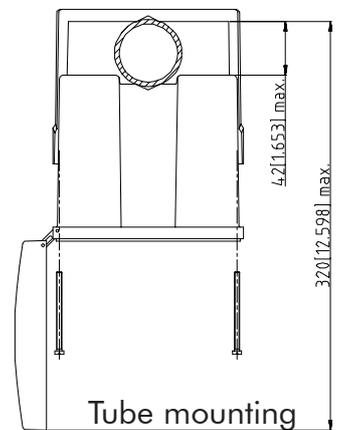
Universal mounting



Wall mounting



Panel mounting



Tube mounting
max ϕ 2"

Specifications

Enclosure

Conforms to European standards	EN 50081-1 & 50082-2 (EMC) EN-61010-1 (low voltage)
Protection	NEMA 4X IP65 certified
Material	aluminium and polyester-coated metallic housing stainless steel screws
Cable glands	2 x PG13 and 2 x PG11
Connections	2.5 mm ² terminals with screws demountable terminals for the mains and relays
Net weight	2 kg (4.4 lbs)
Temperature	Stockroom : -20 to 70°C (4 to 158°F) Operating : -20 to 60°C (4 to 140°F)
Display	34 x 67.4 mm (1.3 x 2.7 in) 4 digits: 12 mm x 8 mm (0.5 x 0.3 in) central graphic zone, relays status indication (S1, S2, S3, S4) double display : measure + temperature
Power supply	universal self-adapting : standard version : 100... 240 VAC, +/-10% 50/60 Hz low voltage version : 13 to 30 VAC, 50/60 Hz; 18 to 42 VDC consumption: 25 VA
Packaging	the transmitter is shipped in a cardboard box with instruction manual, 4 cable glands, screws for panel mounting and a quality certificate of conformity to specifications

Analysis

- Measuring ranges :
 - temperature: -20 to 200°C (4 to 392°F)
 - conductivity/resistivity for 2-electrode sensors:

cell constant (cm ⁻¹)	specific conductivity	specific resistivity
0.01	0.01µS/cm–200 µS/cm	5.00 kΩ x cm–100 MΩ x cm
0.1	0.1µS/cm–2 mS/cm	0.5 kΩ x cm–10 MΩ x cm
1.00	1 µS/cm–20 mS/cm	0.05 kΩ x cm–1 MΩ x cm

- conductivity / resistivity for inductive sensors:

cell constant (cm ⁻¹)	specific conductivity	specific resistivity
1.00	50 µS/cm–1 S/cm	1 Ω x cm–20 kΩ x cm
2.35	200 µS/cm–2 S/cm	0,5 Ω x cm–5 kΩ x cm
10.00	1 mS/cm–10 S/cm	0.1 Ω x cm–1 kΩ x cm

- Measurement characteristics (at transmitter inputs/outputs):

- conductivity/resistivity accuracy: ± 1% of reading
- concentration accuracy: ± 1% of reading
- mA accuracy: ± 0.1 mA
- Temperature accuracy : +/- 0,4°C

- 2 analog outputs: 0 or 4–20 mA, freely programmable scale
 - 1 for conductivity/resistivity/concentration and 1 for temperature or
 - 2 for conductivity/resistivity/concentration
 Galvanically isolated from CPU, mains and sensor, 16 bits resolution, max load: 900 ohms