



- ◆ **"The Ultimate" Gas Sensor + Transmitter**
- ◆ **Unmatchable Features**
- ◆ **Flammable, Toxic, Oxygen, CO₂**
- ◆ **4-20mA analog output or Digital RS485 output**
- ◆ **Non-intrusive magnetic calibration**
- ◆ **4-digit back-lit display & 5-mode status LEDs**
- ◆ **Three preset alarm thresholds**
- ◆ **Self-diagnostic procedures**
- ◆ **Zero Tracker**
- ◆ **Digital Filter**
- ◆ **ATEX Certified for Group I and II**



TU1000 series is available for large no. of gases – Methane, LPG, Gasoline, Hydrogen, Ethyl Alcohol, Methyl Alcohol, Ammonia, Toluene, Xylene, Acetone, Hexane, Ethylene, Acetylene, Oxygen, CO, H₂S, SO₂, NO₂, Cl₂, HCl, etc.



TU1000 (The Ultimate) Transmitter

TU1000 series is the latest avatar of Intelligent Transmitters, ‘**The Ultimate**’ Gas Sensor + **Transmitter** with unmatched features. It can detect either flammable or toxic vapours, Oxygen enrichment or depletion or CO₂. It can provide 4-20 mA analog output and/or Digital RS485 output. It can be interfaced with any standard process indicator or PLC/DCS. It can be calibrated through non-intrusive magnetic device or through PC or through a hand-held unit (display version). It can provide three settable alarms, three relays, open collector outputs, and back-lit display – virtually anything you can ask from a transmitter.

TU1000D unit has a large transparent front window with a 4-digit back-lit display and 5-mode status LEDs providing 24/7 gas concentration reading and channel status.

TU1000 has a three-preset, software programmed, alarm thresholds corresponding to three LEDs indications. Further two LEDs provide visual indication of Fault and Power ON. The **TU1000** unit comes complete with a 1-relay output interface with an optional 3-relay or 2-open collector outputs, thus making it an ideal choice for large scale installations with varied applications.

Technical specifications	
Sensing element	PELLISTORS, Industrial grade Electrochemical Cells, INFRARED sensor
Measurement range	0-100% LEL, ppm for toxic gases, %vol. for CO ₂
Power supply	12- 24 Vdc +/- 15%
Consumption at 12Vdc	90 mA (nominal); 130 mA (max)
Visual indications	Flashing LED (standard); 3 red LED for Alarm levels, yellow for Fault and green for Power supply (display version).
Display characteristics (Display version only)	4 digit, 7.5 mm high, 7 segment display
Analog output	4-20 mA (200 Ω)
Serial Output (optional)	Serial RS-485 MODBUS protocol
O/C or relay outputs (optional)	Open collectors or relay optional boards
Precision	1.5% full range or 10% reading
Repeatability	+/- 5% full scale
Warm-up time	5 minutes
Stabilization time	< 2 minutes
Response time	< 15 sec. T50; < 25 sec. T90 (flammable gas with Pellistor)
Storage temperature	-25 / + 60 °C
Operating temperature	-10 / + 60 °C (flammable gas version)
Relative humidity	20-90 % Rh / 40 °C
IP rating	IP65 (Exd version); IP55 (Exn version)
Operative pressure	80-110 KPa
Air velocity	< 6 mS – check unit
Weight	Exd : 900 gr. Blind Exn: 800 gr Blind Exd : 900 gr. Display Exn : 700 gr display
Dimension	Exd : L.106, H. 160, D. 80 mm Exn : L.106, H. 180, D. 65 mm
Orientation	The detector must be mounted with sensor head downward
Reference Norms	EN60079-0 EN60079-1 EN60079-15 EN61241-0 EN61241-1 (Electrical Apparatus for Explosive Atmospheres). EN 61779-1/4 (Performance)
Certificates	CESI 01ATEX053 (Exd version) CESI 03ATEX339 (Exn version) CESI 02ATEX084 (Exd + performance) CESI 04 ATEX106 (Group I)

Note: Indications & Magnetic Programming Features are available with Display Version only. Some of the features are optional.