

FLAMMABLE GAS SENSOR/TRANSMITTER

Plant safety protection for flammable gases.

FEATURES

- Fixed gas monitoring for point source hazards and perimeter protection in arduous duty and exposed locations.
- Safety protection for flammable gas risk occurring in hazardous areas and general industrial applications.
- Poison resistant CATALYTIC COMBUSTION sensors.
- Convenient push button calibration of ZERO and SPAN with digital programming.



- Choice of analogue output signal:- 4...20mA • 0.4...2V • 5...15Hz.
- Automatic signal clamping to prevent ambiguous reading above the LEL region.
- Signal fix during calibration to prevent false alarms.
- Intrinsically safe for use in Group I and Group II hazardous areas.



- Special versions with weatherproof plug and socket connectors available.



- Option with remote mounted gas sensing module in robust metal housing for arduous working situations.



PRE-CALIBRATED GAS SENSING MODULES

Pre-calibrated plug-in gas sensing module with a standardised output signal for convenient replacement and servicing.





TECHNICAL details

Operating Temperature Limits:	-10°C...40°C.
Storage Temperature Limits:	-20°C...60°C.
Ambient Pressure Limits:	1013mb ± 100mb absolute.
Humidity:	95% RH non-condensing.
Protection Classification:	Dust and waterproof to IP66. Gas inlet port to IP54.
Housing Material:	Stainless steel filled Polyamide 6.
Nett Weight:	450g.
Cable Entries:	M20 x 1.5.
Electrical Connections:	4mm Barrier/clamp terminals.
Information Display:	Graphic LCD.
Impact Limits:	20 joules (Housing).

GAS SENSING MODULE

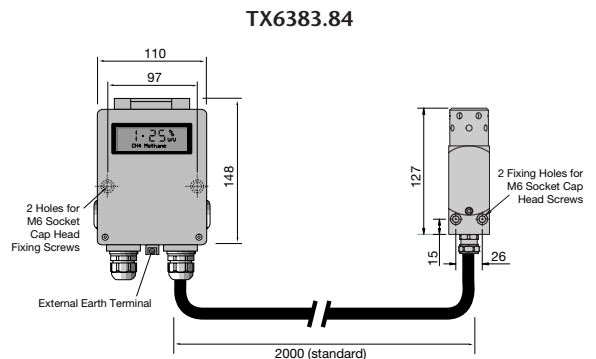
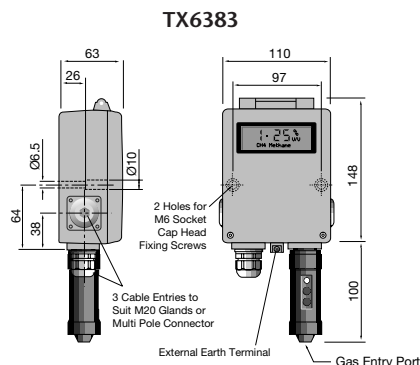
Plug-in module with retaining lock. Standardised interface signal to enable easy interchange of modules.



- Pushbutton calibration of ZERO and SPAN without the need to open the main housing.
- Security protected.
- Digitally controlled programming for accuracy and stability.

Measuring Range:	0...5% v/v CH ₄ . Calibrated to Methane - other flammable gas calibrations available to specification.
Linearity:	±1% 0...60% FULL SCALE. ±5% from 60% up to 100% FULL SCALE.
Maximum Drift @ 25°C:	±0.25% v/v per month.
Response Time (T90):	<20 secs.
Sensing Element Life:	>5 years in clean atmosphere.
Warm Up Time:	<5 mins in air or 1% v/v CH ₄ . (To 95% stated accuracy).
Signal Fix:	The output process signal is FIXED during calibration to prevent the initiation of false alarms.
Overrange Protection:	Automatic signal clamping to prevent ambiguous response when the gas concentration exceeds the normal working limit (5% v/v CH ₄). Automatic sensor protection against excess gas concentration.

DIMENSIONS in mm.

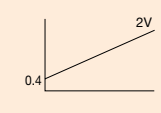
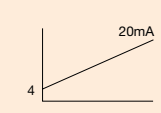
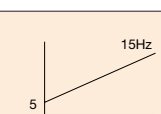




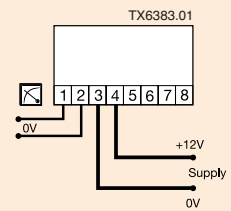
ELECTRICAL details

TX6383.01 Group I Applications (12V dc).



Output	0.4...2V	
Min Load	10 K ohms	
Supply	6.5...16.5V dc	
Nominal Current	80mA	
Output	4...20mA	
Max Load @ 12V dc	140 ohms	
Supply	6.5...16.5V dc	
Nominal Current	100mA	
Output	5...15Hz	
Max Load	Opto isolated. 2mA max	
Supply	6.5...16.5V dc	
Max Current	80mA	

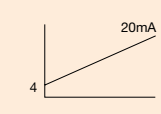
Connections:



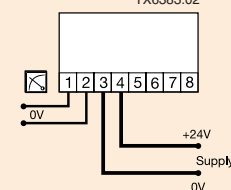
Gas sensors located in a Group I hazardous area must be powered from an approved intrinsically safe source. Please see Trolex Installation and Operating Data for recommendations.

TX6383.02 Group II Applications (24V dc).

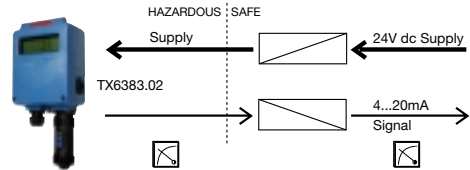


Output	4...20mA	
Max Load @ 24V dc	240 ohms	
Supply	Minimum 6.5V at the sensor supply terminals (3 and 4)	
Nominal Current	100mA	

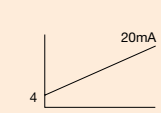
Connections:



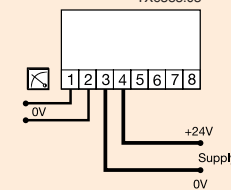
Gas sensors located in Group II hazardous area must be used in conjunction with approved safety barriers. Zener barriers or isolation barriers may be used. Please see Trolex Installation and Operating Data for recommendations.

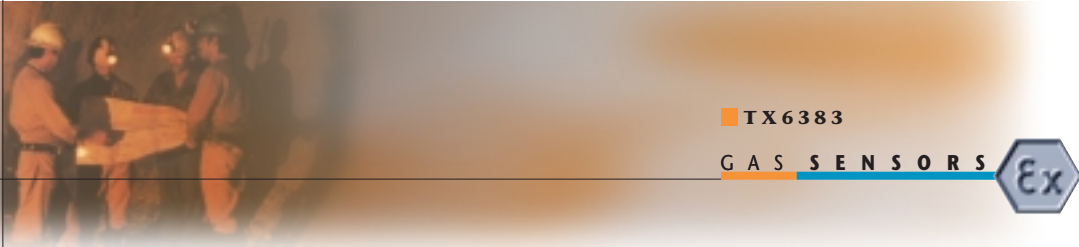


TX6383.03 General Purpose Applications (24V dc).
NOT FOR USE IN CLASSIFIED HAZARDOUS AREAS.

Output	4...20mA	
Min Load @ 24V dc	240 ohms	
Supply	6.5...30V dc	
Nominal Current	100mA	

Connections:





ORDER
REFERENCE

TX 6383.01 FLAMMABLE GAS SENSOR/TRANSMITTER. (Group I)



TX 6383.02 FLAMMABLE GAS SENSOR/TRANSMITTER. (Group II)



TX 6383.03 FLAMMABLE GAS SENSOR/TRANSMITTER. (General Purpose)



Please specify additional information:

OUTPUT SIGNAL:

- 0.4...2V (11)
- 4...20mA (12)
- 5...15Hz (13)

Gas Type	Symbol	Range	Units	%V/V at 100% LEL
Methane	CH ₄	4%	V/V	/
Methane	CH ₄	5%	V/V	/
Methane	CH ₄	100%	LEL	5.0
Ethylene	C ₂ H ₄	100%	LEL	2.7
Ethane	C ₂ H ₆	100%	LEL	3.0
Propane	C ₃ H ₈	100%	LEL	2.0
Propylene	C ₃ H ₆	100%	LEL	2.2
Butane	C ₄ H ₁₀	100%	LEL	1.5
Pentane	C ₅ H ₁₂	100%	LEL	1.4
Hexane	C ₆ H ₁₄	100%	LEL	1.2

TX 6383.84.01 (Group I)

TX 6383.84.02 (Group II)

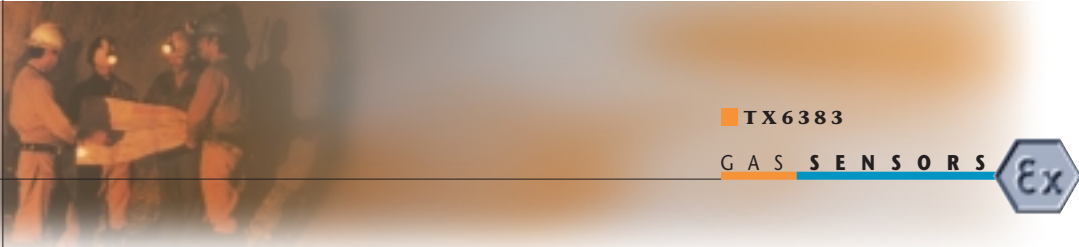
TX 6383.84.03 (General Purpose)

FLAMMABLE GAS SENSOR/TRANSMITTER with Remote Gas Sensing Module.

- Fitted with 2 metre flexible cable in a flexible armoured conduit
- Maximum total cable length: 500 metres
- 10m max I.S. (Group I and Group II)

Please specify non-standard cable length.





CERTIFICATION
& APPROVAL



Group I TX6383 Flammable Gas Sensor/Transmitter: I M1 EEx ia I

Group II TX6383 Flammable Gas Sensor/Transmitter: II 2G EEx iad IIB T4



Designed to comply with the requirements of the EC directive:

- ATEX directive 94/9/EEC
- EMC directive 89/336/EEC

EURONORM The TX6383 Flammable Gas Sensor/Transmitter complies with BS EN61779 Part 1 and Part 2: 2000 performance approvals (APPLIED FOR).

TROUBLE FREE SERVICING

Our 24 hour replacement and exchange service for gas sensing modules simplifies periodic plant maintenance.

Trox service contracts for gas sensors have been specifically structured to encompass complete after-care responsibility of installed sensors ensuring peace-of-mind and operational security.



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