

के० ख० एवं ई० अ० सं० परीक्षण प्रकोष्ठ - CIMFR TESTING CELL
सीएसआईआर - केन्द्रीय खन एवं ईंधन अनुसंधान संस्थान
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)



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परीक्षण प्रमाण पत्र - TEST CERTIFICATE

[FORM NO.: CIMFR: DQM: FLP02: F-02]
(Flame & Explosion Lab.)

I.D No. 653/12

CODE NO FLP/256C/12-13

FIRST SCHEDULE

[For association with the report of test sent (under cover of this office Letter No CIMFR/TC/P/11679 Dated 10th January, 2013) to M/s. Trolex Ltd., Newby Road, Hazel Grove, Stockport, SK7 5 DY UK, in respect of testing as regards to intrinsic safety of the equipment mentioned below submitted by them for testing]

NAME & DESCRIPTION OF THE APPARATUS: The name of the apparatus is **STX3261 Methane Sensor.**

The **STX3261 Methane Sensor** is a Methane Sensor and it is designed to measure methane concentration by means of a pellistor type sensing head and to electronically convert the measured methane concentration into an output signal that can be configured either as a 0V to 2.0V output signal or as a 4 to 20mA output signal.

The unit consists of a controller PCB, an output PCB containing an encapsulated DC to DC converter and an optional LCD, allocated in a plastic enclosure having an ingress protection rating of at least IP54. A window in the output enclosure permits local viewing of the Methane concentration displayed on the optional LCD. A relay mounted on the controller PCB is programmed to disconnect the power to the catalytic sensor. The catalytic sensor is housed in a separate metallic enclosure that is externally attached to the main plastic enclosure. External electrical connections are made to screw type terminals mounted on the output PCB.

The STX3261 Methane Sensor has the following safety description:

Connector pins 1 w.r.t. 2 (Power input)	Connector pins 4 w.r.t. 3 (0.4 to 2V signal output)	Connector pins 5 w.r.t. 3 (4- 20mA signal output)
$U_i = 14.4V$ $I_i = 3.14V$ $L_i = 0$ $C_i = 0$	$U_0 = 7.14V$ $I_0 = 12mA$ $P_0 = 22mW$ $C_i = 0$ $L_i = 0$ $C_0 = 1000\mu F$ $L_0 = 1H$ $U_i = 14.4V$	$U_0 = 14.4V$ $I_0 = 276mA$ $P_0 = 1mW$ $C_i = 0$ $L_i = 0$ $C_0 = 17.9\mu F$ $L_0 = 6.13mH$ $U_i = 14.4V$

This certificate does not cover any accessories to the methane sensor or its incorporation into an intrinsically safe system.

The input fuse F1 in the circuit is 125mA and the 2V Pellister power supply (DC to DC converter) is part of the output printed circuit board (PCB) and it is un-encapsulated. The claimed output voltage to the pellister is 3.47V (maximum) and the inductor value L1 in the modified DC to DC converter is 12μH. The 5V power rail is clamped by ZD1 & ZD2 to 7.14V. The output board has two

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