

के० ख० एवं ई० अ० सं० परीक्षण प्रकोष्ठ - CIMFR TESTING CELL
सीएसआईआर - केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान



ORIGINAL COPY

CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
ISSUANCE REGISTERED

FORMERLY : CENTRAL MINING RESEARCH INSTITUTE
(COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH)

बरवा रोड, धनबाद - 826015 (भारत) - BARWA ROAD, DHANBAD - 826015 (INDIA)

परीक्षण प्रमाण पत्र - **TEST CERTIFICATE**

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

ID NO. 404/13

CODE NO. FLP/99F/13-14

FIRST SCHEDULE

[For association with the report of test sent (under cover of this office Letter No CIMFR/TC/P/HSS4 Dated 24th December, 2014) 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 **TX6141and TX6143 Pressure Sensor/Transmitter.**

Trolex TX6141 and TX6143 Pressure Sensor/Transmitters are designed to measure gauge or absolute pressure and differential pressure respectively, in process pipeline, atmosphere and tank monitoring applications. The sensor element comprises a ceramic or stainless steel diaphragm in contact with strain gauge resistive elements in a Wheatstone bridge configuration; in the case of the differential pressure sensor, there is a second diaphragm. Any deflection of the diaphragm due to changes in pressure difference across it will unbalance the bridge and the result in a voltage signal proportional to the pressure difference. The bridge excitation is either voltage or current depending on the type of sensor. The signal voltage is converted to a digital value using an analog to digital converter and is read by the micro-controller. The micro-controller software calculates the true scaled pressure reading and performs other functions such as linearization and temperature compensation as well as conversion of the displayed pressure reading in units other than bar. The scaled pressure reading is displayed on an LCD module, which also allows users to re-calibrate the apparatus as well as change the default settings affecting operation. The scaled reading is also converted into a standard process signal such as 0.4-2V, 5-15Hz and 4-20mA for use in monitoring and control process.

The apparatus is housed in a polycarbonate enclosure with a polycarbonate window glued into a recess to allow viewing of an LCD.

Each of the two types of TX6141 or TX6143 can be manufactured in one of five versions:

- A Group I: 4 to 20 mA version (4-wire)
- B Group I: 0.4 to 2V version (4-wire)
- C Group I: 5 to 15Hz. version (4-wire)
- D Group I: 4 to 20 mA version (2-wire)
- E Group I: 4 to 20 mA version (2-wire)