UK-TYPE EXAMINATION
CERTIFICATE

Product or Protective Systems Intended for Use in Potentially Explosive Atmospheres

UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

1. UK-Type Examination Certificate Number: **ITS21UKEX0329X** **Issue 00**

2. Product: Proflo PF2 lubricant flow monitor

3. Manufacturer: Compressor Products International

4. Address: 4410 Greenbriar Drive
Stafford, Texas 77477
United States of America

5. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

6. Intertek Testing and Certification Limited, Approved Body number 0359, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential report 104173915DAL-003.

7. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0: 2018 and EN 60079-11: 2012 except in respect of those requirements referred to within item 14 of the Schedule.

8. If the sign "X" is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule to this certificate.

9. This UK-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

10. The marking of the product shall include the following:

II 1 (1) G

Ex ia [ia] IIC T4 Ga

-40°C ≤ Ta ≤ 60°C

Certification Officer: Todd L. Relyea **Date:** 14 August 2023

Todd L. Relyea

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Intertek Testing & Certification Limited, Cleeve Road, Leatherhead, Surrey, KT22 7SA
Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

SCHEDULE:

UK-Type Examination Certificate Number: ITS21UKEX0329X Issue 00

11. Description of Product or Protective System

The product covered by this report is a Proflo PF2 lubricant flow monitor.

The Proflo PF2 is used in the oil and gas industry. It is located in the general area of gas compressors and monitors the flow of oil used to lubricate compressor components. A mechanical distribution system, known as a divider block or metering block, distributes the lubricant to the compressor. A magnet assembly installs into this divider block and an internal magnet articulates with the flow of oil. The Proflo PF2 mounts directly to this magnet assembly to track the magnet movement via an internal proximity sensor. The Proflo PF2 can also be mounted remotely, and a separate Reed Switch device (such as the CPI Proflo Captured Switch) can be used to provide an input signal for the movement of the magnet. The Proflo PF2 monitors and tracks the flow of lubricant and communicates the performance of the lubricant system to other equipment. A typical application would use the Alarm Output to shut down the compressor when the lubricant flow rate drops below the desired threshold.

An LCD panel and membrane with touch switches allow the user to configure the device and view data. A 12-pin connector and mating cable are used to connect the inputs and outputs to other equipment. The wired connection circuits are; Alarm Output, 24 VDC Input, Pulsed Input, Modbus, Pulsed Output, and a Ground wire. The device is also capable of Bluetooth communication for software uploads and data downloads.

The product is powered through a single battery cell and barriers. The battery cannot be replaced in Hazardous Location, but it can be replaced in Ordinary Location.

Battery Ratings: Nominal voltage: 3.6V; Peak voltage: 3.9V; Nominal capacity: 2.4Ah; Maximum continuous current: 100mA

External Power, communication, and I/O are provided to the I.S. apparatus through approved barriers from Unspecified apparatus. There are three kinds of I.S. barriers used in the system. The input parameters for the different barrier inputs are as follows:
9-24V Input line uses an I.S. barrier. See entity parameters below:

- Ui = 28V Ii = 100mA Pi = 750mW Ci = 0uF Li = 18uH

Alarm Output and Pulsed Output use the same I.S. barrier. See entity parameters below:

- Ui = 28V Ii = 50mA Pi = 320mW Ci = 0uF Li = 47.93mH

Modbus uses a different I.S. barrier. See entity parameters below:

- Ui = 5.88V Ii = 277mA Pi = 408mW Ci = 0uF Li = 0uH

The Pulsed Input connects to a simple apparatus reed switch. See entity parameters below:

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- Uo = 5.88V Io = 120uA Po = 175uW Co = 43uF Lo = 1mH

12. Report Number

Intertek Report: 104173915DAL-003 Issue: 00 Dated: 2023-07-18.

13. Special Conditions of Certification

(a). Special Conditions of Use

• Do not open the equipment when an explosive atmosphere is present. The battery is not replaceable in a Hazardous Location,

• Only use CPI battery assembly Part No. 650140000095964, which incorporates the Tadiran TL-5903 battery,

•Electrostatic hazard warning. Follow the procedures of the installation site including any procedures or codes applicable to operating equipment in Hazardous Locations. The Proflo PF2 should be earth grounded using the housing grounding connection. The device should also be wiped with a damp cloth prior to contact to eliminate the occurrence of static electricity and potential static induced electrical arcs,

•The aluminum enclosure may produce incendiary sparks if subjected to impact or friction. When installed into an EPL Ga environment the end user shall carry out a risk assessment and shall only install the equipment if the risk of these hazards occurring is negligible,

•The Proflo PF2 has three installation options which are all considered fixed installations.

(b). Conditions of Manufacture - Routine Tests

• N/A

14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report: 104173915DAL-008 Issue: 00 Dated: 2023-07-13.

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15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
PROFLO PF2, WITHOUT MAGNET OR CABLE	650040000000PF2-ASD	A	07/14/2023
Instruction Manual proflo® PF2	650150000095788-ASD	A	July 2023
BATTERY ASSEMBLY, 3.6V LITHIUM, WITH CONNECTOR	650140000095964-ASD	A	07/14/2023
MAGNET ASSEMBLY	650040000095775X-ASD	A	07/14/2023
PROFLO PF2 CONNECTOR CABLE	6500400PF2CCXXM-ASD	A	07/14/2023
Assy Dwg BOT, PCB, CPI Proflo 2	PCB020-RA-ASSY-BOT	A	03/21/2023
Assy Dwg TOP, PCB, CPI Proflo 2	PCB020-RA-ASSY-TOP	A	03/21/2023
PCB020-SCH-RA	PCB020-SCH-RA	A	03/21/2023
Bill of Materials: 15-1464, Rev A - Assembly PCB, CPI Proflo 2 Main PCB, CPI PN: PCB020	PCB020-RA-BOM	A	03/21/2023
CPI Proflo 2	PCB020-RA-FAB	A	03/21/2023

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