



EU-TYPE EXAMINATION CERTIFICATE

Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

Certificate Number: **Sira 08ATEX2054X** Issue: **3**

Equipment: **WiFi Encoders and Sensors**

Applicant: **Hohner Automation Limited**

Address: Units 14-16
Whitegate Industrial Estate
Wrexham LL13 8UG
UK

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

CSA Group Netherlands B.V., Notified Body Number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2006

EN 60079-11:2007

EN 60079-26:2007

If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

The marking of the equipment shall include the following:



II 1G

Ex ia IIC T4 Ga (Ta = -20°C to +49°C)

Project Number 2352

Signed:

Title: Director of Operations

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CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem,
Netherlands



SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

Sira 08ATEX2054X
Issue 3

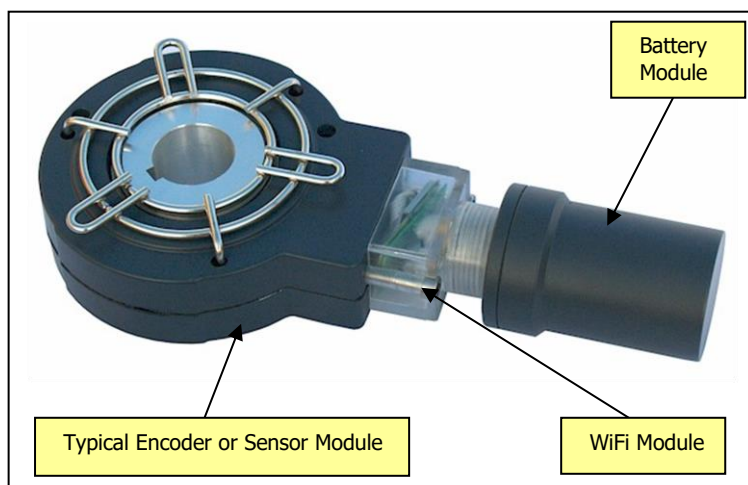
13 DESCRIPTION OF EQUIPMENT

The Hohner WiFi Shaft Encoder/Sensor Assemblies consist of three main sections:

- Battery module
- WiFi transmitter module
- Shaft Encoder/Sensor module

The Shaft Encoder/Sensor module can be one of six different types:

- i. 7-Bit Absolute Encoder (Series FPX)
- ii. 10-Bit Absolute Encoder (Series 08)
- iii. Incremental Shaft Encoder (Various types)
- iv. Multi-turn Shaft Encoder (Series 03)
- v. Fluid Sensor (Series E5Y)
- vi. Fuel Sensor (Series E5X)



The principal function of the Encoder/Sensor assemblies is to provide wireless transmission of data between the unit and a local receiver fitted in the safe area. The assemblies use the IEEE 802.15 protocol at a frequency between 2.4 to 2.527 GHz to transmit data wirelessly in binary packets at a data rate of 250 kbs.

Every time the encoder shaft moves, a pulse edge triggers a data transmission to the distant module. Data is read 100 times per second. If the incremental encoder spins too fast, the data transmission jumps from one counter content to another. Every data transmission contains the full 16-bit counter value.

The diagram above shows the typical layout of the complete assembly:

The encoder/sensor module electronics are housed in a range of metallic enclosures with various dimensions and shaft sizes/orientations. The WiFi Module is housed in a MAKROLON® 2405, 2407 or 2456 plastic enclosure to permit radio signal interfacing and the battery module enclosure is constructed from either aluminium or stainless steel.

The encoder/sensor enclosures are generically defined and may vary in size. The general arrangement drawings (one for each generic type) are considered to have a minimum ingress protection rating of IP20 with the majority of enclosures providing a minimum of IP65. Furthermore, there are limits on the total amounts of magnesium, aluminium, titanium and zirconium as required by IEC 60079-0:2004.

Variation 1 - This variation introduced the following changes:

- i. The recognition of an alternative potting compound type on the WiFi Battery assembly.



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14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	10 June 2008	R52L16733A	The release of the prime certificate.
1	22 August 2008	N.A.	One of the standard references in section 9 was amended to correct a typographical error.
2	4 May 2012	R27840A/00	The introduction of Variation 1.
3	15th October 2019	2352	<ul style="list-style-type: none">Transfer of certificate Sira 08ATEX2054X from Sira Certification Service to CSA Group Netherlands B.V..EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. <i>(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)</i>

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

15.1 The enclosure of the WiFi module is manufactured from plastics materials. Under certain extreme circumstances, such parts may generate an ignition-capable level of electrostatic charge. Therefore, the encoder shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces, particularly when it is used for zone 0 applications. Additionally, the equipment shall only be cleaned with a damp cloth.

15.2 As aluminium is used at the accessible surface of this equipment, ignition sources due to impact and friction sparks could occur, this shall be taken into account during the installation of the equipment.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

Certificate Annexe



Certificate Number: Sira 08ATEX2054X
Equipment: WiFi Encoders and Sensors
Applicant: Hohner Automation Limited

Issue 0

7-Bit Absolute Encoder (Series FPX) Drawings

Number	Sheet	Rev.	Date(Sira stamp)	Description
WIFI7BITABSOLUTEDESCRIPTION	1 of 1	3	29 May 08	Description wifi 7 bit absolute encoder series FPX
WIFI7BITABSOLUTEASSEMBLY	1 of 1	3	29 May 08	Absolute 7 bit encoder assembly wifi
WIFI7BITABSOLUTEBLOCK	1 of 1	1	29 May 08	Block diagram – WIFI absolute encoder series FPX
WIFI7BITASOLUTESCHEMATIC	1 of 1	4	29 May 08	Schematic – wifi absolute encoder 7 bit series FPX
WIFI7BIT - see GERBER FILES	1 of 1	3	29 May 08	PC Board – FPX Series RF 7 bit Encoder
WIFI7BITABSUTELIST	1 of 1	4	29 May 08	Bill of Materials – FPX Series RF 7-bit Absolute Encoder
WIFIBATTERYDESCRIPTION	1 of 1	1	29 May 08	WIFIBATTERY description
WIFIBATTERYASSEMBLY	1 of 1	3	29 May 08	Battery assembly wifi
WIFIBATTERYSCHEMATIC	1 of 1	2	29 May 08	Schematic – Wireless Battery
WIFIBATT - see GERBER FILES	1 of 1	2	29 May 08	PC Boards – Wireless Battery
WIFIBATTERYLIST	1 of 1	2	29 May 08	Bill of Materials – Wi Fi Battery
WIFICONTROL	1 of 1	3	29 May 08	Battery powered intrinsically safe sensor
WIFI REMENTALDESCRIPTION	1 of 1	2	29 May 08	remental encoder description wifi
WIFI REMENTALASSEMBLY	1 of 1	3	29 May 08	remental encoder assembly wifi
WIFI REMENTALBLOCK	1 of 1	1	29 May 08	Block diagram – wifi remental encoder
WIFI REMENTALSCHEMATIC	1 of 1	2	29 May 08	Schematic – WIFI remental encoder head
WIFI R – see GERBER FILE	1 of 1	2	29 May 08	PC Boards – Wireless remental Encoder
WIFI REMENTALLIST	1 of 1	3	29 May 08	Bill of Materials – Wireless remental Encoder
WIFIMULTITURNDESCRIPTION	1 of 1	3	29 May 08	Description – wifi multiturn series 03 com board
WIFIMULTITURNASSEMBLY	1 of 1	3	29 May 08	03 multiturn encoder assembly wifi
WIFIMULTITURNBLOCK	1 of 1	1	29 May 08	Block diagram – wifi multiturn encoder series 03
03EXschtop	1 of 1	2	29 May 08	Schematic – Multiturn encoder 03 top board
03EXschmid	1 of 1	2	29 May 08	Schematic – Multiturn encoder 03 middle board
03EXschbot	1 of 1	2	29 May 08	Schematic – Multiturn encoder 03 bottom board
WIFIMULTITURNCOMSCHEMATIC	1 of 1	4	29 May 08	Schematic – wifi multiturn encoder series 03 com board
03EXPCBTOP	1 of 1	6	29 May 08	03 Series Absolute Encoder Top PC Board
03EXPCBMID	1 of 1	6	29 May 08	03 Series Absolute Encoder Middle PC Board
03EXPCBBOT	1 of 1	6	29 May 08	03 Series Absolute Encoder Bottom PC Board

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Certificate Annexe



Certificate Number: Sira 08ATEX2054X

Equipment: WiFi Encoders and Sensors

Applicant: Hohner Automation Limited

Number	Sheet	Rev.	Date(Sira stamp)	Description
WIFIMULTI – see GERBER FILE	1 of 1	3	29 May 08	03 Series Absolute RF Communications Board
WIFIMULTITURNLIST	1 of 1	4	29 May 08	Bill of Materials – 03 Series Absolute Multi-turn RF Encoder
WIFIRFDESCRIPTION	1 of 1	1	29 May 08	Radio frequency component
WIFIRFASSEMBLY	1 of 1	3	29 May 08	Radio frequency component
WIFIRFSCHMATIC	1 of 1	2	29 May 08	Schematic – WIFIRF PCB's
WIFIRF – see GERBER FILES	1 of 1	3	29 May 08	PC Boards – WIFIRF PCB's
WIFIRFLIST	1 of 1	2	29 May 08	Bill of Materials – WIFIRFCIRCUIT
WIFIFUELDESCRIPTION	1 of 1	2	29 May 08	Fuel sensor series E5X description wifi
WIFIFUELASSEMBLY	1 of 1	3	29 May 08	Fuel sensor series E5X assembly wifi
WIFIFUELBLOCK	1 of 1	1	29 May 08	Block diagram – WIFI fuel sensor
WIFIFUELSCHMATIC	1 of 1	4	29 May 08	Schematic – WIFI fuel sensor
WIFIFUEL - see GERBER FILE	1 of 1	3	29 May 08	PC Board – E5X Series RF Fuel Sensor
WIFIFUELLIST	1 of 1	4	29 May 08	Bill of Materials – E5X Series RF Fuel Sensor
WIFIFLUIDDESCRIPTION	1 of 1	3	29 May 08	Fluid sensor series E5Y description wifi
WIFIFLUIDASSEMBLY	1 of 1	3	29 May 08	Fluid sensor series E5Y assembly wifi
WIFIFLUIDBLOCK	1 of 1	1	29 May 08	Block diagram – WIFI fluid sensor
WIFIFLUIDSCHMATIC	1 of 1	3	29 May 08	Schematic – Fluid sensor E5Y
WIFIFLUID – see GERBER FILE	1 of 1	4	29 May 08	PC Board – E5Y Series RF Fluid Sensor
WIFIFLUIDLIST	1 of 1	4	29 May 08	Bill of Materials – E5Y RF Fluid Quality Sensor
WIFI10BITABSOLUTEDESCRIPTION	1 of 1	2	29 May 08	Description wifi 10 bit absolute encoder series 08
WIFI10BITABSOLUTEASSEMBLY	1 of 1	3	29 May 08	Absolute 10 bit encoder assembly wifi
WIFABSOLUTEBLOCK	1 of 1	1	29 May 08	Block diagram – 08 Series RF 10 bit Absolute Encoder
WIFI10BITABSOLUTESCHMATIC	1 of 1	4	29 May 08	Schematic – wifi 10 bit absolute encoder series 08
WIFI10BIT - see GERBER FILE	1 of 1	3	29 May 08	PC Board – 08 Series RF 10 bit Absolute Encoder
WIFI10BITABSOLUTELIST	1 of 1	4	29 May 08	Bill of Materials – 08 Series RF 10-bit Absolute Encoder
LBUK-WiFi-01	1 to 2	/	29 May 08	UK-WiFi Label
LBUK-WiFiBAT-01	1 of 1	/	29 May 08	UK-WiFi Battery label

Issue 1 – No new drawings were introduced.

Issue 2

Drawing no.	Sheet	Rev.	Date(Sira stamp)	Description
WIFIBATTERYASSEMBLY	1 of 1	4	02 May 12	Battery assembly wifi
WIFIBATTERYLIST	1 of 1	3	02 May 12	Bill of Materials – Wi Fi Battery

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