



1 **TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 05ATEX4046X** Issue: **6**

4 Equipment: **Model W40135 Flow Computer and
W40203 Foundation Fieldbus Controller Assembly**

5 Applicant: **Bristol, Inc. dba Remote Automation Solutions**

Address: 1100 Buckingham Street (For other manufacturing sites, see certificate schedule)
Watertown
Connecticut 06795
USA

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

8 Sira Certification Service certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of Category 3 equipment, which is intended for use in potentially explosive atmospheres. These Essential Health and Safety Requirements are given in Annex II to European Union Directive 94/9/EC of 23 March 1994.

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

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN 60079-0:2012

EN 60079-15:2003

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This TYPE EXAMINATION CERTIFICATE relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured.

12 The marking of the equipment shall include the following:



II 3 G

Ex nA IIC T4 Gc (T_a = -40°C to +75°C)

Project Number 70029369

C Ellaby
Deputy Certification Manager

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13 DESCRIPTION OF EQUIPMENT

The Model W40135 Flow Computer is a microprocessor-based controller that provides the functions required for a variety of field automation applications. The controller is used for applications requiring general logic and sequencing control, historical data archiving, multiple communication ports, PID control and flow measurements on up to twelve metre runs.

The unit consists of the main enclosure containing a fixed backplane (there are three options) with an integral card-cage that can accommodate:

- i: A Power Supply Module
- ii: Up to 27 I/O and Communications Cards
- iii: W48071 CPU or W48093 Series 2 CPU & W28142 License Key
- iv: W48088 Foundation Fieldbus Interface CPU

All the cards communicate with each other on a common SPI bus. Empty slots are covered by blanks secured to the enclosure with screws and moulded from the same material as the enclosure.

The five possible backplanes are:

- i: W48072 ROC 809 Backplane
- ii: W38263 ROC 827 Backplane
- iii: W38266 ROC 827 Expansion Backplane
- iv: W48090 ROC 827 Backplane, Series 2
- v: W48091 ROC 827 Expansion Backplane, Series 2

The unit has a number of power module options:

- i: Nominal 12 Vdc Input Module (W38185 PS-DC-12)
- ii: Nominal 24 Vdc Input Module (W38245 PS-DC-24)
- iii: PM-30 Power Module is: 11-30Vdc, 76W max
- iv: Solar Power Module (W38187 PS-Solar)

The unit has the following i/o module options:

- i: W38189 5-Channel J/K Thermocouple Input Module (TC)
- ii: W38191 5-Point Relay Output Module (DO-R)
- iii: W38193 5-Point Digital Output Module (DO)
- iv: W38195 8-Point Digital Input Module (DI)
- v: W38197 16-Bit Pulse Input Module (PI)
- vi: W38201 12-Bit Quad Analog Input Module (AI-12)
- vii: W38203 16-Bit Quad Analog Input Module (AI-16)
- viii: W38205 2-Point 16-Bit RTD Input Module (RTD)
- ix: W38269 AO High
- x: W38207 Multi-Variable Sensor (MVS)
- xi: W38257 APM
- xii: W38272 APM Daughter Board
- xiii: W38304 MVS I/O Module
- xiv: W48089 AC I/O Module
- xv: W48094 16 Bit Quad analogue Input Module
- xvi: W48097 Hart Module
- xvii: W28161X0012 FF H1 Module
- xviii: W28161X0022 FF H1 Power Module
- xix: W38366 Thermocouple Personality Board, Series 2
- xx: W38350 DO Relay Personality Board, Series 2
- xxi: W38351 RTD Input Personality Board, Series 2
- xxii: W48095 I/O Base Board, use with TC, DO Relay and RTD Series 2 Personality Boards

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| | |
|--|---|
| The unit has the following communication module options: | i: W38211 EIA-232 (RS-232C) |
| | ii: W38209 EIA-422/EIA-485 (RS-422/RS-485) |
| | iii: W38213 Dial-Up Modem |
| | iv: W38251 Max Stream Radio (900 MHz and 2.4 GHz) |
| | v: W38260 Hart |
| | vi: W38275 Hart Daughter Board |
| | vii: Smart Wireless |
| | viii: W48095 MVS I/O Module |

The enclosure offers a degree of ingress protection in excess of IP20 but is designed to be installed in a suitably-approved housing in the hazardous area.

Other Manufacturing Sites

Micro Motion Inc, 7070 Winchester Circle, Boulder, Colorado, USA.

Fromex S. A. de C. V., A Division of Emerson Process Management, Aveinida Industrias No 6025, Zd 88275 Nueva Laredo, Tamaulipas, Mexico.

Variation 1 - This variation introduced the following changes:

- i. A new Smart Wireless option was introduced.
- ii. Text amendments were recognised on GA drawing W40135; these amendments indicate changes to the internal designation.

Variation 2 - This variation introduced the following changes:

- i. The addition of the Series 2 CPU backplane, expansion backplane and CPU module, also, I/O modules AC I/O and MVS I/O were included.
- ii. Modifications of the existing circuit were recognised.
- iii. Minor text changes on drawings were introduced.

Variation 3 - This variation introduced the following changes:

- i. The following items were added to the Model W40135 Flow Computer to form the W40203 Foundation Fieldbus Controller Assembly, the Description of Equipment being amended accordingly:
 - W48088 Foundation Fieldbus Interface CPU
 - W48094 16 Bit Quad analogue Input Module
 - W48097 Hart Module
 - W28161X0012 FF H1 Module
 - W28161X0022 FF H1 Power Module
 - W48095 MVS I/O Module
- ii. The recognition of minor design changes and the amendment of a condition of certification.



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Variation 4 - This variation introduced the following changes:

- i. The inclusion of a new TC, DO Relay, RTD and RS-485 Application Modules for model W40135, as detailed below, the Description of Equipment being amended accordingly:
 - W38366 Themocouple Personality Board, Series 2
 - W38350 DO Relay Personality Board, Series 2
 - W38351 RTD Input Personality Board, Series 2
 - W48095 I/O Base Board, use with TC, DO Relay and RTD Series 2 Personality Boards
- ii. The existing circuit was modified.
- iii. New drawings were added and minor changes to existing drawings were introduced.
- iv. The recognition of a change of company name from Fisher Controls, 1612 South 17th Avenue, Marshalltown, Iowa to Bristol Inc., 1100 Buckingham Street, Watertown, Connecticut.

Variation 5 - This variation introduced the following changes:

- i. The addition of a new IEC 62591 WiHart Module, part number: 397203-01-2.
- ii. The recognition of a change of company name from Bristol Inc to Bristol, Inc. dba Remote Automation Solutions.
- iii. The addition of the following manufacturing location, Fromex S. A. de C. V., A Division of Emerson Process Management, Aveinida Industrias No 6025, Zd 88275 Nueva Laredo, Tamaulipas, Mexico.
- iv. A Special Condition for Safe Use was introduced.

Variation 6 - This variation introduced the following changes:

- i. The introduction of a PM30 power supply with a nominal 30 Vdc Input.
- ii. Following appropriate assessment to demonstrate compliance with the requirements of the EN 60079 series of standards, EN 50014:1997 (amendments A1 to A2), and EN 60079-15:2003 were replaced by EN 60079-0:2012 and EN 60079-15:2010, the markings in section 12 were updated accordingly.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

| Issue | Date | Report no. | Comment |
|-------|-------------------|------------|--|
| 0 | 20 September 2005 | R52A12665A | The release of the prime certificate. |
| 1 | 30 November 2007 | R52A17539A | This Issue covers the following changes: <ul style="list-style-type: none">• All previously issued certification was rationalised into a single certificate, Issue 1, Issues 0 referenced above is only intended to reflect the history of the previous certification and has not been issued as a document in this format.• The introduction of Variation 1. |
| 2 | 9 December 2008 | R52L19259A | The introduction of Variation 2, as a result, the description was revised. |
| 3 | 25 February 2010 | R21055A/00 | The introduction of Variation 3. |
| 4 | 03 February 2012 | R25979A/00 | The introduction of Variation 4. |
| 5 | 21 June 2013 | R29988A/00 | The introduction of Variation 5. |
| 6 | 22 May 2015 | R70029369A | The introduction of Variation 6. |

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15 SPECIAL CONDITIONS FOR SAFE USE

- 15.1 The equipment shall be fitted in an IP54 or better enclosure or be installed in an equivalent location. Any enclosure shall be suitably-certified or otherwise approved for the zone of use (zone 2).
- 15.2 The user/installer shall ensure that the rated input voltage is not exceeded in service.
- 15.3 The USB connectors must not be used when the equipment is operated in a hazardous zone.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (EHSRs)

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

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of Type Examination Certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 The information regarding fuse replacement shall be marked adjacent to fuse holder F1 on boards PS-DC and PS-Solar.
- 17.4 The following +24/+12 voltage selector jumpers shall be conformally coated to secure them in place:

| Jumper # | Board # |
|----------|---------|
| J4 | AO-16 |

| Jumper # | Board # |
|----------|----------------------|
| J4 | AI-12 |
| J3 | AI-16 W38203X0012 |

| Jumper # | Board # |
|----------|----------------------|
| J4 | PI |
| J4 | AI-16 W48094X0012 |

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Certificate Annexe



Certificate No.: Sira 05ATEX4046X

Component: Model W40135 Flow Computer and
W40203 Foundation Fieldbus Controller Assembly

Applicant: Bristol, Inc. dba Remote Automation Solutions

Issue 1 The drawings associated with Issue 0 were replaced by those listed in Issue 1

| Number | Sheet | Rev. | Date | Description |
|----------|--------|------|-----------|---|
| 7FSC1001 | 1 to 3 | F | 20 Jul 05 | Schematic – DI module |
| 7FSC1002 | 1 to 2 | F | 20 Jul 05 | Schematic – DO module |
| 7FSC1003 | 1 to 2 | G | 20 Jul 05 | Schematic – DO-R module |
| 7FSC1004 | 1 to 3 | D1 | 20 Jul 05 | Schematic – AI-12 module |
| 7FSC1019 | 1 to 6 | L4 | 28 Nov 07 | Schematic – CPU module |
| 7FSC1020 | 1 to 6 | J | 20 Jul 05 | Schematic – ROC 809 backplane |
| 7FSC1024 | 1 to 4 | G1 | 20 Jul 05 | Schematic – AI16 module |
| 7FSC1027 | 1 to 2 | H | 20 Jul 05 | Schematic – RS485/MVS module |
| 7FSC1028 | 1 to 2 | D1 | 20 Jul 05 | Schematic – PI module |
| 7FSC1029 | 1 to 4 | F | 15 Aug 05 | Schematic – TC module |
| 7FSC1030 | 1 to 2 | D | 20 Jul 05 | Schematic – RS-232C module |
| 7FSC1031 | 1 to 5 | H | 20 Jul 05 | Schematic – RTD module |
| 7FSC1034 | 1 to 3 | E | 20 Jul 05 | Schematic – dial-up modem module |
| 7FSC1036 | 1 to 3 | H | 15 Aug 05 | Schematic – 12V power supply module |
| 7FSC1037 | 1 to 3 | E | 20 Jul 05 | Schematic – solar power supply daughter board |
| 7FSC1044 | 1 to 3 | C1 | 28 Nov 07 | Schematic – solar power supply main board |
| 7FSC1045 | 1 to 6 | E1 | 28 Nov 07 | Schematic – ROC 827 backplane |
| 7FSC1046 | 1 to 5 | D2 | 28 Nov 07 | Schematic – ROC 827 expansion backplane |
| 7FSC1047 | 1 to 4 | D | 15 Aug 05 | Schematic – AO High module |
| 7FSC1048 | 1 to 4 | G | 28 Nov 07 | Schematic – HART module |
| 7FSC1050 | 1 to 3 | E | 20 Jul 05 | Schematic – HART daughter board |
| 7FSC1054 | 1 to 4 | D2 | 28 Nov 07 | Schematic – prover module |
| 7FSC1055 | 1 to 3 | C | 28 Nov 07 | Schematic – prover daughter board |
| W28142 | 1 of 1 | B | 20 Jul 05 | PCB assembly, license key |
| W28152 | 1 of 1 | A | 20 Jul 05 | Schematic – 24V power supply module |
| W28156 | 1 of 1 | 2 | 20 Jul 05 | Schematic – max stream radio module |
| W28160 | 1 of 1 | A | 28 Nov 07 | Schematic – Smart Wireless interface board |
| W40135 | 1 to 2 | D | 28 Nov 07 | General assembly and marking |
| W40163 | 1 of 1 | A | 28 Nov 07 | Assembly - Smart Wireless |

Issue 2

| Number | Sheet | Rev. | Date (Sira Stamp) | Description |
|----------|--------|------|-------------------|--|
| 7FSC1019 | 1 to 6 | L5 | 02 Dec 08 | Schematic – CPU Module |
| 7FSC1024 | 1 to 4 | G2 | 02 Dec 08 | Schematic – AI16 module |
| 7FSC1029 | 1 to 4 | K1 | 02 Dec 08 | Schematic – TC module |
| 7FSC1048 | 1 to 4 | G2 | 02 Dec 08 | Schematic – HART module |
| 7FSC1050 | 1 to 3 | E2 | 02 Dec 08 | Schematic – HART daughter board |
| 7FSC1055 | 1 to 3 | C1 | 02 Dec 08 | Schematic – Prover daughter board |
| W40135 | 1 to 2 | F | 02 Dec 08 | General assembly and marking |
| W40163 | 1 of 1 | D | 02 Dec 08 | Assembly – Smart Wireless |
| W38286 | 1 to 4 | C1 | 02 Dec 08 | Schematic – AC I/O main PCB sub-assembly |
| W38294 | 1 to 2 | C1 | 02 Dec 08 | Schematic – AC I/O daughter PCB sub-assembly |
| W38331 | 1 to 5 | D1 | 02 Dec 08 | Schematic – MVS I/O module |
| 7FSC1061 | 1 to 3 | C | 02 Dec 08 | Schematic – ROC827 backplane, series 2 |
| 7FSC1062 | 1 to 4 | B2 | 02 Dec 08 | Schematic – ROC827 expansion backplane, series 2 |
| 7FSC1059 | 1 to 5 | E1 | 02 Dec 08 | Schematic – CPU module, series 2 |

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Certificate Annexe

Certificate No.: Sira 05ATEX4046X

Component: Model W40135 Flow Computer and
W40203 Foundation Fieldbus Controller Assembly

Applicant: Bristol, Inc. dba Remote Automation Solutions



Issue 3

| Number | Sheet | Rev. | Date (Sira Stamp) | Description |
|----------|-------|------|-------------------|--|
| W40203 | 1 | A | 04 Feb 10 | Model W40203 FFI certification drawing |
| W38345 | 9 | D | 04 Feb 10 | Schematic, FFBUS INT CPU module |
| W38340 | 2 | A | 04 Feb 10 | Schematic, FF H1 module and PWR module |
| 7FSC1065 | 3 | B1 | 04 Feb 10 | Schematic, Analog input module |
| W38331 | 5 | E1 | 04 Feb 10 | Schematic, MVS I/O module |
| W38353 | 9 | A1 | 04 Feb 10 | Schematic, HART Module |
| W40135 | 4 | G | 04 Feb 10 | Model W40135 certification drawing |
| 7FSC1003 | 2 | H | 04 Feb 10 | Schematic - DO-R |

Issue 4

| Number | Sheets | Rev. | Date (Sira stamp) | Title |
|----------|--------|------|-------------------|--|
| 7FSC1067 | 1 to 3 | A | 16 Jan 12 | Schematic, AI-12 Module |
| 7FSC1069 | 1 & 2 | B | 16 Jan 12 | Schematic, PI Module |
| 7FSC1070 | 1 to 4 | A | 16 Jan 12 | Schematic, AO High Module |
| W28163 | 1 to 5 | A | 16 Jan 12 | Schematic, Thermocouple Personality Board, Series 2 |
| W38331 | 1 to 7 | H1 | 16 Jan 12 | Schematic, MVS I/O and I/O Base Board for RS-485 Appl, TC, DO Relay and RTD Series 2 modules |
| W38342 | 1 of 1 | B | 16 Jan 12 | Schematic, DO Relay Personality Board, Series 2 |
| W38343 | 1 & 2 | B2 | 16 Jan 12 | Schematic, RTD Relay Personality Board, Series 2 |
| W40135 | 1 of 4 | K | 03 Feb 12 | Model W40135 certification drawing |
| W40135 | 2 of 4 | H | 03 Feb 12 | Model W40135 certification drawing |
| W40135 | 3 of 4 | H | 03 Feb 12 | Model W40135 certification drawing |
| W40135 | 4 of 4 | D | 03 Feb 12 | Model W40135 certification drawing |

Issue 5

| Number | Sheets | Rev. | Date (Sira stamp) | Title |
|-------------|--------|------|-------------------|-----------------------------------|
| 400181-00-2 | 0 of 8 | C | 27 Apr 13 | WiHART CPU(Schematic) |
| 400181-00-2 | 1 of 8 | D | 27 Apr 13 | WiHART CPU(Schematic) |
| 400181-00-2 | 2 of 8 | D | 27 Apr 13 | WiHART CPU(Schematic) |
| 400181-00-2 | 3 of 8 | D | 27 Apr 13 | WiHART CPU(Schematic) |
| 400181-00-2 | 4 of 8 | D | 27 Apr 13 | WiHART CPU(Schematic) |
| 400181-00-2 | 5 of 8 | D | 27 Apr 13 | WiHART CPU(Schematic) |
| 400181-00-2 | 6 of 8 | D | 27 Apr 13 | WiHART CPU(Schematic) |
| 400181-00-2 | 7 of 7 | D | 27 Apr 13 | WiHART CPU(Schematic) |
| 400181-01-0 | 1 to 7 | A | 27 Apr 13 | BOM WiHART CPU |
| 400181-75-4 | 1 of 1 | B | 27 Apr 13 | PCB ASSEMBLY, WiHART Module |
| 400189-00-3 | 1 of 1 | A | 27 Apr 13 | ROC/FB/SWM WiHART USB BOARD |
| 397203-01-2 | 1 of 1 | A | 27 Apr 13 | ROC 800 WiHART MODULE |
| W40135 | 1 of 4 | L | 27 Apr 13 | Model W40135 ROC800 flow computer |
| W40135 | 2 of 4 | H | 27 Apr 13 | Model W40135 ROC800 flow computer |
| W40135 | 3 of 4 | H | 27 Apr 13 | Model W40135 ROC800 flow computer |
| W40135 | 4 of 4 | E | 27 Apr 13 | Model W40135 ROC800 flow computer |

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Certificate Annexe

Certificate No.: Sira 05ATEX4046X
Component: Model W40135 Flow Computer and
W40203 Foundation Fieldbus Controller Assembly
Applicant: Bristol, Inc. dba Remote Automation Solutions



Issue 6

| Number | Sheets | Rev. | Date (Sira stamp) | Title |
|--------|--------|------|-------------------|--|
| W40135 | 1 to 4 | M | 14 May 15 | Model W40135 Certification drawing SIRA |
| W40135 | 2 of 4 | J | 14 May 15 | Model W40135 Certification drawing SIRA |
| W40135 | 3 of 4 | J | 14 May 15 | Model W40135 Certification drawing SIRA |
| W40135 | 4 of 4 | F | 14 May 15 | Model W40135 Certification drawing SIRA |
| W38374 | 1 of 1 | A | 14 May 15 | Assembly, PM-30V Power Module (W38374X0012) |
| W38372 | 1 to 2 | A | 14 May 15 | Schematic, PM-30 Power Module |
| W38350 | 1 of 1 | C | 14 May 15 | Assembly, DO Relay personality (W38350X0022) |
| W48097 | 1 of 1 | C | 14 May 15 | Assembly, HART module (W48097X0022) |
| W48095 | 1 of 1 | C | 14 May 15 | Assembly, MVS I/O module (W48095X0032) |
| W38331 | 1 to 7 | H2 | 14 May 15 | Schematic, RS-485 Application module |
| W11411 | 1 of 1 | A | 14 May 15 | Marking Label drawing |

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