# 1. EU-TYPE EXAMINATION CERTIFICATE

2. **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU**

3. **EU-Type Examination Certificate No:** **FM08ATEX0062X**

4. **Equipment or protective system: (Type Reference and Name)** **D441, D450 and D451 Digital Epic Transmitter**
**D530, D540 and D550 Digital Epic 2 Transmitter**

5. **Name of Applicant:** **Westlock Controls Corp.**

6. **Address of Applicant** **280 Midland Ave,**
**Saddle Brook, New Jersey 07663, USA**

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

8. FM Approvals Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 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 confidential report number:

   3033906EC dated 5th October 2009

9. Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

   EN IEC 60079-0:2018, EN 60079-11:2012, EN 60529:1991+A1:2000+A2:2013

10. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

11. This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include:

    Epsilon X accompanied by additional marking defined in the Annex.

**Certificate issued by: Martin Crowe**

September 18, 2023

Certification Manager, FM Approvals Europe Ltd. Date: 18 September 2023

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

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T: +353 (0) 1761 4200 E-mail: atex@fmapprovals.com www.fmapprovals.com

13. **Description of Equipment or Protective System:**

    Refer to Annex

14. **Specific Conditions of Use:**

    1. The User shall permanently mark the protection type chosen. Once the type of protection has been marked it shall not be changed.

    Refer to Annex for additional Specific Conditions of Use

15. **Essential Health and Safety Requirements:**

    The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16. **Test and Assessment Procedure and Conditions:**

    This EU-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

    Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

    This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

17. **Schedule Drawings**

    A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

18. **Certificate History**

    Details of the supplements to this certificate are described below:

| Date | Description |
|---|---|
| 30 October 2009 | Original Issue. |
| 26 October 2010 | Supplement 1:<br>Report Reference: Supplement 1 to 3033906EC dated 26th October 2010.<br>Description of the Change: Addition of D441 and D451 Models. |
| 8 June 2016 | Supplement 2:<br>Report Reference: RR203850 dated 2nd May 2016.<br>Description of the Change:<br>1) Update to the standards used.<br>2) Increase in ambient temperature range.<br>3) Update to critical documentation.<br>4) Update product model code. |

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| Date | Description |
|---|---|
| 5 December 2016 | Supplement 3:<br>Report Reference: 3051545 dated 2nd December 2016.<br>Description of the Change: Addition of Digital Epic 2 Models D530, D540 and D550. |
| 16 August 2017 | Supplement 4:<br>Report Reference: RR210593 dated 15th August 2017.<br>Description of the Change: Minor documentation update. |
| 6 April 2023 | Supplement 5:<br>Report Reference: -PR463111 dated 3rd April 2023.<br>Description of the Change:<br>1. Files transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809."<br>2. Update EN IEC 60079-0 to 2018 Edition<br>3. Update to documentation |
| 18 September 2023 | Supplement 6:<br>Report Reference: PR462298 dated 13 September 2023.<br>Description of the Change(s): Update certificate to latest template and addition of UKEX certification. |

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# ANNEX

## D441

**Markings:**

II 1 G Ex ia IIC T4 Ga Ta = *, IP66/67
*Ta = -40°C to +65°C for the factory fitted solenoid valve and -40°C to +80°C when supplied without a solenoid valve.

**Description of Equipment:**

The D441 Digital Epic Transmitter is a positioning transmitter. The unit's electronic operates on a 4 to 20 mA current loop. The circuitry for the D441 is contained within a single printed circuit board that is mounted in a stainless steel enclosure. The enclosure has a rating of IP66/67.
**D441-abcdef. Digital Epic Transmitter.**
a = Application Type: LV, LR, RO, RR
b = ESD/PST: 0, 1, 2
c = Coil Voltage: 0, D
d = Valve Body: 2V3, 3V3, 5V3, 3V4, 3V8, 2VY, 5VY, 2V7, 3V7, 580, 3VY, 3VZ or 540
e = Valve Features: 0, V, I
f = Override Option: 0, M, L, R, N, E

**Energy Limitation Parameters:**
Ui = 30 Volts, Ii = 100 mA, Pi = 0.75 W, Ci = 0, Li = 4 µH

**Specific Conditions of Use:**

1. The D441 enclosure contains aluminium and when installed in an area requiring EPL Ga, is considered to present a potential risk of ignition by impact or friction. Care shall be taken into account during installation and use to prevent impact or friction.

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## D450

**Markings:**

II 1 G Ex ia IIC T4 Ga Ta = *, IP66/67
*Ta = -40°C to +65°C for the factory fitted solenoid valve and -40°C to +80°C when supplied without a solenoid valve.

**Description of Equipment:**

The D450 Digital Epic Transmitter is a positioning transmitter. The unit's electronic operates on a 4 to 20 mA current loop. The circuitry for the D450 is contained within a single printed circuit board that is mounted in a stainless steel enclosure.
**D450-abcdef. Digital Epic Transmitter.**
a = Application Type: LV, LR, RO, RR

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

b = ESD/PST: 0, 1, 2
c = Coil Voltage: 0, D
d = Valve Body: 2V3, 3V3, 5V3, 3V4, 3V8, 2VY, 5VY, 2V7, 3V7, 580, 3VY, 3VZ or 540
e = Valve Features: 0, V, I
f = Override Option: 0, M, L, R, N, E

**Energy Limitation Parameters:**
$U_i$= 30 Volts, $I_i$= 100 mA, $P_i$= 0.75 W, $C_i$= 0, $L_i$= 4 µH

**Specific Conditions of Use:**

1. Care shall be taken into account during installation and use to prevent impact or friction for models D450, equipped with aluminium valve bodies when installed in an area requiring EPL Ga, as aluminium is considered to present a potential risk of ignition by impact or friction.

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## D451

**Markings:**

II 1 G Ex ia IIC T4 Ga Ta = *, IP66/67
*Ta = -40°C to +65°C for the factory fitted solenoid valve and -40°C to +80°C when supplied without a solenoid valve.

**Description of Equipment:**

The D451 Digital Epic Transmitter is a positioning transmitter. The unit's electronic operates on a 4 to 20 mA current loop. The circuitry for the D451 is contained within a single printed circuit board that is mounted in a stainless steel enclosure. The enclosure has a rating of IP66/67.
**D451-abcdef. Digital Epic Transmitter.**
a = Application Type: LV, LR, RO, RR
b = ESD/PST: 0, 1, 2
c = Coil Voltage: 0, D
d = Valve Body: 2V3, 3V3, 5V3, 3V4, 3V8, 2VY, 5VY, 2V7, 3V7, 580, 3VY, 3VZ or 540
e = Valve Features: 0, V, I
f = Override Option: 0, M, L, R, N, E

**Energy Limitation Parameters:**
Ui = 30 Volts, Ii = 100mA, Pi = 0.75W, Ci = 0, Li = 4µH

**Specific Conditions of Use:**

1. Care shall be taken into account during installation and use to prevent impact or friction for models, D451 equipped with aluminium valve bodies when installed in an area requiring EPL Ga, as aluminium is considered to present a potential risk of ignition

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## D530

**Markings:**

II 1 G Ex ia IIC T4 Ga Ta = -40°C to +65°C, IP65

**Description of Equipment:**

The D530, Digital Epic 2 Transmitter is a rotary and linear valve position transmitter. The circuitry for the D530 is contained on a hockey puck assembly that is mounted in a two piece enclosure. The D530 contains a non-metallic housing and has an IP65 rating.

**D530-abcdefgh. Digital Epic 2 Transmitter.**
a = Application Type: LV, LR, RO, RR
b = ESD/PST: 00, 11, 1N, 1B
c = Coil Voltage: 0, D
d = Valve Body: 2V3, 3V3, 5V3, 3V4, 540, 2V7, 3V7, 5V7, 3V8, 580
e = Override Option: 0, M, L, R, N, E
f = Approval options: IS
g = Conduit options: 1, 2, 3, 4, up to three

**Energy Limitation Parameters:**
Ui = 30 Volts, Ii = 100 mA, Pi = 0.75 W, Ci = 4nF, Li = 32 µH

**Specific Conditions of Use:**

1. Care shall be taken into account during installation and use to prevent impact or friction for models, D530 equipped with aluminium valve bodies when installed in an area requiring EPL Ga, as aluminium is considered to present a potential risk of ignition.

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## D540

**Markings:**

II 1 G Ex ia IIC T4 Ga Ta = *, IP66/67
*Ta = -40°C to +65°C for the factory fitted solenoid valve and -40°C to +80°C when supplied without a solenoid valve.

**Description of Equipment:**

The D540 Digital Epic 2 Transmitter is a rotary and linear valve position transmitter. The circuitry for the D540 is contained on a hockey puck assembly that is mounted in a two piece enclosure. The D540 has an aluminum enclosure and is rated of IP66/67.

**D540-abcdef. Digital Epic 2 Transmitter.**
a = Application Type: LV, LR, RO, RR
b = ESD/PST: 00, 11, 1N, 1B
c = Coil Voltage: 0, D
d = Valve Body: 2V3, 3V3, 5V3, 3V4, 540, 2V7, 3V7, 5V7, 3V8, 580
e = Override Option: 0, M, L, R, N, E

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f = Approval Options: IS
g = Conduits: 1, 2, 3, 4 up to two

**Energy Limitation Parameters:**
Ui = 30 Volts, Ii = 100 mA, Pi = 0.75 W, Ci = 4nF, Li = 32 µH

**Specific Conditions of Use:**

1. The D540 enclosures contain aluminium and when installed in an area requiring EPL Ga, is considered to present a potential risk of ignition by impact or friction. Care shall be taken into account during installation and use to prevent impact or friction.

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## D550

**Markings:**

II 1 G Ex ia T4 Ga Ta = *, IP66/67
*Ta = -40°C to +65°C for the factory fitted solenoid valve and -40°C to +80°C when supplied without a solenoid valve.

**Description of Equipment:**

The D550 Digital Epic 2 Transmitter is a rotary and linear valve position transmitter. The circuitry for the D550 is contained on a hockey puck assembly that is mounted in a two piece enclosure. The D550 a stainless steel enclosure and has a rating of IP66/67.
**D550-abcdef. Digital Epic 2 Transmitter.**
a = Application Type: LV, LR, RO, RR
b = ESD/PST: 00, 11, 1N, 1B
c = Coil Voltage: 0, D
d = Valve Body: 2V3, 3V3, 5V3, 3V4, 540, 2V7, 3V7, 5V7, 3V8, 580
e = Override Option: 0, M, L, R, N, E
f = Approvals: F
g = Conduits: 1, 2, 3, 4, up to three

**Energy Limitation Parameters:**
Ui = 30 Volts, Ii = 100 mA, Pi = 0.75 W, Ci = 4nF, Li = 32 µH

**Specific Conditions of Use:**

1. Care shall be taken into account during installation and use to prevent impact or friction for models, D550 equipped with aluminium valve bodies when installed in an area requiring EPL Ga, as aluminium is considered to present a potential risk of ignition

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# Blueprint Report

## Westlock Controls Corp (1000004327)

**Class No 3610**

***Original Project I.D. 3033906***

***Certificate I.D. FM08ATEX0062X***

| Drawing No. | Revision Level | Drawing Title | Last Report | Electronic Drawing |
|---|---|---|---|---|
| 7735 DIGITAL EPIC bom | 22 | 7735 DIGITAL EPIC (HART)IS VERSION BOM | 3039301 | Yes (excel8book) |
| EL-20689 page 1 | E | Fabrication Board Digital EPIC (HART) I.S. Verision | 3033906 | Yes (pdf) |
| EL-20689 page 2 | E | Fabrication Board Digital EPIC (HART) I.S. Verision | 3033906 | Yes (pdf) |
| EL-20769-001 | 09/09/11 | Assembly Drawing EPIC HART | RR203850 | Yes (pdf) |
| EL-20769 | - | Fabrication drawing | 3033906 | Yes (pdf) |
| EL-30505 page 1 | F | Assembly Drawing Digital EPIC (HART) I.S. Version | RR210593 | Yes (pdf) |
| EL-30505 page 2 | F | Assembly Drawing Digital EPIC (HART) I.S. Version | RR210593 | Yes (pdf) |
| EL-30505 page 3 | F | Assembly Drawing Digital EPIC (HART) I.S. Version | RR210593 | Yes (pdf) |
| EL-30558 | - | PCB Assembly EPIC2 Hall Sensor Board | 3051545 | Yes (pdf) |
| EL-30564-001 BOM | A | Bill of Materials EL-30564 | 3033906 | Yes (excel) |
| EL-30564-001 Page 1 | - | Assembly Drawing EPIC HART Page 1 | 3033906 | Yes (pdf) |
| EL-30564-001 Page 2 | - | Assembly Drawing EPIC HART Page 2 | 3033906 | Yes (pdf) |
| EL-30564-001 | 09/09/11 | Fabrication Drawing EPIC HART & FF EPIC | RR203850 | Yes (pdf) |
| EL-30614 BOM | - | Bill of Materials EPIC 2 Non-intrusive calibration board | 3051545 | Yes (pdf) |
| EL-30614 | - | Assembly Drawing EPIC 2 Non-Intrusive Calibration Board | 3051545 | Yes (excel12book) |
| EL-30631 BOM | - | Bill of materials EPIC 2 Hall Sensor Board | 3051545 | Yes (excel) |
| EL-30632 BOM | - | Bill of Materials EPIC 2 Hall Sensor Holder Board | 3051545 | Yes (excel) |
| EL-30632 | - | Assembly drawing EPIC 2 Hall Sensor Holder Board | 3051545 | Yes (pdf) |
| EL-40238 | - | Module ASY DEPIC 2 | 3051545 | Yes (pdf) |
| EL20689 | E | Fabrication Drawings Digital Epic (HART) IS Version | RR203850 | Yes (pdf) |
| EL30505 | E | Assembly Drawing Digital Epic (HART) IS Version | RR203850 | Yes (pdf) |
| EN-061203UK-XXX | B | Cover Moulding. LG2, flat AVID - Ribbed | 3051545 | Yes (pdf) |
| EN-11512-XXX | C | Cover Moulding. LG2, flat AVID - Ribbed | 3051545 | Yes (pdf) |
| EN-11543 Page 1 | E | HSG MLD LG2 (N), Ribbed, Grilamid, Black | 3051545 | Yes (pdf) |
| EN-11543 Page 2 | E | HSG MLD LG2 (N), Ribbed, Grilamid, Black | 3051545 | Yes (pdf) |
| EN-11543 Page 3 | E | HSG MLD LG2 (N), Ribbed, Grilamid, Black | 3051545 | Yes (pdf) |
| EN-11543 Page 4 | E | HSG MLD LG2 (N), Ribbed, Grilamid, Black | 3051545 | Yes (pdf) |
| GA-011201UK | A | LG2 (N) GA with Dual Coil; STD BCN & NAMUR Shaft | 3051545 | Yes (pdf) |
| LB-11276-XXX Page 1 | J | ID LBL D441/D450/D451 ATEX-IECEx EXIA EXEC | PR462298 | Yes (pdf) |
| LB-11276-XXX page 2 | J | ID LBL D441/D450/D451 ATEX-IECEx EXIA EXEC | PR462298 | Yes (pdf) |
| LB-11741-XXX-Page 1 | C | ID LBL D530/D540/D550 ATEX EXIA/EXEC | PR462298 | Yes (pdf) |
| LB-11741-XXX-Page 2 | C | ID LBL D530/D540/D550 ATEX EXIA/EXEC | PR462298 | Yes (pdf) |
| MS-10772 | B | CERTIFICATION DRAWING D441 /D450/D451 ATEX | PR449447 | Yes (pdf) |
| MS-10783 | B | Control Drawing Digital EPIC 441, 450, 451 I/S Installation | 3051545 | Yes (pdf) |
| MS-10873 | - | Certification Drawing D530 | 3051545 | Yes (pdf) |
| MS-10874 | - | Certification Drawing D540/D550 | 3051545 | Yes (pdf) |
| MS-10886 page 1 | - | Control Drawing Digital EPIC 2 I/S Installation | 3051545 | Yes (pdf) |
| MS-10886 page 2 | - | Control Drawing Digital EPIC 2 I/S Installation | 3051545 | Yes (pdf) |
| SC-10211 | 30 E | Digital Epic (HART) IS Version | 3051545 | Yes (pdf) |
| SC-10246 for EL30565 B | 25 | Bill of Materials Digital EPIC 2 Top CPU Board | 3051545 | Yes (excel) |
| SC-10246 for EL30565 | 25 | Digital EPIC 2 Top CPU Board | 3051545 | Yes (pdf) |
| SC-10247 for EL-30566 E | 26 | Bill of Materials Digital EPIC 2 Bottom I-O Board | 3051545 | Yes (excel) |
| SC-10247 for EL-30566 | 26 | DEPIC2 HART BOTTOM I-O BOARD | 3051545 | Yes (pdf) |
| SC-10256 for EL30599 B | 23 | Bill of Materials Digital EPIC 2 Middle Board | 3051545 | Yes (excel) |
| SC-10256 for EL30599 | 26 | Digital EPIC 2 BOT-IO Board | 3051545 | Yes (pdf) |
| SC-10264 for EL30612 B | 04 | Bill of Materials Manifold Pressure Sensor Board | 3051545 | Yes (excel) |
| SC-10264 for EL30612 | 04 | Manifold Pressure Sensor Board | 3051545 | Yes (pdf) |
| SC-10266 for EL-30614 | 02 | Digital EPIC 2 (HART) Switch Board | 3051545 | Yes (pdf) |
| SC-10276 for EL30631 | 00 | EPIC 2 Hall Sensor Board | 3051545 | Yes (pdf) |
| SC-10277 for EL30632 | 00 | EPIC 2 Hall Sensor Holder Board | 3051545 | Yes (pdf) |
| SC10211 | 30E | DIGITAL EPIC (HART) IS VERSION | RR203850 | Yes (pdf) |
| SC10xxx for EL-30xxx BO | 05 | Bill of Materials for EPIC2 Membrane Keypad | 3051545 | Yes (excel12mebook) |
| SC10xxx for EL-30xxx | 05 | EPIC2 Membrane Keypad | 3051545 | Yes (pdf) |
| TECH 422 | F | D441/D450/D451 Operating Manual | PR462298 | Yes (pdf) |
| TECH-511Q | C | DEPIC 2 HART Position Transmitter Operating Manual | PR462298 | Yes (pdf) |
| VA-30783-XXX | - | DEPIC2 Manifold ASY NPT/BSP Ports | 3051545 | Yes (pdf) |