



Certificate of Compliance

Certificate: 80047505 **Master Contract:** 151079
Project: 80220656 **Date Issued:** 2024-10-02
Issued to: Endress+Hauser SE+Co. KG
Hauptstrasse 1
Maulburg, Baden-Württemberg 79689
Germany
Attention: Emil Remolana

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: Anil Sodhi
Anil Sodhi, P. Eng

PRODUCTS

Class 2252 06 PROCESS CONTROL EQUIPMENT - Process Control Equipment
Class 2252 86 PROCESS CONTROL EQUIPMENT - Certified to US Standards
Class 2258 02 PROCESS CONTROL EQUIPMENT - For Hazardous Locations
Class 2258 04 PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations
Class 2258 82 PROCESS CONTROL EQUIPMENT - For Hazardous Locations - Certified to US Standards
Class 2258 84 PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - - For Hazardous Locations - Certified to US Standards

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations
CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations– Certified to U.S. Standards

Class I, Division 2, Groups A, B, C and D, T6:



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Product	Gammapilot, series FMG50 -aabbcddefg+hh...oo Where aa (approval) = CB (combined with IS), CD (combined with XP) bb (output) = BA, DA, FA c (display; operation) = A, C, D, E, F, M, N, O d (transmitter housing; material) = B, J, K, M, N e (electrical conn.) = H f (application) = A, B, C g (sensor length, mat'l) = A, B, C, E, F, G, H, I, J, K, L, M, N, O, P, Q + (additional options: any number of each of the following options may be chosen) hh (application pkg) = 2 alphanumeric characters (not relevant for safety) ii (service) = 2 alphanumeric characters (not relevant for safety) jj (test, cert., declaration) = 2 alphanumeric characters (not relevant for safety) kk (additional approval) = 2 alphanumeric characters (not relevant for safety) ll (accessories mounted) = NA or other 2 alphanumeric characters (not relevant for safety) mm (accessories enclosed) = PA or other 2 alphanumeric characters (not relevant for safety) nn (firmware) = 2 alphanumeric characters (not relevant for safety) oo (marking) = 2 alphanumeric characters (not relevant for safety) Note: Some option codes may be restricted for certain model types.														
Electrical Rating	<table><tr><td></td><td>aa = CB</td><td>aa = CD</td></tr><tr><td>bb = BA</td><td>14...30Vdc, 4...20mA</td><td>14...35Vdc, 4...20mA</td></tr><tr><td>bb = DA</td><td>9...17.5/24Vdc, ≤0.7 W</td><td>9...32Vdc, ≤0.7 W</td></tr><tr><td>bb = FA</td><td>9...17.5Vdc, ≤0.7 W</td><td>9...15Vdc, ≤0.6 W</td></tr></table>				aa = CB	aa = CD	bb = BA	14...30Vdc, 4...20mA	14...35Vdc, 4...20mA	bb = DA	9...17.5/24Vdc, ≤0.7 W	9...32Vdc, ≤0.7 W	bb = FA	9...17.5Vdc, ≤0.7 W	9...15Vdc, ≤0.6 W
	aa = CB	aa = CD													
bb = BA	14...30Vdc, 4...20mA	14...35Vdc, 4...20mA													
bb = DA	9...17.5/24Vdc, ≤0.7 W	9...32Vdc, ≤0.7 W													
bb = FA	9...17.5Vdc, ≤0.7 W	9...15Vdc, ≤0.6 W													
Enclosure Rating	Type 4X/6P, IP66/68														
Temp. code and ambient temperature	Temp. Code and Ambient temperature range dependent on option f (application): A: T6 @ -40°C ≤ Ta ≤ +60°C B: T6 @ -20°C ≤ Ta ≤ +75°C C: T6 @ -40°C ≤ Ta ≤ +75°C Refer to installation drawing for additional deratings of Ta relative to device options.														
Installation Drawing	XA02087F (aa = CB); XA02088F (aa = CD)														
Conditions of Acceptability	1. The end user shall ensure appropriate earthing of all metallic accessories upon installation. 2. The FMG50 unit shall only be supplied by Class 2 or limited energy source in accordance with CSA/UL 61010-1-12.														

Class I, Division 1, Groups B,C,D, T6

Class II, Division 1, Groups E,F,G

Class III

Ex db IIC T6 Gb

Class I, Zone 1 AEx db IIC T6 Gb



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Product	Gammapilot, series FMG50-CDbbcdcfg+hh...oo Where bb (output) = BA, DA, FA c (display; operation) = A, C, D, E, F, M, N, O d (transmitter housing; material) = B, J, K, M, N e (electrical conn.) = H f (application) = A, B, C g (sensor length, mat'l) = A, B, C, E, F, G, H, I, J, K, L, M, N, O, P, Q + (additional options: any number of each of the following options may be chosen) hh (application pkg) = 2 alphanumeric characters (not relevant for safety) ii (service) = 2 alphanumeric characters (not relevant for safety) jj (test, cert., declaration) = 2 alphanumeric characters (not relevant for safety) kk (additional approval) = NA or other 2 alphanumeric characters (not relevant for safety) ll (accessories mounted) = PA or other 2 alphanumeric characters (not relevant for safety) mm (accessories enclosed) = 2 alphanumeric characters (not relevant for safety) nn (firmware) = 2 alphanumeric characters (not relevant for safety) oo (marking) = 2 alphanumeric characters (not relevant for safety) Note: Some option codes may be restricted for certain model types.
Electrical Rating	14...35Vdc, 4...20mA (bb = BA); 9...32Vdc, ≤0.7 W (bb = DA); 9...15Vdc, ≤0.6 W (bb = FA)
Enclosure Rating	Type 4X/6P, IP66/68
Temp. code and ambient temperature	Temp. Code and Ambient temperature range dependent on option f (application): A: T6 @ -40°C ≤ Ta ≤ +60°C B: T6 @ -20°C ≤ Ta ≤ +75°C C: T6 @ -40°C ≤ Ta ≤ +75°C Refer to installation drawing for additional deratings of Ta relative to device options.
Installation Drawing	XA02088F
Conditions of Acceptability	1. The end user shall ensure appropriate earthing of all metallic accessories upon installation. 2. The FMG50 unit shall only be supplied by Class 2 or limited energy source in accordance with CSA/UL 61010-1-12. 3. Because of the risk of discharge the non-metallic parts of the equipment and of all non-metallic accessories must be protected from electrostatic charging during installation and operation. 4. The flameproof joints of the Ex-d device FMG50 are not intended to be repaired. 5. The screws used for the sensor flange connection must have a minimum strength in accordance to A4-70 of DIN912.

Class II, Division 1, Groups E,F,G; Class III



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Product	Cammapilot, series FMG50-CG bbcdcfg+hh...oo Where bb (output) = BA, DA, FA c (display; operation) = A, C, D, E, F, M, N, O d (transmitter housing; material) = B, J, K, M, N e (electrical conn.) = H f (application) = A, B, C g (sensor length, mat'l) = A, B, C, E, F, G, H, I, J, K, L, M, N, O, P, Q + (additional options: any number of each of the following options may be chosen) hh (application pkg) = 2 alphanumeric characters (not relevant for safety) ii (service) = 2 alphanumeric characters (not relevant for safety) jj (test, cert., declaration) = 2 alphanumeric characters (not relevant for safety) kk (additional approval) = 2 alphanumeric characters (not relevant for safety) ll (accessories mounted) = NA or other 2 alphanumeric characters (not relevant for safety) mm (accessories enclosed) = PA or other 2 alphanumeric characters (not relevant for safety) nn (firmware) = 2 alphanumeric characters (not relevant for safety) oo (marking) = 2 alphanumeric characters (not relevant for safety) Note: Some option codes may be restricted for certain model types.
Electrical Rating	14...35Vdc, 4...20mA (bb = BA); 9...32Vdc, ≤0.7 W (bb = DA); 9...15Vdc, ≤0.6 W (bb = FA)
Enclosure Rating	Type 4X/6P, IP66/68
Temp. code and ambient temperature	Ambient temperature range dependent on option f (application): A: T6 @ -40°C ≤ Ta ≤ +60°C B: T6 @ -20°C ≤ Ta ≤ +80°C C: T6 @ -40°C ≤ Ta ≤ +80°C
Installation Drawing	XA02088F
Conditions of Acceptability	1. The end user shall ensure appropriate earthing of all metallic accessories upon installation. 2. The FMG50 unit shall only be supplied by Class 2 or limited energy source in accordance with CSA/UL 61010-1-12.

CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations

CLASS 2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations– Certified to U.S. Standards

Class I, Division 1, Groups A, B, C and D, T6

Class II, Division 1, Groups E, F and G

Class III; I.S.

Ex db ia IIC T6 Gb

Class I, Zone 1 AEx db ia IIC T6 Gb



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Product	Gammapilot, series FMG50-CB bbdefg+hh...oo Where bb (output) = BA, DA, FA c (display; operation) = A, C, D, E, F, M, N, O d (transmitter housing; material) = B, J, K, M, N e (electrical conn.) = H f (application) = A, B, C g (sensor length, mat'l) = A, B, C, E, F, G, H, I, J, K, L, M, N, O, P, Q + (additional options: any number of each of the following options may be chosen) hh (application pkg) = 2 alphanumeric characters (not relevant for safety) ii (service) = 2 alphanumeric characters (not relevant for safety) jj (test, cert., declaration) = 2 alphanumeric characters (not relevant for safety) kk (additional approval) = 2 alphanumeric characters (not relevant for safety) ll (accessories mounted) = NA or other 2 alphanumeric characters (not relevant for safety) mm (accessories enclosed) = PA or other 2 alphanumeric characters (not relevant for safety) nn (firmware) = 2 alphanumeric characters (not relevant for safety) oo (marking) = 2 alphanumeric characters (not relevant for safety) <u>Notes:</u> - Some option codes may be restricted for certain model types. - Type of protection "ia" refers to the protection method for the field wiring connections and the transmitter housing electronics. Type of protection "db" refers to the protection method for the sensor housing.											
Electrical Rating	14...30Vdc, 4...20mA (bb = BA); 9...17.5/24Vdc, ≤0.7 W (bb = DA); 9...17.5Vdc, ≤0.7 W (bb = FA)											
Enclosure Rating	Type 4X/6P, IP66/68											
Temp. code and ambient temperature	Temp. Code and Ambient temperature range dependent on option f (application): A: T6 @ -40°C ≤ Ta ≤ +60°C B: T6 @ -20°C ≤ Ta ≤ +70°C C: T6 @ -40°C ≤ Ta ≤ +70°C Refer to installation drawing for additional deratings of Ta relative to device options.											
I.S. Entity parameters	<table><tr><td>bb = BA</td><td>bb = DA</td><td>bb = FA</td></tr><tr><td>Ui = 30 V Ii = 300 mA Pi = 1 W Ci ≤ 10 nF Li = 0 μH</td><td>Ui = 24 V Ii = 300 mA Pi = 1.2 W Ci ≤ 5 nF Li = 0 μH</td><td>Ui = 17.5 V Ii = 300 mA Pi = 1.2 W Ci ≤ 5 nF Li = 0 μH</td></tr><tr><td></td><td><u>FISCO:</u> Ui = 17.5 V Ii = 380 mA Pi = 5.32 W Ci ≤ 5 nF Li = 0 μH</td><td><u>2-WISE:</u> Ui = 17.5 V Ii = 380 mA Pi = 5.32 W Ci ≤ 5 nF Li = 0 μH</td></tr></table>			bb = BA	bb = DA	bb = FA	Ui = 30 V Ii = 300 mA Pi = 1 W Ci ≤ 10 nF Li = 0 μH	Ui = 24 V Ii = 300 mA Pi = 1.2 W Ci ≤ 5 nF Li = 0 μH	Ui = 17.5 V Ii = 300 mA Pi = 1.2 W Ci ≤ 5 nF Li = 0 μH		<u>FISCO:</u> Ui = 17.5 V Ii = 380 mA Pi = 5.32 W Ci ≤ 5 nF Li = 0 μH	<u>2-WISE:</u> Ui = 17.5 V Ii = 380 mA Pi = 5.32 W Ci ≤ 5 nF Li = 0 μH
bb = BA	bb = DA	bb = FA										
Ui = 30 V Ii = 300 mA Pi = 1 W Ci ≤ 10 nF Li = 0 μH	Ui = 24 V Ii = 300 mA Pi = 1.2 W Ci ≤ 5 nF Li = 0 μH	Ui = 17.5 V Ii = 300 mA Pi = 1.2 W Ci ≤ 5 nF Li = 0 μH										
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Installation Drawing	XA02087F											
Conditions of Acceptability	- The end user shall ensure appropriate earthing of all metallic accessories upon installation. - Because of the risk of discharge the non-metallic parts of the equipment and of all non-metallic accessories must be protected from electrostatic charging during installation and operation. - Entity parameters according to installation drawings; XA02087F											



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CLASS 2252 06 - PROCESS CONTROL EQUIPMENT
CLASS 2252 86 - PROCESS CONTROL EQUIPMENT (Certified to U.S. Standards)

Product	Cammapirot, series FMG50-CAbbcddefg+hh...oo Where bb (output) = BA, DA, FA c (display; operation) = A, C, D, E, F, M, N, O d (transmitter housing; material) = B, J, K, M, N e (electrical conn.) = A, B, C, F, G, H, M f (application) = A, B, C g (sensor length, mat'l) = A, B, C, E, F, G, H, I, J, K, L, M, N, O, P, Q + (additional options: any number of each of the following options may be chosen) hh (application pkg) = 2 alphanumeric characters (not relevant for safety) ii (service) = 2 alphanumeric characters (not relevant for safety) jj (test, cert., declaration) = 2 alphanumeric characters (not relevant for safety) kk (additional approval) = 2 alphanumeric characters (not relevant for safety) ll (accessories mounted) = NA or other 2 alphanumeric characters (not relevant for safety) mm (accessories enclosed) = PA or other 2 alphanumeric characters (not relevant for safety) nn (firmware) = 2 alphanumeric characters (not relevant for safety) oo (marking) = 2 alphanumeric characters (not relevant for safety) Note: Some option codes may be restricted for certain model types.
Electrical Rating	10...35Vdc, 4...20mA (bb = BA); 9...32Vdc, ≤0.6 W (bb = DA); 9...15Vdc, ≤0.6 W (bb = FA)
Enclosure Rating	Type 4X/6P, IP66/68
Ambient temperature	Ambient temperature range dependent on option f(application): A: -40°C ≤ Ta ≤ +60°C B: -20°C ≤ Ta ≤ +80°C C: -40°C ≤ Ta ≤ +80°C
Conditions of Acceptability	The FMG50 unit shall only be supplied by Class 2 or limited energy source in accordance with CSA/UL 61010-1-12.

APPLICABLE REQUIREMENTS

CSA C22.2 No. 25:17 - Fourth Edition - Enclosures for use in Class II, Division 1, Groups E, F, and G hazardous locations

CSA C22.2 No. 30-M1986 - Explosion-Proof Enclosures for Use in Class I Hazardous Locations - General Instruction No 1-2

CSA C22.2 No. 94.2:15 - Second Edition - Enclosures for electrical equipment, environmental considerations

CAN/CSA C22.2 No. 61010-1-12, UPD1:2015, UPD2:2016, AMD1:2018 - Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements

CSA C22.2 No. 60079-0:19 - Explosive atmospheres — Part 0: Equipment -General requirements

CAN/CSA C22.2 No. 60079-1:16 - Explosive atmospheres - Part 1: Equipment protection by flameproof enclosure “d”



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CSA C22.2 No. 60079-11:14 (Second Edition) - Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

CSA C22.2 No. 60079-47:22 - First Edition - Explosive Atmospheres - Part 47: Equipment Protection By 2-Wire Intrinsically Safe Ethernet Concept (2-WISE)

CSA C22.2 No. 213-17+Upd.1+Upd.2+Upd.3(Third Edition) - Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified) locations - Third Edition; Update No. 1: August 2018; Update No. 2: August 2019; Update No. 3: April 2021

ANSI/UL 61010-1 3rd Edition (2012), AMD1:2018 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements

UL 50E:2015 - Second Edition - UL Standard for Safety Enclosures for Electrical Equipment, Environmental Considerations

ANSI/UL 60079-0-2019 Seventh Edition - Explosive atmospheres - Part 0: Equipment - General requirements

UL 60079-1:2015 - Seventh Edition - UL Standard for Safety Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures "d"

ANSI/UL 60079-11 (Sixth Edition) - UL Standard for Safety Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety "i"

UL 60079-47:2022 - First Edition - UL Standard for Safety Explosive Atmospheres – Part 47: Equipment Protection by 2-Wire Intrinsically Safe Ethernet Concept (2-WISE)

UL 121201:2017 - Ninth Edition-Including Revisions through April 1, 2021 - UL Standard for Safety Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

FM 3600:2022 - Electrical Equipment for Use in Hazardous (Classified) Locations - General Requirements

FM 3610:2021 - Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II and III, Division 1, Hazardous (Classified) Locations

FM 3615 : 2018 - Explosionproof Electrical Equipment – General Requirements

FM 3616:2022 - Dust-Ignitionproof Electrical Equipment General Requirements



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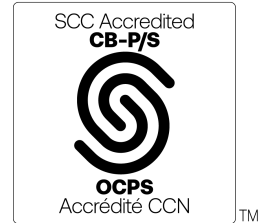
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Notes:

Products certified under Class(es) C225206, C225286, C225802, C225804, C225882, C225884 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC).

www.scc.ca





Supplement to Certificate of Compliance

Certificate: 80047505

Master Contract: 151079

*The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.*

Product Certification History

Project	Date	Description
80220656	2024-10-02	The scope of this project is to update cCSAus certification report 80047505 for Gammapiot model FMG50 with the following modifications: 1) Addition of L&P electronic modules MA11, MA12, graphic display VA11, display driver VA12; 2) Addition of L&P enclosure models HA07, HA37, HS37; 3) Introduce additional lengths of Gammapiot sensor PVT-Scintillator (50mm/100mm/3.5m/4.0m/4.5m); 4) Minor design update to Sensor Electronic Unit; 5) Revised order code structure and documentation for the new models
80047505	2020-09-29	Prime cCSAus certification of Gammapiot, Type FMG50 level detector device with the following markings: C1 I, Div 1, Grp BCD, T6; Class II, Grp EFG; Class III Ex db IIC T6 Gb Class I, Zone 1 AEx/Ex db IIC T6 Gb Class I, Div 2, Groups A, B, C and D, T6: C1 II, Div 1, Grp EFG; C1 III C1 I, Div 1, Grp ABCD, T6; C1 II, Div 1, Grp EFG; C1 III; I.S. Class I, Zone 1 AEx/Ex db ia IIC T6 Gb $-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$ (varies upon model) Type 4X/6P, IP66/68