



Certificate of Compliance

Certificate: 1509834 **Master Contract:** 151079 (052694_C_000)

Project: 70212320 **Date Issued:** 2019-03-27

Issued to: Endress+Hauser SE+Co. KG
Hauptstrasse 1
Maulburg, Baden-Württemberg 79689
GERMANY
Attention: Stefan Muth

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

PRODUCTS

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, Groups A, B, C and D; Class II, Groups E, F and G; Class III; Type 4X/6P:

• Deltabar S, Types PMD75, FMD77, FMD78, Differential Pressure Transmitters, 45Vdc max, 20mA; connected per installation drawing 960008823; temperature code T6 at Ta = 75 °C; MWP 6,090 psi; Single Seal device for process temperature of -40C to +85C; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, seal material, fill fluid, capillary length and additional options.

Class I, Groups B, C and D; Class II, Groups E, F and G; Class III; Type 4X/6P:

• Cerabar S, Types PMP71, PMP75, Pressure Transmitters, 45Vdc max, 20mA; connected per installation drawing 960008824; temperature code T6 at Ta = 75 °C; MWP 6000 psi; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, fill fluid and additional options.



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Class I, Groups C and D; Class II, Groups E, F and G; Class III; Type 4X/6P:

- Cerabar S (700 bar version), Types PMP71, PMP75, Pressure Transmitters, 45Vdc max, 20mA; temperature code T6 at $T_a = 75\text{ }^\circ\text{C}$; MWP 10,500 psi; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, fill fluid and additional options.

Class II, Groups E, F and G; Class III; Type 4X/6P:

- Deltapilot S, Type FMB70, Pressure Transmitters, 45Vdc max, 20mA; temperature code T6 at $T_a = 75\text{ }^\circ\text{C}$; MWP 10 bar/145 psi; $-10\text{ Deg. C} \leq \text{Process Temp.} \leq +100^\circ\text{C}$; Single Seal device; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, fill fluid and additional options.

Class I, Div. 2, Groups A, B, C and D; Class II, Div. 2, Groups E, F and G; Class III; Type 4X/6P:

- Deltabar S, Types PMD75, FMD77, FMD78, Differential Pressure Transmitters, 45Vdc max, 20mA; temperature code T6; MWP 6,090 psi; Single Seal device for process temperature of -40C to $+85\text{C}$; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, seal material, fill fluid, capillary length and additional options.

- Cerabar S, Types PMP71, PMP75, Pressure Transmitters, 45Vdc max, 20mA; temperature code T6; MWP 10,500 psi; PMP71/PMP75 with integral sensors are Dual Seal devices for working pressure up to 2900 psi and Single Seal devices for working pressure between 2900 psi and 5800 psi; PMP71/PMP75 with separated housing option are Single Seal devices for working pressure up to 5800 psi and process temperature of -40C to $+100\text{C}$; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, fill fluid and additional options.

- Deltapilot S, Type FMB70, Pressure Transmitters, 45Vdc max, 20mA; temperature code T6 at $T_a = 75\text{C}$; MWP 10 bars; $-10\text{ Deg. C} \leq \text{Process Temp.} \leq +100^\circ\text{C}$; Single Seal device; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, fill fluid and additional options.

CLASS 2258 03 - **PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations**

CLASS 2258 83 - **PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations- Certified to U.S. Standards**

Ex ia IIC:

Class I, Zone 0; AEx ia IIC:

Class I, Groups A, B, C and D; Class II, Groups E, F and G; Class III; Type 4X/6P:

- Deltabar S, Types PMD75, FMD77, FMD78, Differential Pressure Transmitters, 45Vdc max, 20mA; intrinsically safe when connected per installation drawing 960006697, 960006403, 960006717 or 960006752; temperature code T6 ($T_a = 40\text{ }^\circ\text{C}$), T4 ($T_a = 70\text{ }^\circ\text{C}$); MWP 6,090 psi; Single Seal device for process temperature of -40C to $+85\text{C}$; Type designation may be followed by additional suffixes to denote options for Certification,



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output, housing, pressure range, calibration, diaphragm material, process connection, seal material, fill fluid, capillary length and additional options.

- Cerabar S, Types PMP71, PMP75, Pressure Transmitters, 45Vdc max, 20mA; intrinsically safe when connected per installation drawing 960006700, 960006762, 960006717 or 960006752; temperature code T6 (Ta = 40 °C), T4 (Ta = 70 °C); MWP 10,500 psi; PMP71/PMP75 with integral sensors are Dual Seal devices for working pressure up to 2900 psi and Single Seal devices for working pressure between 2900 psi and 5800 psi; PMP71/PMP75 with separated housing option are Single Seal devices for working pressure up to 5800 psi and process temperature of -40C to +100C; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, fill fluid and additional options.

- Cerabar S, Type PMC71 (explosion proof version), Pressure Transmitter, 45Vdc max, 20mA; MWP 580 psi; provides intrinsically safe circuits for connection to integral sensor; temperature code T6 (Ta = 40 °C), T4 (Ta = 70 °C); Dual Seal device; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, seal material and additional options.

- Deltapilot S, Type FMB70, Pressure Transmitters, 45Vdc max, 20mA; MWP 10 bar/145 psi; intrinsically safe when connected per installation drawing 960007652 or 960007739; temperature code T6 (Ta = 40 °C), T4 (Ta = 70 °C); -10 Deg. C ≤ Process Temp. ≤ +100°C; Single Seal device; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, fill fluid and additional options.

Ex ia IIC:

Class I, Zone 0; AEx ia IIC:

Class I, Groups A, B, C and D; Class II, Group G and Coal Dust; Class III; Type 4X/6P:

- Cerabar S, Type PMC71, Pressure Transmitter, 45Vdc max, 20mA; intrinsically safe when connected per installation drawing 960006700 or 960006717; temperature code T6 (Ta = 40 °C), T4 (Ta = 70 °C); MWP 580 psi; integral sensor version is a Dual Seal device; separated housing option is a Single Seal device for working pressure up to 580 psi (40 bar) and process temperature of -40C to +125C; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, seal material and additional options.



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- 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**

Ex ia IIC:

Class I, Zone 0; AEx ia IIC:

Class I, Groups A, B, C and D; Class II, Groups E, F and G; Class III; Type 4X/6P:

- Deltabar S, Types PMD75, FMD77, FMD78, Differential Pressure Transmitters, 45Vdc max, 20mA; MWP 6,090 psi; intrinsically safe when connected per installation drawing 960006697, 960006403, 960006717 or 960006752; HART version Entity Parameters: $V_{max}(U_i) = 30$ Vdc, $I_{max}(I_i) = 300$ mA, $P_i = 1$ W, $C_i = 11.8$ nF, $L_i = 225\mu$ H ('electronic' option code = A,B,C) or 0 μ H ('electronic' option code = D,E,F); PA/FF version Entity Parameters: $V_{max}(U_i) = 24$ Vdc, $I_{max}(I_i) = 250$ mA, $P_i = 1.2$ W, $C_i = 5$ nF, $L_i = 10$ μ H; PA/FF version FISCO Parameters: $V_{max}(U_i) = 17.5$ Vdc, $I_{max}(I_i) = 500$ mA, $P_i = 5.5$ W, $C_i = 5$ nF, $L_i = 10$ μ H; temperature code T6 ($T_a = 40$ °C), T4 ($T_a = 70$ °C); Single Seal device for process temperature of -40C to +85C; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, seal material, fill fluid, capillary length and additional options.
- Cerabar S, Types PMP71, PMP75, Pressure Transmitters, 45Vdc max, 20mA; MWP 10,500 psi; intrinsically safe when connected per installation drawing 960006700, 960006762, 960006717 or 960006752; HART version Entity Parameters: $V_{max}(U_i) = 30$ Vdc, $I_{max}(I_i) = 300$ mA, $P_i = 1$ W, $C_i = 11.8$ nF, $L_i = 225\mu$ H ('electronic' option code = A,B,C) or 0 μ H ('electronic' option code = D,E,F); PA/FF version Entity Parameters: $V_{max}(U_i) = 24$ Vdc, $I_{max}(I_i) = 250$ mA, $P_i = 1.2$ W, $C_i = 5$ nF, $L_i = 10$ μ H; PA/FF version FISCO Parameters: $V_{max}(U_i) = 17.5$ Vdc, $I_{max}(I_i) = 500$ mA, $P_i = 5.5$ W, $C_i = 5$ nF, $L_i = 10$ μ H; temperature code T6 ($T_a = 40$ °C), T4 ($T_a = 70$ °C) ; PMP71/PMP75 with integral sensors are Dual Seal devices for working pressure up to 2900 psi and Single Seal devices for working pressure between 2900 psi and 5800 psi; PMP71/PMP75 with separated housing option are Single Seal devices for working pressure up to 5800 psi and process temperature of -40C to +100C; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, fill fluid and additional options.
- Deltapilot S, Type FMB70, Pressure Transmitters, 45Vdc max, 20mA; MWP 10 bar/145 psi; intrinsically safe when connected per installation drawing 960007652 or 960007739; HART version Entity Parameters: $V_{max}(U_i) = 30$ Vdc, $I_{max}(I_i) = 300$ mA, $P_i = 1$ W, $C_i = 11.8$ nF, $L_i = 225\mu$ H ('electronic' option code = A,B,C) or 0 μ H ('electronic' option code = D,E,F); PA/FF version Entity Parameters: $V_{max}(U_i) = 24$ Vdc, $I_{max}(I_i) = 250$ mA, $P_i = 1.2$ W, $C_i = 5$ nF, $L_i = 10$ μ H; PA/FF version FISCO Parameters: $V_{max}(U_i) = 17.5$ Vdc, $I_{max}(I_i) = 500$ mA, $P_i = 5.5$ W, $C_i = 5$ nF, $L_i = 10$ μ H; temperature code T6 ($T_a = 40$ °C), T4 ($T_a = 70$ °C); -10 Deg. C \leq Process Temp. $\leq +100$ °C; Single Seal device; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, fill fluid and additional options.



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Ex ia IIC:

Class I, Zone 0; AEx ia IIC:

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• Cerabar S, Type PMC71, Pressure Transmitter, 45Vdc max, 20mA; MWP 580 psi; intrinsically safe when connected per installation drawing 960006700 or 960006717; HART version Entity Parameters: $V_{max}(U_i) = 30$ Vdc, $I_{max}(I_i) = 300$ mA, $P_i = 1$ W, $C_i = 11.8$ nF, $L_i = 225\mu$ H ('electronic' option code = A,B,C) or 0 μ H ('electronic' option code = D,E,F); PA/FF version Entity Parameters: $V_{max}(U_i) = 24$ Vdc, $I_{max}(I_i) = 250$ mA, $P_i = 1.2$ W, $C_i = 5$ nF, $L_i = 10$ μ H; PA/FF version FISCO Parameters: $V_{max}(U_i) = 17.5$ Vdc, $I_{max}(I_i) = 500$ mA, $P_i = 5.5$ W, $C_i = 5$ nF, $L_i = 10$ μ H; temperature code T6 ($T_a = 40$ °C), T4 ($T_a = 70$ °C); integral sensor version is a Dual Seal device; separated housing option is a Single Seal device for working pressure up to 580 psi (40 bar) and process temperature of -40C to +125C; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, seal material and additional options.

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

Type 4X/6P:

- Deltabar S, Types, PMD75, FMD77, FMD78, Differential Pressure Transmitters, 45Vdc max, 20mA; MWP 6,090 psi; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, seal material, fill fluid, capillary length and additional options.
- Cerabar S, Types PMC71, PMP71, PMP75, Pressure Transmitters, 45Vdc max, 20mA; MWP 10,500 psi; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, seal material and additional options.
- Deltapilot S, Type FMB70, Pressure Transmitters, 45Vdc max, 20mA; MWP 10 bars; Type designation may be followed by additional suffixes to denote options for Certification, output, housing, pressure range, calibration, diaphragm material, process connection, fill fluid and additional options.

Conditions of Acceptability:

- To be supplied by Class 2 or limited energy source in accordance with CSA 61010-1-12.



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APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 0-10	- General Requirements - Canadian Electrical Code, Part II
CSA Std C22.2 No. 25-1966	- Enclosures for Use in Class II Groups E, F, and G Hazardous Locations
CSA Std C22.2 No. 30-M1986	- Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CAN/CSA-C22.2 No. 94-M91	- Special Purpose Enclosures
CSA C22.2 No. 157-92 (R2006)	- Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
CSA Std C22.2 No. 213-M1987 (R2008)	- Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CAN/CSA C22.2 No. 61010-1-12	- Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements - Third Edition
CAN/CSA C22.2 No. 60079-0:15	- Explosive Atmospheres - Part 0: Equipment – General Requirements
CAN/CSA C22.2 No. 60079-11:14	- Explosive Atmospheres - Part 11: Equipment protection by intrinsic safety "i"
FMRC 3600 – 1998	- Electrical Equipment for Use in Hazardous (Classified) Locations, General Requirements
FMRC3610 – 2010	- Intrinsically Safe Apparatus for Use in Class I, II & III, Division 1, and Class I, Zone 0 & 1 Hazardous (Classified) Locations
FMRC3611- 2004	- Nonincendive Electrical Equipment for Use in Class I and Class II, Division 2, and Class III, Division 1 and 2 Hazardous (Classified) Locations
FM 3615 -1989	- Explosionproof Electrical Equipment – General Requirements
ANSI/ISA-61010-1 (82.02.01)	- Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements (Third Edition)
ANSI/ISA 60079-0:2013	- Explosive atmospheres – Part 0: Equipment - General Requirements
ANSI/ISA 60079-11:2014	- Explosive Atmospheres - Part 11: Equipment Protection by intrinsic safety "i"
ANSI/NEMA 250 - 1991	- Enclosures for Electrical Equipment
ANSI/ISA–12.27.01–2011	- Requirements for Process Sealing Between Electrical Systems and Flammable or Combustible Process Fluids