

Certificate of Compliance

Certificate: 1067710

Master Contract: 160686 (LR 82598)

Project: 1162850

Date Issued: January 9, 2001

Issued to: ENDRESS + HAUSER FLOWTEC AG
Kaegenstrasse 7
Reinach, CH-4153
Switzerland
Attention: Mr. Utz Dette

The products listed below are eligible to bear the CSA Mark shown



Issued by: 
G. Lewis, CET

Authorized by: 
Brian Rossborough, P. Eng.
Operations Manager

PRODUCTS

CLASS 2258 04 – PROCESS CONTROL EQUIPMENT – Intrinsically Safe Entity – For Hazardous Location

Ex ia IIC, Zone 0:

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

- PROMAG 23H/Pa-bcdefNhiijklm (compact versions), supply rated 4-20 mA (30 Vdc max.), frequency output rated up to 250 mA (30 Vdc max.). Intrinsically safe with Entity Parameters, Temperature Codes and Maximum Ambient Temperatures per Drawing No. FES0038-0000.

Entity Parameters:

Terminals 1 (+) and 2 (-): Vmax, Ui = 30 V, Imax, Ii = 150 mA, Pi = 0.81 W, Ci = 5 nF, Li = negligible.

Terminals 3 (+) and 4 (-): Vmax, Ui = 30 V, Imax, Ii = 250 mA, Pi = 1 W, Ci = negligible, Li = negligible.

a in the Model No. may be any combination of two digit character or numeral representing a specific option.

b, c, d, e, f, h, i, j, k, l and m in the Model No. may be any character or numeral representing specific options.

CLASS 2258 02 – PROCESS CONTROL EQUIPMENT – For Hazardous Location

Ex nA II, Class I, Zone2:

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

- PROMAG 23H/Pa-bcdefghijklm (compact versions), supply rated 4-20 mA (30 Vdc max.), frequency output rated up to 250 mA (30 Vdc max.). Suitable for Div.2 and Dust-Tight with Temperature Codes and Maximum Ambient Temperatures per Drawing No. FES0038-0000 and FES0040-0000.

a in the Model No. may be any combination of two digit character or numeral representing a specific option.

b, c, d, e, f, h, i, j, k, l and m in the Model No. may be any character or numeral representing specific options.

g = N or R

APPLICABLE REQUIREMENTS

- | | | |
|-----------------------------|---|---|
| CAN/CSA-E79-0-95 | - | Electrical Apparatus for Explosive Gas Atmospheres--Part 0: General Requirements |
| CAN/CSA-E79-11-95 | - | Electrical Apparatus for Explosive Gas Atmospheres--Part 11: Intrinsic Safety "i" |
| CAN/CSA-E79-15-95 | - | Electrical Apparatus for Explosive Gas Atmospheres--Part 15: Electrical Apparatus with Type of Protection "n" |
| CSA Std C22.2 No. 25-1966 | - | Enclosures for Use in Class II, Groups E, F and G Hazardous Locations |
| CAN/CSA-C22.2 No. 94-M91 | - | Special Purpose Enclosures |
| CSA Std C22.2 No. 142-M1987 | - | Process Control Equipment |
| CAN/CSA-C22.2 No. 157-92 | - | Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations |
| CSA Std C22.2 No. 213-M1987 | - | Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations |

Supplement to Certificate of Compliance

Certificate: 1067710

Master Contract: 160686 (LR 82598)

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

Product Certification History

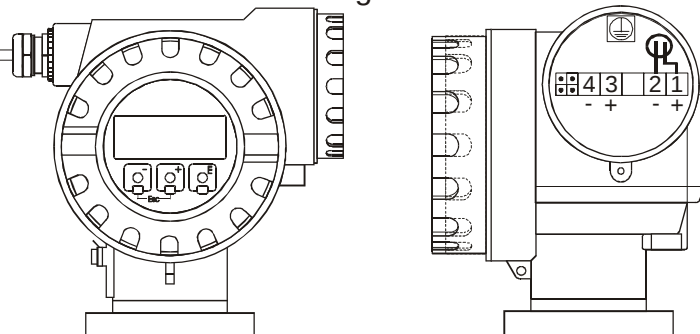
Project	Date	Description
1162850	January 9, 2001	Update to include to cover revisions to "main board" and "commodul C04 HART boards".
1143901	November 30, 2000	Update to include: 1. Alternative shunt diodes type BZG 03C15 TR for PROMAG 23F DN200 Sensor. 2. Revised drawings.
1067710	June 20, 2000	Original Certification.

NON HAZARDOUS LOCATION

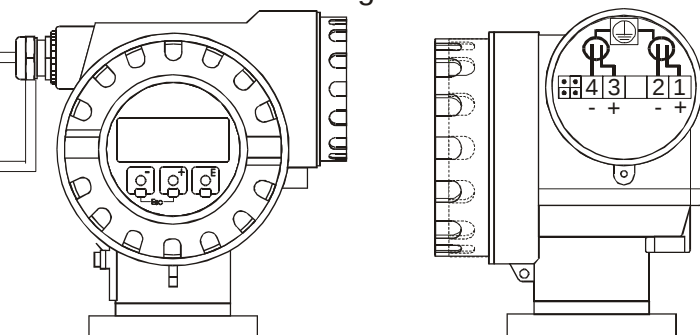
HAZARDOUS (CLASSIFIED) LOCATION

Ex ia IIC, Class I Zone 0
Class I, Division 1, Groups A, B, C, D
Class II, Division 1, Groups E, F, G
Class III

Promag 23*** -*****N*****W



Promag 23*** -*****N*****A



NOTES: INSTRINSICALLY SAFE INSTALLATION CLASS I, DIV. 1, GPS A,B,C,D; CLASS II, DIV. 1, GPS E,F,G AND CLASS III

- The installation must be in accordance with the Canadian Electrical Code.
- Control room equipment may not use or generate over 250 Vrms.
- Use CSA certified safety barrier or other CSA certified associated equipment that satisfies the following conditions:
 V_{oc} or $U_o \leq V_{max}$ or U_i and I_{sc} or $I_o \leq I_{max}$ or I_i and P_o or $P_{max} \leq P_i$ and $C_a \geq C_i + C_{cable}$ and $L_a \geq L_i + L_{cable}$
- WARNING:** SUBSTITUTION OF COMPONENTS MAY IMPAIR INSTRINSIC SAFETY.
- Cable for different I.S. circuits have to be separated with grounded shields.
- Caution: Use only supply wires suitable for 5 °C above T_a ($T_{medium} \leq 100$ °C) or suitable for 80 °C ($T_{medium} > 100$ °C).

PROMAG 23 H**-*****N***** / PROMAG 23 P**-A****N***** (PFA – Liner)				
Temperature class	T6	T5	T4	T3C
$T_{ambient}$	40 °C	60 °C	60 °C	60 °C
T_{medium}	80 °C	95 °C	130 °C	150 °C

PROMAG 23 P**-E****N***** (PTFE – Liner)			
Temperature class	T6	T5	T4
$T_{ambient}$	40 °C	60 °C	60 °C
T_{medium}	80 °C	95 °C	130 °C

Entity parameters:

Promag 23* - *****N*****W** Terminals 1 (+) and 2 (-) / Hart, 4 ... 20 mA
 V_{max} , $U_i = 30$ V I_{max} , $I_i = 150$ mA $P_i = 0.81$ W
 $C_i \leq 5$ nF $L_i = \text{negligible}$

Promag 23* - *****N*****A** Terminals 1 (+) and 2 (-) / Hart, 4 ... 20 mA
 V_{max} , $U_i = 30$ V I_{max} , $I_i = 150$ mA $P_i = 0.81$ W
 $C_i \leq 5$ nF $L_i = \text{negligible}$
 Terminals 3 (+) and 4 (-) / Frequency output
 V_{max} , $U_i = 30$ V I_{max} , $I_i = 250$ mA $P_i = 1$ W
 $C_i = \text{negligible}$ $L_i = \text{negligible}$

Notes: Suitable for Class I, Div.2, Gps ABCD; Class II, Div.1, Gps EFG and Class III HAZARDOUS LOCATION INSTALLATION

- Install per Canadian Electrical Code (CEC) using threaded conduit. Intrinsic safety barrier not required. For T-code see table.
Terminal 1 and 2
 Supply voltage: 13.9 ... 30 VDC Signal current: 4 ... 20 mA (max. 25 mA)
Terminal 3 and 4
 Pulse Output: Supply voltage 5 ... 30 VDC, max. 250 mA, max. 1 W
- A dust tight seal must be used for conduit entry when the transmitter is used in a Class II or Class III Location.
- WARNING:** EXPLOSION HAZARD – Do not disconnect equipment unless the power has been switched off or the area is known to be Non-Hazardous.
- WARNING:** EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.
- Caution: Use only supply wires suitable for 5 °C above T_a ($T_{medium} \leq 100$ °C) or suitable for 80 °C ($T_{medium} > 100$ °C).

A		F	
B		G	
C		H	
D		J	
E		K	

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 Diese Zeichnung darf ohne unsere
 Genehmigung weder vervielfältigt werden noch
 dritten Personen und Konkurrenzfirmen
 zugänglich gemacht werden.

Mat.-Nr.: 71040719

Ersatz für:
 Ersteller: FES/UD

File: M:\ZEICHNUNG\...000215C.DOC ID 1034

CSA INSTALLATION DRAWING PROMAG 23

2- and 4-WIRE VERSION

ENTITY CONCEPT Class I, Division 1



Flowtec AG, Kaegenstrasse 7, CH-4153 Reinach BL1, Postfach

Massstab		
Gezeichnet	15.02.00	UD
Geprüft		
Ex-geprüft	08.05.00	
Gesehen		

FES0038-0000C00