



# Certificate of Compliance

**Certificate:** 1767247 (LR 82598)

**Master Contract:** 160686

**Project:** 2567319

**Date Issued:** November 5, 2012

**Issued to:** Endress + Hauser Flowtec AG

**Kagenstrasse 7  
Reinach, Basel Land 4153  
Switzerland  
Attention: Utz Dette**

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



*Aisha Sreenath*

**Issued by:** Aisha Sreenath

## **PRODUCTS**

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

### **Ex d [ia] IIC:**

**Class I, Division 1, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III:**

- PROSONIC FLOW 92abb-cdefgPiklmno Flowmeters consisting of a Transmitter/Sensor (Compact Version) or a Transmitter and remotely mounted Sensor (Remote Version). Supply rated 35Vdc, 50mA. Explosion-proof with Intrinsically Safe circuits (Ex ia IIC) to sensors per Control Drawing FES0104. Seal Not Required. Type 4X Enclosure. Maximum process pressure (MWP) 1450psi (100bar). Dual Seal Device.

### Notes:

- "a, b, c, d, e, f, g, i, k, l, m, n & o" in the Model Number may be any number or letter representing specific options.
- Entity Parameters and Temperature Codes are located on Control Drawing FES0104.
- The interior of the process tube is suitable for Zone 0.
- The remote version sensor is also rated Type 6P.

### **Ex ia IIC:**

**Class I, Division 1, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III:**



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- PROSONIC FLOW 92abb-cdefgNiklmno Flowmeters consisting of a Transmitter/Sensor (Compact Version) or a Transmitter and remotely mounted Sensor (Remote Version). Supply rated 30Vdc, 50mA. Intrinsically Safe and provides Intrinsically Safe circuits (Ex ia IIC) to sensors per Control Drawing FES0102. Type 4X Enclosure. Maximum process pressure (MWP) 1450psi (100bar). Dual Seal Device.

**Notes:**

- “a, b, c, d, e, f, g, i, k, l, m, n & o” in the Model Number may be any number or letter representing specific options.
- Entity Parameters and Temperature Codes are located on Control Drawing FES0102.
- The remote version sensor is also rated Type 6P.

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

**Ex nA[nL] IIC:**

**Ex nL IIC:**

**Class I, Division 2, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III:**

- PROSONIC FLOW 92abb-cdefgNiklmno Flowmeters consisting of a Transmitter/Sensor (Compact Version) or a Transmitter and remotely mounted Sensor (Remote Version). Supply rated 35Vdc, 50mA. The Transmitters are suitable for use in Division 2/ Zone 2 (Ex nA[nL] IIC or Ex nL IIC depending on version) with Non-Incendive Sensor circuits (Ex nL IIC) per Control Drawing FES0102. Type 4X Enclosure. Maximum process pressure (MWP) 1450psi (100bar). Dual Seal Device.

**Notes:**

- “a, b, c, d, e, f, g, i, k, l, m, n & o” in the Model Number may be any number or letter representing specific options.
- Entity Parameters and Temperature Codes are located on Control Drawing FES0102.
- The remote version sensor is also rated Type 6P.

**Notes:**

**APPLICABLE REQUIREMENTS**

CAN/CSA C22.2 No. 0-M91 (R2001) - 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



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- CSA-C22.2 No. 30-M1986 Locations - Explosion-Proof Enclosures for Use in Class I Hazardous Locations
- CAN/CSA-C22.2 No. 94-M91 - Special Purpose Enclosures
- CAN/CSA-C22.2 No. 157-92 Hazardous Locations - Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
- CSA Std. C22.2 No. 213-M1987 2 Hazardous Locations - Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
- CAN/CSA-C22.2 No. 1010.1-2004 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements
- CAN/CSA-E60079-0:02 General Requirements - Electrical Apparatus for Explosive Gas Atmospheres - Part 0:
- CAN/CSA-E60079-1:02 1: Flameproof Enclosures "d" - Electrical Apparatus for Explosive Gas Atmospheres - Part
- CAN/CSA-E60079-11:02 - Electrical Apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety "i"
- CAN/CSA-E60079-15:02 - Electrical Apparatus for Explosive Gas Atmospheres - Part 15: Type of Protection "n"
- ANSI/ISA-12.27.01-2003 - Requirements for Process Sealing Between Electrical Systems and Flammable or Combustible Process Fluids



## *Supplement to Certificate of Compliance*

**Certificate:** 1767247

**Master Contract:** 160686

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

### **Product Certification History**

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<b>Project</b>	<b>Date</b>	<b>Description</b>
2567319	November 5, 2012	Update to cover minor revision to connector pin assignment on Control Drawing.
2332163	August 13, 2010	Update to include alternative flow sensor, extend sensor fluid temperature ratings and minor non-safetyrelated changes.
2180861	August 18, 2009	Update to include alternative fuse, add Dual Seal Device marking and minor drawings revision.

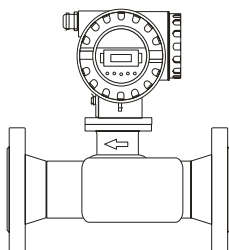
### **History**

1767247 March 14, 2006 Original Certification. PROSONIC FLOW Model 92abb-\*\*\*.

### Hazardous Locations

Class I Division 1 Groups ABCD, Class II Division 1 Groups EFG and Class III or Class I, Zone 1, Group IIC

#### Compact version

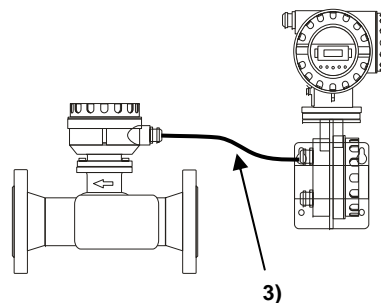


Ta = 40°C	Max. fluid temperature*)				
	T6 2)	T5 2)	T4	T3	T2 - T1
Ta = 55°C	—	95°C	130°C	195°C	200°C
Ta = 60°C	—	—	130°C	195°C	200°C

\*) but not exceeding the max. fluid temperature marked on the device

Minimum ambient temperature: -40°C  
Minimum fluid temperature: -40°C

#### Remote version



Sensor:

Ta = 60°C	Max. fluid temperature*)				
	T6 2)	T5 2)	T4	T3	T2 - T1
Ta = 80°C	—	95°C	130°C	195°C	200°C

\*) but not exceeding the max. fluid temperature marked on the device

Minimum ambient temperature: -40°C  
Minimum fluid temperature: -40°C

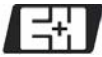
Transmitter:

Ta =	T6 2)	T5 2)	T4 - T1
	40°C	55°C	60°C

Minimum ambient temperature: -40°C

#### Notes:

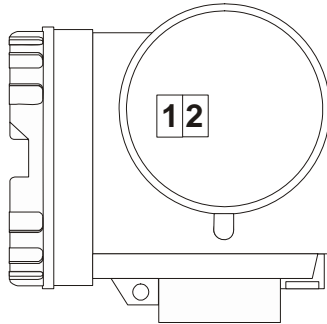
- | Model Codes:                    | Drawing-No.              |
|---------------------------------|--------------------------|
| Prosonic Flow 92***_*****P***** | FES0104 and FES0104-0001 |
- Temperature class T6 and T5 is not allowed for versions of Profibus PA and Fieldbus Foundation (not for Prosonic Flow 92\*\*\*\_\*\*\*\*\*P\*\*\*\*\*H and Prosonic Flow 92\*\*\*\_\*\*\*\*\*P\*\*\*\*\*K)
- Max. cable length for intrinsically safe installation 100m for using cable parameters  $L_{Cable} = 1\text{mH/km}$  and  $C_{Cable} = 1\mu\text{F/km}$
- Caution: Use supply wires suitable for 10°C above maximum ambient temperature
- Caution: Surface temperature of sensor enclosure can exceed 70°C depending on ambient temperature or medium temperature
- Dust tight seals must be used at conduit entries for Class II and III installation
- Prosonic Flow 92 transmitter is intended for installation to Service Interface FXA 193 or FXA 291
- The Prosonic Flow 92 is Factory Sealed. This means that a conduit seal is not required within 18 inches (450mm) of the enclosure
- Compact version and remote version are intended for use in Zone 1. The interior of measuring tube is permissible for use in Zone 0
- Prosonic Flow 92 is a Dual Seal rated device if the optional rupture disk is present.

Aenderungen:	<table border="1"> <tr><td>A</td><td>10.05.06/Bn</td><td>F</td><td></td></tr> <tr><td>B</td><td>15.09.08/BDA</td><td>G</td><td></td></tr> <tr><td>C</td><td>18.05.10/PAM</td><td>H</td><td></td></tr> <tr><td>D</td><td></td><td>J</td><td></td></tr> <tr><td>E</td><td></td><td>K</td><td></td></tr> </table>	A	10.05.06/Bn	F		B	15.09.08/BDA	G		C	18.05.10/PAM	H		D		J		E		K		<p>Alle gesetzlichen Urheberrechte vorbehalten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch dritten Personen und Konkurrenzfirmen zugänglich gemacht werden.</p>	<p><b>Mat.-Nr.: 71121130</b> Ersatz für: Ersteller: FES/Bn File: FES104_B_080915.doc <b>ID 1158</b></p>
A	10.05.06/Bn	F																					
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C	18.05.10/PAM	H																					
D		J																					
E		K																					
<p><b>CSA CONTROL DRAWING</b> <b>PROSONIC FLOW 92 (XP)</b> <b>Compact Version, Remote version</b></p>		<p>Masstab</p> <table border="1"> <tr> <td>Gezeichnet</td> <td>14.10.05</td> <td>Bn</td> </tr> <tr> <td>Geprüft</td> <td></td> <td></td> </tr> <tr> <td>Ex-geprüft</td> <td>18.05.10</td> <td>PAM</td> </tr> <tr> <td>Gesehen</td> <td></td> <td></td> </tr> </table>	Gezeichnet	14.10.05	Bn	Geprüft			Ex-geprüft	18.05.10	PAM	Gesehen											
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<p><b>Endress+Hauser</b>  Endress+Hauser Flowtec AG, CH-4153 Reinach</p>		<p><b>FES0104 C</b></p>																					

### Hazardous Locations

Class I Division 1 Groups ABCD, Class II Division 1 Groups EFG and Class III or Class I, Zone 1, Group IIC

Prosonic Flow 92\*\*\*\_\*\*\*\*P\*\*\*\*H,  
Prosonic Flow 92\*\*\*\_\*\*\*\*P\*\*\*\*K,  
Prosonic Flow 92\*\*\*\_\*\*\*\*P\*\*\*\*W



#### Prosonic Flow 92\*\*\*\_\*\*\*\*P\*\*\*\*W

Division 1 installation

Terminal 1 and 2

Supply voltage:  $U \leq 35 \text{ Vdc}$   
 $U_{\text{max}} = 250 \text{ Vdc}$

#### Prosonic Flow 92\*\*\*\_\*\*\*\*P\*\*\*\*H and Prosonic Flow 92\*\*\*\_\*\*\*\*P\*\*\*\*K

Division 1 installation

Terminal 1 and 2

Supply voltage:  $U \leq 35 \text{ Vdc}$   
 $U_{\text{max}} = 250 \text{ Vdc}$

#### Prosonic Flow 92\*\*\*\_\*\*\*\*P\*\*\*\*A

Division 1 installation

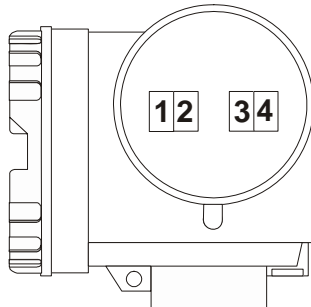
Terminal 1 and 2

Supply voltage:  $U \leq 35 \text{ Vdc}$   
 $U_{\text{max}} = 250 \text{ Vdc}$

Terminal 3 and 4

Pulse Output:  $U \leq 35 \text{ V}$   
 $U_{\text{max}} = 250 \text{ Vdc}$

Prosonic Flow 92\*\*\*\_\*\*\*\*P\*\*\*\*A



#### Notes:

- 1) Installation of transmitter circuit wiring according to Canadian Electrical Code using threaded conduit.
- 2) **WARNING** Terminal compartment: KEEP COVER TIGHT WHEN CIRCUITS ARE ALIVE OR THE AREA IS KNOWN TO BE HAZARDOUS
- 3) Control room equipment may not use or generate over 250Vrms.
- 4) **WARNING:** SUBSTITUTION OF COMPONENTS MAY IMPAIR INSTRINSIC SAFETY.

Aenderungen:	A	10.05.06/Bn	F	Alle gesetzlichen Urheberrechte vorbehalten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch dritten Personen und Konkurrenzfirmen zugänglich gemacht werden.	<b>Mat.-Nr.: 71121130</b>  Ersatz für: Ersteller: FES/Bn File: FES104_B_080915.doc <b>ID 1158</b>
	B	15.09.08/BDA	G		
	C	18.05.10/PAM	H		
	D		J		
	E		K		

## CSA CONTROL DRAWING PROSONIC FLOW 92 (XP)

Masstab	Gezeichnet	14.10.05	Bn
	Geprüft		
	Ex-geprüft	18.05.10	PAM
	Gesehen		

**Endress+Hauser**   
Endress+Hauser Flowtec AG, CH-4153 Reinach

**FES0104-0001 C**