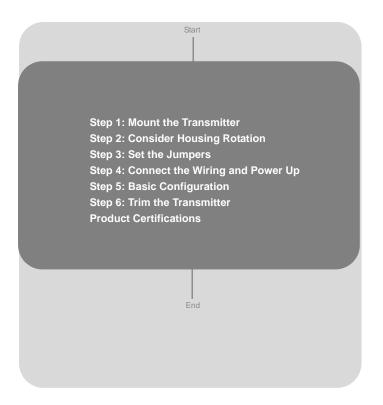
# Rosemount 3051 Pressure Transmitter with Profibus-PA

# Rosemount 3051CF Series Flowmeter Transmitter with Profibus-PA





www.rosemount.com



## Quick Installation Guide

June 2010

00825-0100-4797. Rev EA

# Rosemount 3051

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#### Rosemount Inc.

8200 Market Boulevard Chanhassen, MN USA 55317 T (US) (800) 999-9307 T (Intnl) (952) 906-8888 F (952) 949-7001

#### Emerson Process Management Asia Pacific Private Limited

1 Pandan Crescent Singapore 128461 T (65) 6777 8211 F (65) 6777 0947/65 6777 0743

#### Emerson Process Management GmbH & Co. OHG

Argelsrieder Feld 3 82234 Wessling Germanv T 49 (8153) 9390 F49 (8153) 939172

Beijing Rosemount Far East Instrument Co., Limited No. 6 North Street, Hepingli, Dong Cheng District Beijing 100013, China T (86) (10) 6428 2233 F (86) (10) 6422 8586

# IMPORTANT NOTICE

This installation guide provides basic guidelines for Rosemount 3051 transmitters. It does not provide instructions for configuration, diagnostics, maintenance, service, troubleshooting, Explosion-Proof, Flame-Proof, or intrinsically safe (I.S.) installations. Refer to the 3051 reference manual (document number 00809-0100-4797) for more instruction. This manual is also available electronically on www.emersonprocess.com/rosemount.

# 

## Explosions could result in death or serious injury:

Installation of this transmitter in an explosive environment must be in accordance with the appropriate local, national, and international standards, codes, and practices. Please review the approvals section of the 3051 reference manual for any restrictions associated with a safe installation.

 In an Explosion-Proof/Flameproof installation, do not remove the transmitter covers when power is applied to the unit.

#### Process leaks may cause harm or result in death.

 To avoid process leaks, only use the o-ring designed to seal with the corresponding flange adapter.

#### Electrical shock can result in death or serious injury.

 Avoid contact with the leads and the terminals. High voltage that may be present on leads can cause electrical shock.

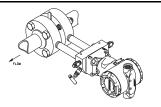
#### Conduit/Cable Entries

Unless marked, the conduit/cable entries in the transmitter housing use a <sup>1</sup>/2-14 NPT thread form. Only use plugs, adapters, glands or conduit with a compatible thread form when closing these entries.

# STEP 1: MOUNT THE TRANSMITTER

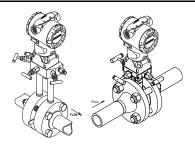
## **Liquid Applications**

- 1. Place taps to the side of the line.
- 2. Mount beside or below the taps.
- 3. Mount the transmitter so that the drain/vent valves are oriented upward.



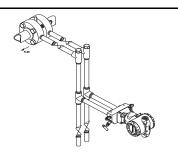
## **Gas Applications**

- 1. Place taps in the top or side of the line.
- 2. Mount beside or above the taps.

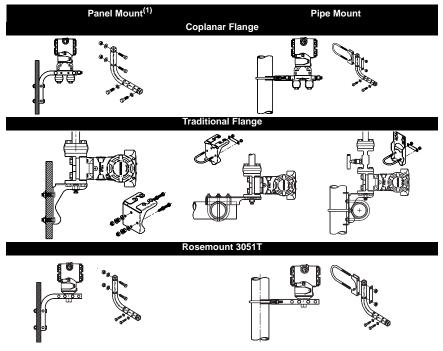


# **Steam Applications**

- 1. Place taps to the side of the line.
- 2. Mount beside or below the taps.
- 3. Fill impulse lines with water.



# STEP 1 CONTINUED...



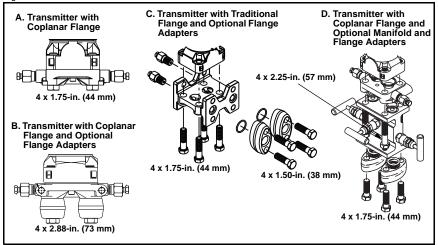
(1) Panel bolts are customer supplied.

# STEP 1 CONTINUED...

# **Bolting Considerations**

If the transmitter installation requires assembly of the process flanges, manifolds, or flange adapters, follow these assembly guidelines to ensure a tight seal for optimal performance characteristics of the transmitters. Use only bolts supplied with the transmitter or sold by Emerson as spare parts. Figure 1 illustrates common transmitter assemblies with the bolt length required for proper transmitter assembly.

Figure 1. Common Transmitter Assemblies



Bolts are typically carbon steel or stainless steel. Confirm the material by viewing the markings on the head of the bolt and referencing Figure 2. If bolt material is not shown in Figure 2, contact the local Emerson Process Management representative for more information.

Use the following bolt installation procedure:

- Carbon steel bolts do not require lubrication and the stainless steel bolts are coated with a lubricant to ease installation. However, no additional lubricant should be applied when installing either type of bolt.
- 2. Finger-tighten the bolts.
- 3. Torque the bolts to the initial torque value using a crossing pattern. See Figure 2 for initial torque value.
- 4. Torque the bolts to the final torque value using the same crossing pattern. See Figure 2 for final torque value.
- 5. Verify that the flange bolts are protruding through the isolator plate before applying pressure.

# STEP 1 CONTINUED...

Figure 2. Torque values Bolt Material	for the flange and flange adapter bolts Head Markings	Initial Torque	Final Torque
Carbon Steel (CS)	В7М	300 inlbs.	650 inlbs.
Stainless Steel (SST)	$ \begin{array}{c c} 316 \\ \hline 88M \\ \hline 316 \\ \hline 8 \\ 8 \\ \hline 8 \\ \hline 8 \\ 8 \\ 8 \\ 8 \\ 8 \\ 8 \\ 8 \\ 8 \\ 8 \\ 8 \\$	150 inIbs.	300 inIbs.

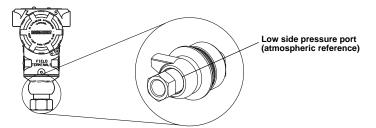
⚠ Whenever the flanges or adapters are removed, visually inspect the o-rings. Replace them if there are any signs of damage, such as nicks or cuts. If you replace the o-rings, re-torque the flange bolts and alignment screws after installation to compensate for seating of the PTFE o-ring.

# **Inline Gage Transmitter Orientation**

The low side pressure port (atmospheric reference) on the inline gage transmitter is located in the neck of the transmitter, behind the housing. The vent path is 360° around the transmitter between the housing and sensor. (See Figure 3.)

Keep the vent path free of any obstruction, including but not limited to paint, dust, and lubrication by mounting the transmitter so that the process can drain away.

Figure 3. Inline Gage Low Side Pressure Port



# **STEP 2: CONSIDER HOUSING ROTATION**

To improve field access to wiring or to better view the optional LCD display:

- 1. Loosen the housing rotation set screw.
- First rotate the housing clockwise to the desired location. If the desired location cannot be achieved due to thread limit, rotate the housing counter clockwise to the desired location (up to 360° from thread limit).

# STEP 2 CONTINUED...

3. Retighten the housing rotation set screw.



# STEP 3: SET JUMPERS AND SWITCHES

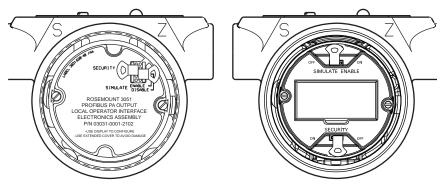
# Security

After the transmitter is configured, you may want to protect the configuration data from unwarranted changes. Each transmitter is equipped with a security jumper than can be positioned "ON" to prevent the accidental or deliberate change of configuration data. The jumper is labeled "Security."

# Simulate

The simulate jumper is used in conjunction with the Analog Input (AI) block. This jumper is used to simulate the pressure measurement and is used as a lock-out feature for the AI block. to enable the simulate feature, the jumper must be moved to the "ON" position after power is applied. This feature prevents the transmitter from being accidently left in simulate mode.

Figure 4. Transmitter Jumper Locations

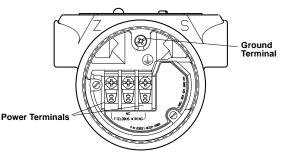


# STEP 4: CONNECT WIRING AND POWER UP

Use the following steps to wire the transmitter:

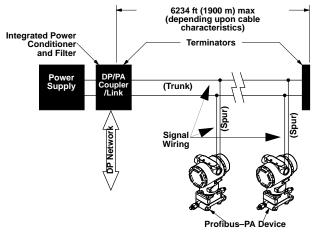
- 1. Remove the housing cover on the FIELD TERMINALS side.
- 2. Connect the power leads to the terminals indicated on the terminal block label.
- Power terminals are polarity insensitive connect positive or negative to either terminal
- Ensure proper grounding. It is important that the instrument cable shield:
  - be trimmed close and insulated from touching the transmitter housing
  - be connected to the next shield if cable is routed through a junction box
  - · be connected to a good earth ground at the power supply end
- 4. Plug and seal unused conduit connections.
- 5. If applicable, install wiring with a drip loop. Arrange the drip loop so the bottom is lower than the conduit connections and the transmitter housing.
- 6. Replace the housing cover.

Figure 5.



"NC" is a No Connect terminal (do not use)

Figure 6.



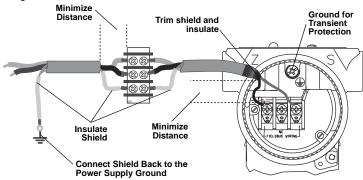
# STEP 4 CONTINUED...

# **Signal Wiring Grounding**

Do not run signal wiring in conduit or open trays with power wiring, or near heavy electrical equipment. Grounding terminations are provided on the outside of the electronics housing and inside the Terminal Compartment. These grounds are used when transient protect terminal blocks are installed or to fulfill local regulations. See Step 2 below for more information on how the cable shield should be grounded.

- 1. Remove the Field Terminals housing cover.
- 2. Connect the wiring pair and ground as indicated in Figure 7. The cable shield should:
  - a. Be trimmed close and insulated from touching the transmitter housing.
  - b. Continuously connect to the termination point.
  - c. Be connected to a good earth ground at the power supply end.

```
Figure 7. Wiring
```



- 3. Replace the housing cover. It is recommended that the cover be tightened until there is no gap between the cover and the housing.
- 4. Plug and seal unused conduit connections.

## **Power Supply**

The dc power supply should provide power with less than two percent ripple. The transmitter requires between 9 and 32 Vdc at the terminals to operate and provide complete functionality

## **Power Conditioner**

The DP/PA Coupler / Link often includes an integrated power conditioner.

## Grounding

Transmitters are electrically isolated to 500 Vac rms. Signal wiring can not be grounded.

## Shield Wire Ground

Grounding techniques for shield wire usually require a single grounding point for shield wire to avoid creating a ground loop. The ground point is typically at the power supply.

# STEP 5: BASIC CONFIGURATION

# **Configuration Tasks**

The transmitter can be configured via either the Local Operator Interface (LOI) – option code M4, or via a Class 2 master (DD or DTM based). The two basic configuration tasks for the Profibus PA Pressure transmitter are:

- 1. Assign Address.
- 2. Configure Engineering Units (scaling).

# NOTE

Rosemount 3051 Profibus Profile 3.02 devices are set to Identification Number Adaptation mode when shipped from the factory. This mode allows the transmitter to communicate with any Profibus control host with either the generic Profile GSD (9700) or Rosemount 3051 specific GSD (4444) loaded on the host; therefore, it is not required to change the transmitter identification number at startup.

# Assign Address

The Rosemount 3051 Pressure Transmitter is shipped with a temporary address of 126. This must be changed to a unique value between 0 and 125 in order to establish communication with the host. Usually, addresses 0-2 are reserved for masters or couplers, therefore transmitter addresses between 3 and 125 are recommended.

Address can be set via either:

- LOI see Table 1 and Figure 8
- Class 2 master see Class 2 Master Manual for setting address

# **Configure Engineering Units**

Unless otherwise requested, the Rosemount 3051 Pressure Transmitter ships with the following settings:

- Measurement Mode: Pressure
- Engineering Units: Inches H<sub>2</sub>O
- Scaling: None

Engineering Units should be confirmed or configured before installation. Units can be configured for Pressure, Flow or Level measurement.

Measurement type, Units, Scaling, and Low Flow Cutoff (when applicable) can be set via either

- LOI see Table 1 and Figure 8
- Class 2 master see Table 2 for parameter configuration

# **Configuration Tools**

# Local Operator Interface (LOI)

When ordered, the LOI can be used for commissioning the device. To activate the LOI, push either configuration button located under the top tag of the transmitter. See Table 1 and Figure 8 for operation and menu information.

## NOTE

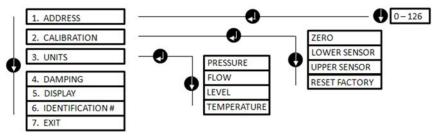
Buttons must be fully engaged  $\approx 0.5$  in. (10mm) of travel.

# STEP 5 CONTINUED...

Table 1. LC	I Button Operation			
Button	Action	Navigation	Character Entry	Save?
•	Scroll	Moves down menu categories	Changes character value <sup>(1)</sup>	Changes between Save and Cancel
0	Enter	Selects menu category	Enters character and advances	Saves

(1) Characters blink when they can be changed.

#### Figure 8. LOI Menu



# **Class 2 Master**

The Rosemount 3051 Profibus DD and DTM files are available at

EmersonProcess.com/Rosemount or by contacting your local salesperson. See Table 2 for steps to configure the transmitter for Pressure measurement. See product manual (00809-0100-4797) for Flow or Level configuration instructions.

Table 2. Pressure Configuration via Class 2 Master

Steps	Actions
Set blocks to Out of Service	Put Transducer Block into Out of Service mode
	Put Analog Input Block into Out of Service mode
Select Measurement Type	Set Primary Value type to Pressure
Select Units	Set Engineering Units
	- Primary and secondary units must match
Enter Scaling	Set Scale In in Transducer Block to 0 - 100
	Set Scale Out in Transducer Block to 0 - 100
	Set PV Scale in Analog Input Block to 0 - 100
	Set Out Scale in Analog Input Block to 0 - 100
	Set linearization in Analog Input Block to none
Set blocks to Auto	Put Transducer Block into Auto mode
	Put Analog Input Block into Auto mode

# STEP 5 CONTINUED...

## **Host Integration**

Control Host (Class 1)

The Rosemount 3051 device utilizes condensed status as recommended by the Profile 3.02 specification and NE 107. See manual for condensed status bit assignment information.

The appropriate GSD file must be loaded on the control host - Rosemount 3051 specific (rmt4444.gsd) or Profile 3.02 Generic (pa139700.gsd). These files can be found on www.emersonprocess.com\rosemount or www.profibus.com.

Configuration Host (Class 2)

The appropriate DD or DTM file must be installed in the configuration host. These files can be found at www.emersonprocess.com\rosemount.

# STEP 6: TRIM THE TRANSMITTER

Devices are calibrated by the factory. Once installed, it is recommended to perform a zero trim on the sensor to eliminate error due to mounting position or static pressure effects.

This can be done by performing a zero trim via:

- LOI see Table 1 and Figure 8
- · Class 2 master see "Zero Trim via Class 2 Master" for parameter settings

## Zero Trim via Class 2 Master

- 1. Place the transducer block into "Out of Service (OOS)" mode.
- 2. Apply zero pressure to device and allow to stabilize.
- 3. Go to Device Menu > Device Calibration and set the Lower Calibration Point to 0.0.
- 4. Place the transducer block to "AUTO" mode.

# **PRODUCT CERTIFICATIONS**

## **Approved Manufacturing Locations**

Emerson Process Management - Rosemount Inc. — Chanhassen, Minnesota, USA Emerson Process Management GmbH & Co. OHG — Wessling, Germany

# **European Directive Information**

The EC declaration of conformity can be found on page 18. The most recent revision can be found at www.emersonprocess.com.

## Ordinary Location Certification for Factory Mutual

As standard, the transmitter has been examined and tested to determine that the design meets basic electrical, mechanical, and fire protection requirements by FM, a nationally recognized testing laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).

# **Hazardous Locations Certifications**

## North American Certifications

FM Approvals

E5 Explosion-Proof for Class I, Division 1, Groups B, C, and D. Dust-Ignition-Proof for Class II, Division 1, Groups E, F, and G. Dust-Ignition-Proof for Class III, Division 1.

T5 (Ta = 85 °C), Factory Sealed, Enclosure Type 4X

I5 Intrinsically Safe for use in Class I, Division 1, Groups A, B, C, and D; Class II, Division 1, Groups E, F, and G; Class III, Division 1 when connected per Rosemount drawing 03031-1019; Non-incendive for Class I, Division 2, Groups A, B, C, and D.

Temperature Code: T4 (Ta = 60 °C) Enclosure Type 4X For input parameters see control drawing 03031-1019.

## Canadian Standards Association (CSA)

All CSA hazardous approved transmitters are certified per ANSI/ISA 12.27.02-2003.

- E6 Explosion-Proof for Class I, Division 1, Groups B, C, and D. Dust-Ignition-Proof for Class II and Class III, Division 1, Groups E, F, and G. Suitable for Class I, Division 2 Groups A, B, C, and D for indoor and outdoor hazardous locations. Enclosure type 4X, factory sealed. Single Seal.
- C6 Explosion-Proof and intrinsically safe approval. Intrinsically safe for Class I, Division 1, Groups A, B, C, and D when connected in accordance with Rosemount drawings 03031-1024. Temperature Code T3C.
   Explosion-Proof for Class I, Division 1, Groups B, C, and D. Dust-Ignition-Proof for Class II and Class III, Division 1, Groups E, F, and G. Suitable for Class I, Division 2 Groups A, B, C, and D hazardous locations. Enclosure type 4X, factory sealed

For input parameters see control drawing 03031-1024. Single Seal.

## **European Certifications**

I1 ATEX Intrinsic Safety and Dust Certification No.: BAS 98ATEX1355X II 1 GD Ex ia IIC T4 (T<sub>amb</sub> = −60 to +60 °C) Dust Rating: Ex tD A20 T70 °C (T<sub>amb</sub> −20 to 40 °C) IP66 C€ 1180

Table 3. Input Parameters  $U_i = 30V$   $I_i = 300 \text{ mA}$   $P_i = 1.3 \text{ W}$  $C_i = 0 \ \mu\text{F}$ 

#### Special Conditions for Safe Use (X):

When the optional transient protection terminal block is installed, the apparatus is not capable of withstanding the 500V insulation test required by Clause 6.3.12 of EN60079-11. This must be taken into account when installing the apparatus.

IA ATEX FISCO Intrinsic Safety

Table 4. Input Parameters

 $U_i = 17.5 V$   $I_i = 380 mA$   $P_i = 5.32 W$  $C_i = \le 5 \mu F$ 

 $L_i = \le 10 \ \mu H$ 

## Special Conditions for Safe Use (X):

The device is not capable of withstanding the 500V insulation test required by Clause 6.3.12 of EN60079-11. This must be taken into account when installing the apparatus.

N1 ATEX Type n and Dust

Certification No.: BAS 98ATEX3356X II 3 GD Ex nL IIC T4 (T<sub>amb</sub> = -40 to +70 °C) U<sub>i</sub> = 40 Vdc max Dust rating: Ex tD A22 T80 °C (T<sub>amb</sub> = -20 to 40 °C) IP66

## Special Conditions for Safe Use (X):

The device is not capable of withstanding the 500V insulation test required by Clause 6.8.1 of EN60079-15. This must be taken into account when installing the apparatus.

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E8 ATEX Flame-Proof and Dust Certification No.: KEMA 00ATEX2013X II 1/2 GD Ex d IIC T6 (T<sub>amb</sub> = −50 to 65 °C) Ex d IIC T5 (T<sub>amb</sub> = −50 to 80 °C) Dust rating: Ex tD A20/A21 T90 °C, IP66 C€ 1180 Vmax = 55 V dc

## Special Conditions for Safe Use (X):

This device contains a thin wall diaphragm. Installation, maintenance, and use shall take into account the environmental conditions to which the diaphragm will be subjected. The manufacturer's instructions for installation and maintenance shall be followed in detail to assure safety during its expected lifetime.

For more information on the dimensions of the flameproof joints, contact the manufacturer.

## Japanese Certifications

- E4 TIIS Flame-Proof
- Ex d IIC T6

Certificate	Description
C15852	3051C/D/1 FOUNDATION fieldbus — no meter
C15853	3051C/D/1 FOUNDATION fieldbus — with meter
C15858	3051T/G/1 FOUNDATION fieldbus, SST, Silicon — no meter
C15859	3051T/G/1 FOUNDATION fieldbus, Alloy C-276, Silicon — no meter
C15860	3051T/G/1 FOUNDATION fieldbus, SST, Silicon — with meter
C15861	3051T/G/1 FOUNDATION fieldbus, Alloy C-276, Silicon — with meter

## **IECEx Certifications**

I7 IECEx Intrinsic Safety Certification No.: IECEx BAS 09.0076X

Ex ia IIC T4 (T<sub>amb</sub> = 60 °C) IP66

Table 5. Input Parameters  $U_i = 30 \text{ V}$   $I_i = 300 \text{ mA}$   $P_i = 1.3 \text{ W}$   $C_i = 0 \ \mu\text{F}$  $L_i = 0 \ \mu\text{H}$ 

## Special Conditions for Safe Use (X):

- If the apparatus is fitted with an optional 90V transient suppressor, it is not capable of withstanding the 500V insulation test required by clause 6.3.12 of IEC 60079-11. This must be taken into account when installing the apparatus.
- 2. The enclosure may be made of aluminium alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in Zone 0.

## E7 IECEx Flameproof

Certification No.: IECEx KEM 09.0034X Ga/Gb Ex d IIC T6 (-50 °C to +65 °C ) T5 (-50 °C to +80 °C) Ex tD A20/A21 IP66 T90 °C IP66

## Special Conditions for Safe Use (X):

This device contains a thin wall diaphragm. Installation, maintenance and use shall take into account the environmental conditions to which the diaphragm will be subjected. The manufacturer's instructions for installation and maintenance shall be followed in detail to assure safety during its expected lifetime.

For information on the dimensions of the flameproof joints the manufacturer shall be contacted.

N7 IECEx Type n

Certification No.: IECEx BAS 09.0077X Ex nA nL IIC T5 (-40°C  $\leq$  T<sub>a</sub>  $\leq$  +70°C) IP66

## Special Conditions for Safe Use (X):

The apparatus is not capable of withstanding the 500V insulation test required by clause 6.8.1 of IEC 60079-15. This must be taken into account when installing the apparatus.

# Inmetro Certifications

E2 Flameproof

Certificate number (manufactured in Chanhassen, MN): Ex-073/971 Certificate number (manufactured in Brazil): Ex-1383/07X BR-Ex d IIC T6/T5

I2 Intrinsic Safety

Certificate number (manufactured in Chanhassen, MN): Ex-072/971X Certificate number (manufactured in Brazil): Ex-1412/07X BR- Ex ia IIC T4

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## China (NEPSI) Certifications

E3 Flameproof Certification No.: GYJ091065X Ex d IIC T3~T5 DIP A21 TA T90C IP66

 Intrinsic Safety Certification No.: GYJ091067X Ex ia IIC T4 DIP A20 TA T70C IP66

Table 6. Input Parameters

FOUNDATION fieldbus
U <sub>i</sub> = 30V
l <sub>i</sub> = 300 mA
P <sub>i</sub> = 1.3W
$L_i = 0$
C <sub>i</sub> = 0
FISCO
U <sub>i</sub> = 17.5 V
l <sub>i</sub> = 380 mA
P <sub>i</sub> = 5.32W
$L_i \le 10 \ \mu H$
C <sub>i</sub> = 5 nF

## **Combinations of Certifications**

Stainless steel certification tag is provided when optional approval is specified. Once a device labeled with multiple approval types is installed, it should not be reinstalled using any other approval types. Permanently mark the approval label to distinguish it from unused approval types.

- K5 E5 and I5 combination
- KB K5 and C6 combination
- KD K5, C6, I1, and E8 combination
- K6 C6, I1, and E8 combination
- K8 E8 and I1 combination
- K7 E7, I7, and N7 combination

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SEMOUNT <sup>®</sup>	C
EC Declaration o No: RMD 1017	
We,	
Rosemount Inc. 8200 Market Boulevard Chanhassen, MN 55317-6985	
declare under our sole responsibility that the produ	ict,
Models 3051 Pressur	e Transmitters
manufactured by,	
Rosemount Inc. 12001 Technology Drive and Eden Prairie, MN 55344-3695 USA	8200 Market Boulevard Chanhassen, MN 55317-9687 USA
to which this declaration relates, is in conformity w Community Directives, including the latest amendm	
Assumption of conformity is based on the application applicable or required, a European Community not attached schedule.	m of the harmonized standards and, when
(signature)	VICE PRESIDENT - QUAN (function name - printed)
(name - printed)	17- DECOMBOR - 2009 (date of issue)
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EC Declaration of Co No: RMD 1017 Re		C
EMC Directive (2004/108/EC)		
All Models 3051 Pressure Transmitters EN 61326:2006 EN 61326-2-3:2006		
PED Directive (97/23/EC)		
Transmitters QS Certificate of Assessment - EC Certificate N Module H Conformity Assessment All other model 3051 Pressure Transmitters	ło. 59552-2009-CE-HOU-	-DNV
An other model 3051 Pressure Transmitters Sound Engineering Practice Transmitter Attachments: Diaphragm Seal - Pro Sound Engineering Practice Model 3051CFx FlowmeterTransmitters (All 30 the table below) QS Certificate of Assessment - CE-41-PED ModuleConformity Assessment Evaluation standards:	51CFx models are SEP	
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Sound Engineering Practice Transmitter Attachments: Diaphragm Seal - Pro Sound Engineering Practice Model 3051CFx FlowmeterTransmitters (All 30: the table below) QS Certificate of Assessment - CE-41-PED Module Conformity Assessment Evaluation standards: Nodel/Randge 3051CFA: 1500# & 2500# All Line 3051CFA: Sensor Size 2 150# 6"to 24" Line 3051CFA: Sensor Size 2 300# 6"to 24" Line	51CFx models are SEP -H1-RMT-001-04-USA Group 1 Fluid II II II	except as not Category Group 2 Flui SEP SEP I
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Sound Engineering Practice Transmitter Attachments: Diaphragm Seal - Pro Sound Engineering Practice Model 3051CFx FlowmeterTransmitters (All 30: the table below) QS Certificate of Assessment - CE-41-PED ModuleConformity Assessment Evaluation standards: <u>Model/Randge 3051CFA: 1500# &amp; 2500# All Lines 3051CFA: Sensor Size 2 100# 6"to 24" Line 3051CFA: Sensor Size 2 600# 6"to 24" Line 3051CFA: Sensor Size 2 600# 18"to 24" Line 3051CFA: Sensor Size 2 600# 18"to 24" Line</u>	51CFx models are SEP -H1-RMT-001-04-USA Group 1 Fluid II II II III	except as not
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E	C Declaration of Conformity
10000	No: RMD 1017 Rev. M
ATEX Directive (94/9)	/EC)
Model 3051 Pressu	ire Transmitter with 4-20mA/Hart Output
Equip T E	X1089X Intrinsic Safety and Dust Certificate ment Group II Category 1 GD Ex ia IIC T5 or T4, 15 (-60°C ≤ Ta ≤ +40°C), T4 (-60°C ≤ Ta ≤ +70°C); 5x tD A20 IP66 T80°C onized Standards Used;
	SN60079-0:2006; EN60079-11:2007; EN61241-0:2006; EN61241-1:2004
Equip E Harmo	<b>X3105X Type n and Dust Certificate</b> ment Group II Category 3 GD Ex nA nL IIC T5(-40°C $\leq$ Ta $\leq$ +70°C); ix tD A22 IP66 T80°C (-20°C $\leq$ Ta $\leq$ +40°C) onized Standards Used; 2079-0:2006; EN60079-15:2005; EN61241-0:2006; EN61241-1:2004
Model 3051 Pressu	re Transmitter with Fieldbus/Profibus Output
Equipr E Harmo	<b>K1355X Intrinsic Safety and Dust Certificate</b> ment Group II Category 1 GD Ex ia IIC T4 ( $-60^{\circ}C \le Ta \le +60^{\circ}C$ ); ix tD A20 1P66 'T70°C ( $-20^{\circ}C \le Ta \le +40^{\circ}C$ ) mized Standards Used: N60079-0:2006; EN60079-11:2007; EN61241-0:2006; EN61241-1:2004

EC De	claration of Conformity
	o: RMD 1017 Rev. M
Equipment G Ex tD A2 Harmonized S	<b>Type n and Dust Certificate</b> roup II Category 3 GD Ex nL IIC T5(Ta =-40°C to +70°C); 22 IP66 T80°C (-20°C ≤ Ta ≤ +40°C) Standards Used: -0:22006; EN60079-15:2005; EN61241-0:2006; EN61241-1:2004
Model 3051 Pressure Trai	nsmitter with FISCO Output
Equipment Gro Harmonized St	Intrinsic Safety Certificate oup II Category 1 G Ex ia 1IC T4 (-60°C $\leq$ Ta $\leq$ +60°C); tandards Used: -0:2006; EN60079-11:2007
Model 3051 Pressure Tra	nsmitters
Equipment Gr T6(-50°C Equipment Gr Harmonized Standard	006; EN60079-1:2007; EN60079-26:2007; EN61241-0:2006;

OSEMOU			
	EC Declaration of Conformity		
	No: RMD 1017 Rev. M		
PED Notifi	ed Body		
Mode	I 3051 Pressure Transmitters		
	Det Norske Veritas (DNV) [Notified Body Number: 0575]		
	Veritasveien 1, N-1322 Hovik, Norway		
20514			
30510	CFx Series Flowmeter Transmitters		
	Plant Safety Limited [Notified Body Number: 0041] Parklands, Wilmslow Road, Didsbury		
	Manchester M20 2RE		
	United Kingdom		
ATEX Not	ified Bodies for EC Type Examination Certificate		
	KEMA (KEMA) [Notified Body Number: 0344]		
	Utrechtseweg 310, 6812 AR Arnhem		
	P.O. Box 5185, 6802 ED Arnhem The Netherlands		
	Postbank 6794687		
	Baseefa. [Notified Body Number: 1180]		
	Rockhead Business Park		
	Staden Lane Buxton, Derbyshire		
	SK17 9RZ United Kingdom		
ATEX Not	ified Body for Quality Assurance		
	Baseefa. [Notified Body Number: 1180]		
	Rockhead Business Park		
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