Rosemount™ 3051S Series Pressure Transmitter
and Rosemount 3051SF Series Flow Meter
with FOUNDATION™ Fieldbus Protocol
NOTICE

This guide provides basic guidelines for Rosemount 3051S Series Pressure Transmitters. It also provides the basic electronics guidelines for the Rosemount 3051SFA Reference Manual and Rosemount 3051SFC Reference Manual. It does not provide instructions for configuration, diagnostics, maintenance, service, troubleshooting. Refer to the Rosemount 3051S FOUNDATION Fieldbus Reference Manual for more instruction. This document is also available electronically on Emerson.com/Rosemount.

WARNING

Explosions can result in death or serious injury.

- Do not remove the transmitter covers in explosive environments when the circuit is live.
- Both transmitter covers must be fully engaged to meet explosion-proof requirements.
- Make sure the instrument is installed in accordance with intrinsically safe or nonincendive field wiring practices.

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 adaptor.

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.

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1.0 Mount the transmitter

1.1 Liquid flow 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.

1.2 Gas flow applications
   1. Place taps in the top or side of the line.
   2. Mount beside or above the taps.

1.3 Steam flow applications
   1. Place taps to the side of the line.
   2. Mount beside or below the taps.
   3. Fill impulse lines with water.
Figure 1. Panel and Pipe Mounting

Panel mount

Pipe mount

Coplanar flange

Traditional flange

In-line

Plantweb™

Housings

Junction box

Remote mount display
1.4 Bolting considerations

If the transmitter installation requires assembly of the process flanges, manifolds, or flange adaptors, 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 2 illustrates common transmitter assemblies with the bolt length required for proper transmitter assembly.

Figure 2. Common Transmitter Assemblies

A. Transmitter with coplanar flange
B. Transmitter with coplanar flange and optional flange adaptors
C. Transmitter with traditional flange and optional flange adaptors
D. Transmitter with coplanar flange and optional manifold and flange adaptors

Bolts are typically carbon steel or stainless steel. Confirm the material by viewing the markings on the head of the bolt and referencing Table 1 on page 6. If bolt material is not shown in Table 1 on page 6, contact the local Emerson representative for more information.

Use the following bolt installation procedure:
1. 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 Table 1 on page 6 for initial torque value.
4. Torque the bolts to the final torque value using the same crossing pattern. See Table 1 on page 6 for final torque value.
5. Verify the flange bolts are protruding through the isolator plate before applying pressure.
Table 1. Torque Values for the Flange and Flange Adaptor Bolts

<table>
<thead>
<tr>
<th>Bolt material</th>
<th>Head markings</th>
<th>Initial torque</th>
<th>Final torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Steel (CS)</td>
<td>B7M</td>
<td>300 in-lb</td>
<td>650 in-lb</td>
</tr>
<tr>
<td>Stainless Steel (SS)</td>
<td>SS316</td>
<td>150 in-lb</td>
<td>300 in-lb</td>
</tr>
</tbody>
</table>

1.5 O-rings with flange adaptors

**WARNING**

Failure to install proper flange adaptor O-rings may cause process leaks, which can result in death or serious injury. The two flange adaptors are distinguished by unique O-ring grooves. Only use the O-ring that is designed for its specific flange adaptor, as shown below:

Rosemount 3051S/3051/2051/4088

A. Flange adaptor  
B. O-ring  
C. PTFE based (profile is square)  
D. Elastomer (profile is round)

Whenever the flanges or adaptors 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.
1.6 In-line gage transmitter orientation

The low side pressure port (atmospheric reference) on the in-line gage transmitter is located under the sensor module neck label. (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 any contaminants can drain away.

Figure 3. In-line Gage Transmitter

A. Low side pressure port (under neck label)

2.0 Tagging

2.1 Commissioning (paper) tag

To identify which device is at a particular location, use the removable tag provided with the transmitter. Ensure the physical device tag (PD Tag field) is properly entered in both places on the commissioning tag. Tear off the bottom portion of the tag and write “physical tag” on this portion. This can now be given to the person who can associate the device ID to the desired tag.

Figure 4. Commissioning Tag
3.0 Consider housing rotation

To improve field access to wiring or to better view the optional LCD display:
1. Loosen the housing rotation set screw.
2. 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).
3. Retighten the housing rotation set screw.

4.0 Connect wiring and power up

4.1 Cable connection

The segment cable can enter the transmitter through either conduit connection on the housing. Cable entering the housing vertically should be avoided. Drip loops are recommended for installations where moisture can accumulate and enter the terminal compartment.

4.2 Power supply

The transmitter requires between 9 and 32 Vdc (9 and 17.5 Vdc for FISCO) at the terminals to operate and provide complete functionality.

4.3 Power conditioner

A Fieldbus segment requires a power conditioner to isolate the power supply filter and decouple the segment from other segments attached to the same power supply.
4.4 **Signal termination**
Every Fieldbus segment requires terminators at each end of the segment. Failure to properly terminate segments may cause communication errors with devices on the segment.

4.5 **Transient protection**
Transient protection devices require the transmitter be grounded for proper operation. Refer to Grounding for further information.

4.6 **Grounding**
Grounding terminations are provided on the sensor module and inside the terminal compartment. These grounds are used when transient protect terminal blocks are installed or to fulfill local regulations.

1. Remove the FIELD TERMINALS housing cover.
2. Connect the wiring pair and ground as indicated in Figure 6.
   a. The terminals are not polarity sensitive.
   b. The cable shield should be:
      - Trimmed close and insulated from touching the transmitter housing
      - Continuously connected to the termination point
      - Connected to a good earth ground at the power supply end

**Figure 6. Wiring**
Minimize distance

A. Connect shield back to power supply ground
B. Trim shield and insulate
C. Ground for transient protection
D. Insulate shield

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

**NOTICE**
The enclosed pipe plug must be installed in unused conduit opening with a minimum of five thread engagement to comply with explosion-proof requirements. Refer to the Rosemount 3051S Foundation Fieldbus Reference Manual for more information. This manual is also available electronically on Emerson.com/Rosemount.
5.0 Verify configuration

Use the following block examples to do basic configuration to the transmitter. For more advanced configurations see the Rosemount 3051S FOUNDATION Fieldbus Reference Manual.

**Note**
DeltaV™ users should use DeltaV Explorer for the resource and transducer blocks and Control Studio for the function blocks.

5.1 To configure the AI block

**AI block configuration parameters**

Use the Pressure, DP Flow, and DP Level examples for guides.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Enter data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel</td>
<td>1 = Pressure or 2 = Sensor temp</td>
</tr>
<tr>
<td>L_Type</td>
<td>Direct, indirect, or square root</td>
</tr>
<tr>
<td>XD_Scale</td>
<td>Scale and engineering units</td>
</tr>
<tr>
<td>Pa</td>
<td>bar</td>
</tr>
<tr>
<td></td>
<td>inH₂O @ 68 °F</td>
</tr>
<tr>
<td></td>
<td>cmH₂O @ 4 °C(1)</td>
</tr>
<tr>
<td></td>
<td>inHg @ 0 °C</td>
</tr>
<tr>
<td>kPa</td>
<td>mbar</td>
</tr>
<tr>
<td></td>
<td>mmH₂O @ 68 °F</td>
</tr>
<tr>
<td></td>
<td>ftH₂O(1)</td>
</tr>
<tr>
<td></td>
<td>mmHg @ 0 °C</td>
</tr>
<tr>
<td>MPa</td>
<td>atm</td>
</tr>
<tr>
<td></td>
<td>ftH₂O @ 68 °F</td>
</tr>
<tr>
<td></td>
<td>inH₂O(1)</td>
</tr>
<tr>
<td></td>
<td>mmH₂O @ 4 °C</td>
</tr>
<tr>
<td>hPa(1)</td>
<td>psi(1)</td>
</tr>
<tr>
<td></td>
<td>inH₂O @ 60 °F(1)</td>
</tr>
<tr>
<td></td>
<td>g/cm²</td>
</tr>
<tr>
<td></td>
<td>inH₂O @ 4 °C</td>
</tr>
<tr>
<td>psi</td>
<td>°C</td>
</tr>
<tr>
<td></td>
<td>ftH₂O @ 60 °F(1)</td>
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<tr>
<td></td>
<td>kg/m² (1)</td>
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<tr>
<td></td>
<td>mHg @ 0 °C(1)</td>
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<tr>
<td></td>
<td>°F</td>
</tr>
<tr>
<td></td>
<td>ftH₂O @ 4 °C(1)</td>
</tr>
<tr>
<td></td>
<td>kg/cm²</td>
</tr>
<tr>
<td></td>
<td>cmHg @ 0 °C(1)</td>
</tr>
<tr>
<td></td>
<td>mH₂O @ 4 °C(1)</td>
</tr>
<tr>
<td>Out_Scale</td>
<td>Scale and engineering units</td>
</tr>
</tbody>
</table>

1. Only available with option IT6.
Pressure example

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Enter data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel</td>
<td>1</td>
</tr>
<tr>
<td>L_Type</td>
<td>Direct</td>
</tr>
<tr>
<td>XD_Scale</td>
<td>See list of supported engineering units.</td>
</tr>
<tr>
<td>Out_Scale</td>
<td>Set values outside operating range.</td>
</tr>
</tbody>
</table>

DP Flow example

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Enter data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel</td>
<td>1</td>
</tr>
<tr>
<td>L_Type</td>
<td>Square root</td>
</tr>
<tr>
<td>XD_Scale</td>
<td>0–100 inH2O @ 68 °F</td>
</tr>
<tr>
<td>Out_Scale</td>
<td>0–20 GPM</td>
</tr>
</tbody>
</table>

DP Level example

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Enter data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel</td>
<td>1</td>
</tr>
<tr>
<td>L_Type</td>
<td>Indirect</td>
</tr>
<tr>
<td>XD_Scale</td>
<td>0–300 inH2O @ 68 °F</td>
</tr>
<tr>
<td>Out_Scale</td>
<td>0–25 ft</td>
</tr>
</tbody>
</table>

To display pressure on the LCD meter

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Enter data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display parameter</td>
<td>1</td>
</tr>
<tr>
<td>Block type #1</td>
<td>Sensor transducer block</td>
</tr>
<tr>
<td>Block tag</td>
<td>Transducer</td>
</tr>
<tr>
<td>Param index</td>
<td>Primary variable</td>
</tr>
<tr>
<td>Units type</td>
<td>Auto</td>
</tr>
</tbody>
</table>

With option code IT6, select the “Pressure” check box on the display configuration screen.

Note
To display level or flow, use AI block out.
6.0 Trim the transmitter

Note
Transmitters are shipped fully calibrated per request or by the factory default of full scale (span = upper range limit).

6.1 Zero trim

A zero trim is a single-point adjustment used for compensating mounting position and line pressure effects. When performing a zero trim, ensure the equalizing valve is open and all wet legs are filled to the correct level. The transmitter will only allow three to five percent URL zero error to be trimmed. For greater zero errors, compensate for the offset by using the XD_Scaling, Out_Scaling and Indirect L_Type which are part of the AI block.

Using the host system

Perform a zero trim method if the host system supports methods associated with the Transducer 1100 block. Otherwise, if the host system does not support methods, see Rosemount 3051S FOUNDATION Fieldbus Reference Manual.
7.0 Product Certifications

7.1 European Directive Information
A copy of the EU Declaration of Conformity can be found at the end of the Quick Start Guide. The most recent revision of the EU Declaration of Conformity can be found at Emerson.com/Rosemount.

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

7.3 Installing Equipment in North America
The US National Electrical Code® (NEC) and the Canadian Electrical Code (CEC) permit the use of Division marked equipment in Zones and Zone marked equipment in Divisions. The markings must be suitable for the area classification, gas, and temperature class. This information is clearly defined in the respective codes.

7.4 USA

E5 FM Explosionproof (XP) and Dust-Ignitionproof (DIP)
Certificate: FM16US0090
Markings: XP CL I, DIV 1, GP B, C, D; DIP CL II, DIV 1, GP E, F, G; CL III; T5(–50 °C ≤ T4 ≤ +85 °C); Factory Sealed; Type 4X

I5 FM Intrinsic Safety (IS) and Nonincendive (NI)
Certificate: FM16US0089X
Markings: IS CL I, DIV 1, GP A, B, C, D; CL II, DIV 1, GP E, F, G; Class III; Class 1, Zone 0 AEx ia IIC T4; NI CL 1, DIV 2, GP A, B, C, D; T4(–50 °C ≤ T4 ≤ +70 °C) [HART]; T4(–50 °C ≤ T4 ≤ +60 °C) [Fieldbus]; when connected per Rosemount drawing 03151-1006; Type 4X

Special Condition for Safe Use:
1. The Rosemount 3051S/3051S-ERS Pressure Transmitter contains aluminum and is considered to constitute a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact and friction.

Note
Transmitters marked with NI CL 1, DIV 2 can be installed in Division 2 locations using general Division 2 wiring methods or Nonincendive Field Wiring (NIFW). See Drawing 03151-1006.
Quick Start Guide

IE

FM FISCO
Certificate: FM16US0089X
Markings: IS CL I, DIV 1, GP A, B, C, D; T4(–50 °C ≤ T_a ≤ +60 °C); when connected per Rosemount drawing 03151-1006; Type 4X

Special Condition for Safe Use:
1. The Rosemount 3051S/3051S-ERS Pressure Transmitter contains aluminum and is considered to constitute a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact and friction.

7.5 Canada

E6

CSA Explosionproof, Dust-Ignitionproof, and Division 2
Certificate: 1143113
Markings: Explosionproof Class I, Division 1, Groups B, C, D; Dust-Ignitionproof Class II, Division 1, Groups E, F, G; Class III; suitable for Class I, Zone 1, Group IIIB+H2, T5; suitable for Class I, Division 2, Groups A, B, C, D; suitable for Class I, Zone 2, Group IIC, T5; when connected per Rosemount drawing 03151-1013; Type 4X

I6

CSA Intrinsically Safe
Certificate: 1143113
Standards: CAN/CSA C22.2 No. 0-10, CSA Std C22.2 No. 25-1966, CAN/CSA C22.2 No. 94-M91, CSA Std C22.2 No. 142-M1987, CSA Std C22.2 No. 157-92, ANSI/ISA 12.27.01-2003, CSA Std C22.2 No. 60529:05
Markings: Intrinsically Safe Class I, Division 1; Groups A, B, C, D; suitable for Class I, Zone 0, IIC, T3C; when connected per Rosemount drawing 03151-1016 [3051S] 03151-1313 [ERS]; Type 4X

IF

CSA FISCO
Certificate: 1143113
Standards: CAN/CSA C22.2 No. 0-10, CSA Std C22.2 No. 25-1966, CAN/CSA C22.2 No. 94-M91, CSA Std C22.2 No. 142-M1987, CSA Std C22.2 No. 157-92, ANSI/ISA 12.27.01-2003, CSA Std C22.2 No. 60529:05
Markings: FISCO Intrinsically Safe Class I, Division 1; Groups A, B, C, D; suitable for Class 1, Zone 0, IIC, T3C; when connected per Rosemount drawing 03151-1016 [3051S] 03151-1313 [ERS]; Type 4X
7.6 Europe

E1 ATEX Flameproof
Certificate: KEMA 00ATEX2143X
Markings: II 1/2 G Ex d IIC T6...T4 Ga/Gb, T6(−60 °C ≤ Ta ≤ +70 °C),
T5/T4(−60 °C ≤ Ta ≤ +80 °C)

Special Conditions for Safe Use (X):
1. This device contains a thin wall diaphragm less than 1 mm thickness that forms a
boundary between EPL Ga (process connection) and EPL Gb (all other parts of the
equipment). The model code and data sheet are to be consulted for details of the
diaphragm material. 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.
2. Flameproof joints are not intended for repair.
3. Non-standard paint options may cause risk from electrostatic discharge. Avoid
installations that could cause electrostatic build-up on painted surfaces, and only
clean the painted surfaces with a damp cloth. If paint is ordered through a special
option code, contact the manufacturer for more information.
4. Appropriate cable, glands and plugs need to be suitable for a temperature of 5 °C
greater than maximum specified temperature for location where installed.

I1 ATEX Intrinsic Safety
Certificate: BAS01ATEX1303X
Markings: II 1 G Ex ia IIC T4 Ga, T4(−60 °C ≤ Ta ≤ +70 °C)

Special Conditions for Safe Use (X):
1. The Model 3051S Transmitters fitted with transient protection are not capable of
withstanding the 500V test as defined in Clause 6.3.13 of EN 60079-11:2012. This
must be taken into account during installation.
2. The terminal pins of the Model 3051S SuperModule must be provided with a degree
of protection of at least IP20 in accordance with IEC/EN 60529.
3. The Model 3051S enclosure may be made of aluminum alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in a zone 0 area.

IA ATEX FISCO
Certificate: BAS01ATEX1303X
Markings: II 1 G Ex ia IIC T4 Ga, T4(–60 °C ≤ T_a ≤ +70 °C)

Special Conditions for Safe Use (X):
1. The Model 3051S Transmitters fitted with transient protection are not capable of withstanding the 500V test as defined in Clause 6.3.13 of EN 60079-11:2012. This must be taken into account during installation.
2. The terminal pins of the Model 3051S SuperModule must be provided with a degree of protection of at least IP20 in accordance with IEC/EN 60529.
3. The Model 3051S enclosure may be made of aluminum alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in a zone 0 area.

ND ATEX Dust
Certificate: BAS01ATEX1374X
Markings: II 1 D Ex ta IIIIC T105 °C T 500 95 °C Da, (–20 °C ≤ T_a ≤ +85 °C), V_{max} = 42.4 V

Special Conditions for Safe Use (X):
1. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP66.
2. Unused cable entries must be filled with suitable blanking plugs which maintain the ingress protection of the enclosure to at least IP66.
3. Cable entries and blanking plugs must be suitable for the ambient temperature range of the apparatus and capable of withstanding a 7 J impact test.
4. The SuperModule(s) must be securely screwed in place to maintain the ingress protection of the enclosure(s).

N1 ATEX Type n
Certificate: BAS01ATEX3304X
Markings: II 3 G Ex nA IIC T5 Gc, (–40 °C ≤ T_a ≤ +85 °C), V_{max} = 45 V

Special Condition for Safe Use (X):
1. The equipment is not capable of withstanding the 500 V insulation test required by clause 6.5 of EN 60079-15:2010. This must be taken into account when installing the equipment.

Note
RTD Assembly is not included with the Rosemount 3051SFx Type n Approval.
7.7 International

**IECEx Flameproof and Dust**

Certificate: IECEx KEM 08.0010X (Flameproof)


Markings: Ex db IIC T6...T4 Ga/Gb, T6(−60 °C ≤ T_a ≤ +70 °C), T5/T4(−60 °C ≤ T_a ≤ +80 °C)

<table>
<thead>
<tr>
<th>Temperature class</th>
<th>Process temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>T6</td>
<td>−60 °C to +70 °C</td>
</tr>
<tr>
<td>T5</td>
<td>−60 °C to +80 °C</td>
</tr>
<tr>
<td>T4</td>
<td>−60 °C to +120 °C</td>
</tr>
</tbody>
</table>

**Special Conditions for Safe Use (X):**
1. This device contains a thin wall diaphragm less than 1 mm thickness that forms a boundary between EPL Ga (process connection) and EPL Gb (all other parts of the equipment). The model code and data sheet are to be consulted for details of the diaphragm material. 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.
2. Flameproof joints are not intended for repair.
3. Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that could cause electrostatic build-up on painted surfaces, and only clean the painted surfaces with a damp cloth. If paint is ordered through a special option code, contact the manufacturer for more information.
4. Appropriate cable, glands and plugs need to be suitable for a temperature of 5 °C greater than maximum specified temperature for location where installed.

Certificate: IECEx BAS 09.0014X (Dust)


Markings: Ex ta IIIC T 105 °C T500 95 °C Da, (−20 °C ≤ T_a ≤ +85 °C), \( V_{max} = 42.4 \text{ V} \)

**Special Conditions for Safe Use (X):**
1. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP66.
2. Unused cable entries must be filled with suitable blanking plugs which maintain the ingress protection of the enclosure to at least IP66.
3. Cable entries and blanking plugs must be suitable for the ambient temperature range of the apparatus and capable of withstanding a 7 J impact test.
4. The Rosemount 3051S SuperModule must be securely screwed in place to maintain the ingress protection of the enclosure.

**IECEx Intrinsic Safety**

Certificate: IECEx BAS 04.0017X


Markings: Ex ia IIC T4 Ga, T4(−60 °C ≤ T_a ≤ +70 °C)

<table>
<thead>
<tr>
<th>Model</th>
<th>( U_i )</th>
<th>( I_i )</th>
<th>( P_i )</th>
<th>( C_i )</th>
<th>( L_i )</th>
</tr>
</thead>
<tbody>
<tr>
<td>SuperModule</td>
<td>30 V</td>
<td>300 mA</td>
<td>1.0 W</td>
<td>30 nF</td>
<td>0</td>
</tr>
<tr>
<td>3051S...A; 3051SF...A; 3051SAL...C</td>
<td>30 V</td>
<td>300 mA</td>
<td>1.0 W</td>
<td>12 nF</td>
<td>0</td>
</tr>
<tr>
<td>3051S...F; 3051SF...F</td>
<td>30 V</td>
<td>300 mA</td>
<td>1.3 W</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3051S ...A...M7, M8, or M9; 3051SF ...A...M7, M8, or M9; 3051SAL...C... M7, M8, or M9</td>
<td>30 V</td>
<td>300 mA</td>
<td>1.0 W</td>
<td>12 nF</td>
<td>60 ( \mu ) F</td>
</tr>
</tbody>
</table>
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Special Conditions for Safe Use (X):
1. The Model 3051S Transmitters fitted with transient protection are not capable of withstanding the 500V test as defined in Clause 6.3.13 of EN 60079-11:2012. This must be taken into account during installation.
2. The terminal pins of the Model 3051S SuperModule must be provided with a degree of protection of at least IP20 in accordance with IEC/EN 60529.
3. The Model 3051S enclosure may be made of aluminum alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in a zone 0 area.

IECEx Intrinsic Safety – Group I - Mining (I7 with Special A0259)
Certificate: IECEx TSA 14.0019X
Markings: Ex ia I Ma (–60 °C ≤ Ta ≤ +70 °C)

<table>
<thead>
<tr>
<th>Model</th>
<th>U_i</th>
<th>I_i</th>
<th>P_i</th>
<th>C_i</th>
<th>L_i</th>
</tr>
</thead>
<tbody>
<tr>
<td>3051SAL or 3051SAM</td>
<td>30 V</td>
<td>300 mA</td>
<td>1.0 W</td>
<td>12 nF</td>
<td>33 μH</td>
</tr>
<tr>
<td>3051SAL...M7, M8, or M9</td>
<td>30 V</td>
<td>300 mA</td>
<td>1.0 W</td>
<td>12 nF</td>
<td>93 μH</td>
</tr>
<tr>
<td>3051SAM...M7, M8, or M9</td>
<td>30 V</td>
<td>300 mA</td>
<td>1.0 W</td>
<td>12 nF</td>
<td>93 μH</td>
</tr>
<tr>
<td>RTD Option for 3051SF</td>
<td>5 V</td>
<td>500 mA</td>
<td>0.63 W</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Special Conditions for Safe Use (X):
1. If the apparatus is fitted with optional 90 V transient suppressor, it is not capable of withstanding the 500 V insulation test required by Clause 6.3.13 of IEC60079-11:2011. This must be taken into account when installing the apparatus.
2. It is a condition of safe use that the above input parameters shall be taken into account during installation.
3. It is a condition of manufacture that only the apparatus fitted with housing, covers and sensor module housing made out of stainless steel are used in Group I applications.

IECEx FISCO
Certificate: IECEx BAS 04.0017X
Markings: Ex ia IIC T4 Ga, T4(–60 °C ≤ Ta ≤ +70 °C)
Special Conditions for Safe Use (X):

1. The Model 3051S Transmitters fitted with transient protection are not capable of withstanding the 500V test as defined in Clause 6.3.13 of EN 60079-11:2012. This must be taken into account during installation.

2. The terminal pins of the Model 3051S SuperModule must be provided with a degree of protection of at least IP20 in accordance with IEC/EN 60529.

3. The Model 3051S enclosure may be made of aluminum alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in a zone 0 area.

IG

IECEx Intrinsic Safety – Group I - Mining (IG with Special A0259)
Certificate: IECEx TSA 14.0019X
Markings: FISCO FIELD DEVICE Ex ia I Ma (–60 °C ≤ T_a ≤ +70 °C)

Special Conditions for Safe Use (X):

1. If the apparatus is fitted with optional 90 V transient suppressor, it is not capable of withstanding the 500 V insulation test required by Clause 6.3.13 of IEC60079-11:2011. This must be taken into account when installing the apparatus.

2. It is a condition of safe use that the above input parameters shall be taken into account during installation.

3. It is a condition of manufacture that only the apparatus fitted with housing, covers and sensor module housing made out of stainless steel are used in Group I applications.

N7

IECEx Type n
Certificate: IECEx BAS 04.0018X
Markings: Ex nA IIC T5 Gc, (–40 °C ≤ T_a ≤ +85 °C)

Special Condition for Safe Use (X):

1. The equipment is not capable of withstanding the 500 V insulation test required by clause 6.5 of EN 60079-15:2010. This must be taken into account when installing the equipment.

---

<table>
<thead>
<tr>
<th>Parameter</th>
<th>FISCO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage U_i</td>
<td>17.5 V</td>
</tr>
<tr>
<td>Current I_i</td>
<td>380 mA</td>
</tr>
<tr>
<td>Power P_i</td>
<td>5.32 W</td>
</tr>
<tr>
<td>Capacitance C_i</td>
<td>0</td>
</tr>
<tr>
<td>Inductance L_i</td>
<td>0</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Parameter</th>
<th>FISCO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage U_i</td>
<td>17.5 V</td>
</tr>
<tr>
<td>Current I_i</td>
<td>380 mA</td>
</tr>
<tr>
<td>Power P_i</td>
<td>5.32 W</td>
</tr>
<tr>
<td>Capacitance C_i</td>
<td>0</td>
</tr>
<tr>
<td>Inductance L_i</td>
<td>0</td>
</tr>
</tbody>
</table>
Quick Start Guide

7.8 Brazil

E2 INMETRO Flameproof
Certificate: UL-BR15.0393X
Standards: ABNT NBR IEC 60079-0:2008 + Corrigendum 1:2011,
ABNT NBR IEC 60079-1:2009 + Corrigendum 1:2011,
Markings: Ex d IIC T* Ga/Gb, T6(–60 °C ≤ T_a ≤ +70 °C), T5/T4(–60 °C ≤ T_a ≤ +80 °C),
IP66

Special Conditions for Safe Use (X):
1. The 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.
2. For information on the dimensions of the flameproof joints, the manufacturer shall be contacted.

I2/IB INMETRO Intrinsic Safety/FISCO
Certificate: UL-BR 15.0392X
Markings: Ex ia T4 Ga (–60 °C ≤ T_a ≤ +70 °C), IP66

Special Condition for Safe Use (X):
1. The surface resistivity of the antenna is greater than 1 GΩ. To avoid electrostatic charge build-up, it must not be rubbed or cleaned with solvents or a dry cloth.
2. The Model 701PBKKF Power Module may be replaced in a hazardous area. The Power Module has a surface resistivity greater than 1 GΩ and must be properly installed in the wireless device enclosure. Care must be taken during transportation to and from the point of installation to prevent electrostatic charge build-up.
3. The 3051S 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 areas that requires EPL Ga.

<table>
<thead>
<tr>
<th>Model</th>
<th>U_i</th>
<th>I_i</th>
<th>P_i</th>
<th>C_i</th>
<th>L_i</th>
</tr>
</thead>
<tbody>
<tr>
<td>SuperModule</td>
<td>30  V</td>
<td>300 mA</td>
<td>1.0 W</td>
<td>30 nF</td>
<td>0</td>
</tr>
<tr>
<td>3051S...A; 3051SF...A; 3051SAM...A</td>
<td>30  V</td>
<td>300 mA</td>
<td>1.0 W</td>
<td>12 nF</td>
<td>0</td>
</tr>
<tr>
<td>3051S...F; 3051SF...F</td>
<td>30  V</td>
<td>300 mA</td>
<td>1.3 W</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3051S...F...IB; 3051SF...F...IB</td>
<td>17.5V</td>
<td>380 mA</td>
<td>5.32 W</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3051S...M7, M8, or M9; 3051SF...M7, M8, or M9; 3051SAM...M7, M8, or M9</td>
<td>30  V</td>
<td>300 mA</td>
<td>1.0 W</td>
<td>12 nF</td>
<td>60 μH</td>
</tr>
<tr>
<td>3051SAM or 3051SAM</td>
<td>30  V</td>
<td>300 mA</td>
<td>1.0 W</td>
<td>12 nF</td>
<td>33 μH</td>
</tr>
<tr>
<td>3051SAM...M7, M8, or M9; 3051SAM...M7, M8, or M9</td>
<td>30  V</td>
<td>300 mA</td>
<td>1.0 W</td>
<td>12 nF</td>
<td>93 μH</td>
</tr>
<tr>
<td>RTD Option for 3051SF</td>
<td>5   V</td>
<td>500 mA</td>
<td>0.63 W</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

7.9 China

E3 China Flameproof and Dust Ignition-proof
3051SFx: GYJ16.1466X
3051S-ERS: GYJ15.1406X
Standards: 3051S: GB3836.1-2010, GB3836.2-2010, GB3836.20-2010, GB12476.1-2013, GB12476.5-2013
3051SFx: GB3836.1-2010, GB3836.2-2010, GB3836.20-2010, GB12476.1-2013, GB12476.5-2013
Markings: 3051S: Ex d IIC T6...T4; Ex d A20 T 105 °C T500 95 °C; IP66
3051SFx: Ex d IIC T5/T6 Ga/Gb; DIP A20 TA 105 °C; IP66
3051S-ERS: Ex d IIC T4 ~ T6 Ga/Gb

Special Conditions for Safe Use (X):
1. Only the pressure transmitters, consisting of Rosemount 3051SC Series, 3051ST Series, 3051SL Series and 300S Series, are certified.
2. Flameproof joints are not intended for repair.
3. The ambient temperature range for the 3051S and 3051SFx in a dust environment is \((-20 °C \leq T_a \leq 85 °C)\).
4. The relation between temperature class and maximum temperature of process medium is as follows:

<table>
<thead>
<tr>
<th>Temperature class</th>
<th>Ambient temperature (°C)</th>
<th>Process temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T6</td>
<td>(-60 °C \leq T_a \leq +70 °C)</td>
<td>(-60 °C \leq T_a \leq +70 °C)</td>
</tr>
<tr>
<td>T5</td>
<td>(-60 °C \leq T_a \leq +80 °C)</td>
<td>(-60 °C \leq T_a \leq +80 °C)</td>
</tr>
<tr>
<td>T4</td>
<td>(-60 °C \leq T_a \leq +80 °C)</td>
<td>(-60 °C \leq T_a \leq +120 °C)</td>
</tr>
</tbody>
</table>

5. The earth connection facility in the enclosure should be connected reliably.
6. During installation, use and maintenance of transmitter, observe the warning “Don’t open the cover when the circuit is alive”.
7. During installation, there should be no mixture harm to flameproof housing.
8. Cable entry, certified by NEPSI with type of protection Ex d IIC in accordance with GB3836.1-2000 and GB3836.2-2000, should be applied when installation in hazardous location. Five full threads should be in engagement when the cable entry is assembled onto the transmitter. When pressure transmitter is used in the presence of combustible dust, the ingress of protection of the cable entry should be IP66.
9. The diameter of cable should observe the instruction manual of cable entry. The compressing nut should be fastened. The aging of seal ring should be changed in time.
10. Maintenance should be done in non-hazardous location.
11. End users are not permitted to change any components inside.
12. When installation, use and maintenance of transmitter, observe following standards:
   GB3836.13-1997 “Electrical apparatus for explosive gas atmospheres Part 13: Repair and overhaul for apparatus used in explosive gas atmospheres”
   GB3836.15-2000 “Electrical apparatus for explosive gas atmospheres Part 15: Electrical installations in hazardous area (other than mines)”
   GB50257-1996 “Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering”
   GB15577-1995 “Safe regulation for explosive dust atmospheres”
   GB12476.2-2006 “Electrical apparatus for use in the presence of combustible dust – Part 1-2: Electrical apparatus protected by enclosures and surface temperature limitation – Selection, installation and maintenance”
**Quick Start Guide**

**China Intrinsic Safety**

Certificate: 3051S: GYJ16.1250X [Mfg USA, China, Singapore]
3051SFx: GYJ11.1707X [Mfg USA, China, Singapore]
3051S-ERS: GYJ16.1248X [Mfg USA, China, Singapore]

Standards: 3051S: GB3836.1-2010, GB3836.4-2010, GB3836.20-2010
3051SFx: GB3836.1/4-2010, GB3836.20-2010, GB12476.1-2013,
GB12476.5-2013 3051S-ERS: GB3836.1-2010, GB3836.4-2010,
GB3836.20-2010

Markings: 3051S, 3051SFx: Ex ia IIC T4 Ga
3051S-ERS: Ex ia IIC T4

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

1. Symbol “X” is used to denote specific conditions of use:
   For output code A and F: This apparatus is not capable of withstanding the 500V r.m.s. insulation test required by Clause 6.4.12 of GB3836.4-2000.
2. The ambient temperature range is:

<table>
<thead>
<tr>
<th>Output code</th>
<th>Ambient temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>−50 °C ≤ T_a ≤ +70 °C</td>
</tr>
<tr>
<td>F</td>
<td>−50 °C ≤ T_a ≤ +60 °C</td>
</tr>
</tbody>
</table>

3. Intrinsically safe parameters:

<table>
<thead>
<tr>
<th>Output code</th>
<th>Housing code</th>
<th>Display code</th>
<th>Maximum input voltage: $U_i$ (V)</th>
<th>Maximum input current: $I_i$ (mA)</th>
<th>Maximum input power: $P_i$ (W)</th>
<th>Maximum internal parameter: $C_i$ (nF)</th>
<th>Maximum internal parameter: $L_i$ (uH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≠00</td>
<td>/</td>
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<td>300</td>
<td>1</td>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td>A</td>
<td>≠00</td>
<td>/</td>
<td>30</td>
<td>300</td>
<td>1</td>
<td>11.4</td>
<td>2.4</td>
</tr>
<tr>
<td>A</td>
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<td>M7/M8/M9</td>
<td>30</td>
<td>300</td>
<td>1</td>
<td>0</td>
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<tr>
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<td>≠00</td>
<td>/</td>
<td>30</td>
<td>300</td>
<td>1.3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>F</td>
<td>≠00</td>
<td>/</td>
<td>17.5</td>
<td>500</td>
<td>5.5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

4. The product should be used with Ex-certified associated apparatus to establish explosion protection system that can be used in explosive gas atmospheres. Wiring and terminals should comply with the instruction manual of the product and associated apparatus.
5. The cable between this product and associated apparatus should be shielded cables (the cables must have insulated shield). The shield has to be grounded reliably in non-hazardous area.
6. The product complies to the requirements for FISCO field devices specified in IEC60079-27:2008. For the connection of an intrinsically safe circuit in accordance FISCO model, FISCO parameters of this product are as above.
7. End users are not permitted to change any components inside, but to settle the problem in conjunction with manufacturer to avoid damage to the product.
8. When installation, use and maintenance of this product, observe the following standards:
   GB3836.13-1997 “Electrical apparatus for explosive gas atmospheres Part 13: Repair and overhaul for apparatus used in explosive gas atmospheres”
GB3836.15-2000 “Electrical apparatus for explosive gas atmospheres Part 15: Electrical installations in hazardous area (other than mines)”
GB3836.16-2006 “Electrical apparatus for explosive gas atmospheres Part 16: Inspection and maintenance of electrical installation (other than mines)”
GB50257-1996 “Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering”

N3 China Type n
Certificate: 3051S: GYJ17.1354X
3051SFX: GYJ17.1355X
Markings: Ex nL IIC T5 Gc

Special Conditions for Safe Use (X):
1. When transient protection board is chosen (Option Code T1), this apparatus is not capable of withstanding the 500V r.m.s insulation test, this must be taken into account when installing the component.

7.10 EAC – Belarus, Kazakhstan, Russia

EM Technical Regulation Customs Union (EAC) Flameproof
Certificate: RU C-US.AA87.B.00378
Markings: Ga/Gb Ex d IIC T6...T4 X
Ex tb IIIC T105 °C T50095 °C Db X
Ex ta IIIC T105 °C T50095 °C Da X

IM Technical Regulation Customs Union (EAC) Intrinsic Safety
Certificate: RU C-US.AA87.B.00094
Markings: 0Ex ia IIC T4 Ga X

7.11 Japan

E4 Japan Flameproof
Certificate: TC15682, TC15683, TC15684, TC15685, TC15686, TC15687, TC15688, TC15689, TC15690, TC17099, TC17100, TC17101, TC17102, TC18876
3051ERS: TC20215, TC20216, TC20217, TC20218, TC20219, TC20220, TC20221
Markings: Ex d IIC T6

7.12 Republic of Korea

EP Republic of Korea Flameproof
Certificate: 12-KB4BO-0180X [Mfg USA], 11-KB4BO-0068X [Mfg Singapore]
Markings: Ex d IIC T6...T4

IP Republic of Korea Intrinsic Safety
Certificate: 12-KB4BO-0202X [HART – Mfg USA], 12-KB4BO-0204X [Fieldbus – Mfg USA], 12-KB4BO-0203X [HART – Mfg Singapore], 13-KB4BO-0296X [Fieldbus – Mfg Singapore]
Markings: Ex ia IIC T4
7.13 Combinations

K1 Combination of E1, I1, N1, and ND
K2 Combination of E2 and I2
K5 Combination of E5 and I5
K6 Combination of E6 and I6
K7 Combination of E7, I7, and N7
KA Combination of E1, I1, E6, and I6
KB Combination of E5, I5, E6, and I6
KC Combination of E1, I1, E5, and I5
KD Combination of E1, I1, E5, I5, E6, and I6
KG Combination of IA, IE, IF, and IG
KM Combination of EM and IM
KP Combination of EP and IP

7.14 Additional Certifications

SBS American Bureau of Shipping (ABS) Type Approval
Certificate: 00-H5145383-6-PDA
Intended Use: Measure gauge or absolute pressure of liquid, gas or vapor applications on ABS classed vessels, marine, and offshore installations.

SBV Bureau Veritas (BV) Type Approval
Certificate: 31910 BV
Requirements: Bureau Veritas Rules for the Classification of Steel Ships
Application: Class Notations: AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS

SDN Det Norske Veritas (DNV) Type Approval
Certificate: A-14186
Intended Use: Det Norske Veritas’ Rules for Classification of Ships, High Speed & Light Craft, and Det Norske Veritas’ Offshore Standards

<table>
<thead>
<tr>
<th>Location classes</th>
<th>Type</th>
<th>3051S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>Temperature</td>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Humidity</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Vibration</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>EMC</td>
<td></td>
<td>D/IP66/IP68</td>
</tr>
</tbody>
</table>

SLL Lloyds Register (LR) Type Approval
Certificate: 11/60002
Application: Environmental categories ENV1, ENV2, ENV3, and ENV5

D3 Custody Transfer – Measurement Canada Accuracy Approval [3051S Only]
Certificate: AG-0501, AV-2380C
We,

Rosemount Inc.
8200 Market Boulevard
Chanhassen, MN 55317-9685
USA

declare under our sole responsibility that the product,

**Rosemount 3051S Series Pressure Transmitters**
**Rosemount 3051SFx Series Flowmeter Transmitters**
**Rosemount 300S Housings**

manufactured by,

Rosemount Inc.
8200 Market Boulevard
Chanhassen, MN 55317-9685
USA

to which this declaration relates, is in conformity with the provisions of the European Union Directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of the harmonized standards and, when applicable or required, a European Union notified body certification, as shown in the attached schedule.

(signature)

Vice President of Global Quality

Chris LaPoint

(name - printed)

13-April-2017

(date of issue)
EU Declaration of Conformity
No: RMD 1044 Rev. AA

EMC Directive (2014/30/EU)

Harmonized Standards:
EN 61326-1:2013, EN 61326-2-3:2013

PED Directive (2014/68/EU)

Rosemount 3051S Series Pressure Transmitters

Rosemount 3051S_CA4, 3051S_CD2, 3, 4, 5 (also with P9 & P9 option) Pressure Transmitters
Module H Conformity Assessment
Evaluation standards:
ANSI / ISA 61010-1:2004

All other Rosemount 3051S Pressure Transmitters
Sound Engineering Practice

Transmitter Attachments: Diaphragm Seal, Process Flange, or Manifold
Sound Engineering Practice

Rosemount 3051SFx Series Flowmeter Pressure Transmitters
See DSI 1000 Declaration of Conformity
EU Declaration of Conformity
No: RMD 1044 Rev. AA

ATEX Directive (2014/34/EU)

BAS01ATEX1303X – Intrinsic Safety Certificate
Equipment Group II, Category 1 G
Ex ia IIC T4 Ga
Harmonized Standards Used:

BAS01ATEX3304X – Type n Certificate
Equipment Group II, Category 3 G
Ex nA IIC T5 Gc
Harmonized Standards Used:

BAS01ATEX1374X – Dust Certificate
Equipment Group II, Category 1 D
Ex ta IIC T105°C Ta=95°C Da
Harmonized Standards Used:
EN 60079-0:2012+A11:2013
Other Standards Used:
EN 60079-31:2009 (a review against EN 60079-31:2014, which is harmonized, shows no significant changes relevant to this equipment so EN 60079-31:2009 continues to represent “State of the Art”)

BAS04ATEX0181X – Mining Certificate
Equipment Group I, Category M1
Ex ia I Ma
Harmonized Standards Used:
EN 60079-0:2012, EN 60079-11:2012

BAS04ATEX0193U – Mining Certificate: Component
Equipment Group I, Category M1
Ex ia I Ma
Harmonized Standards Used:
EN 60079-0:2012, EN 60079-11:2012

KEMA00ATEX2143X – Flameproof Certificate
Equipment Group II, Category 1/2 G
Ex db IIC T6…T4 Ga/Gb
Harmonized Standards:
EU Declaration of Conformity
No: RMD 1044 Rev. AA

PED Notified Body

Rosemount 3051S Series Pressure Transmitters

DNV GL AS [Notified Body Number: 0575]
Veritasveien 1, N-1322
Hovik, Norway

ATEX Notified Bodies for EU Type Examination Certificate

DEKRA Certification B.V. [Notified Body Number: 0344]
Utrechtseweg 310
Postbus 5185
6802 ED Arnhem
Netherlands

SGS Baseefa Limited [Notified Body Number: 1180]
Rockhead Business Park, Staden Lane
Buxton, Derbyshire SK17 9RZ
United Kingdom

ATEX Notified Body for Quality Assurance

SGS Baseefa Limited [Notified Body Number: 1180]
Rockhead Business Park, Staden Lane
Buxton, Derbyshire SK17 9RZ
United Kingdom
<table>
<thead>
<tr>
<th>Part Name</th>
<th>Lead (Pb)</th>
<th>Mercury (Hg)</th>
<th>Cadmium (Cd)</th>
<th>Hexavalent Chromium (Cr +6)</th>
<th>Polybrominated Biphenyls (PBB)</th>
<th>Polybrominated Diphenyl Ethers (PBDE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronics Assembly</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Housing Assembly</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>X</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Sensor Assembly</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>X</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

本表根据《SJ/T11364》的规定编制。
This table is proposed in accordance with the provision of SJ/T11364.

O: 意为该部件所有均质材料中该有害物质的含量符合 GB/T 26572 所规定的限量要求。
O: Indicate that said hazardous substance in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.

X: 意为该部件所使用的均质材料中该有害物质的含量高于 GB/T 26572 所规定的限量要求。
X: Indicate that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.