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11 111

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## Temperature Transmitter

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### Description

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*The 11 111 is a 4 - 20mA loop powered pressure transmitter capable of measuring gauge pressure for a variety of applications including liquids, gases and vapors. The 11111s compact size, simplistic installation and economical cost make it an ideal choice for most pressure applications with measurement ranges up to 35 MPa. The 11111 can be mounted in any orientation and uses a 1/2" NPT or M20 x 1.5 process connection.*

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### Features

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- Two-wire, 4-20 mA loop powered transmitter.
  - Measure Gauge Pressure for a variety of applications including liquids gases and vapors.
  - Pressure ranges from 0-2 Bar (200 KPa) up to 0-350 Bar (35 MPa).
  - Based on an economic ceramic sensor.
  - Accuracy of less then 0.5% of full scale.
  - Input power of 24V ( + 10%).
  - Low cost and compact design.
  - Easy installation.
  - No calibration required.
  - Configured to customer specifications prior to shipping.
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The purpose of this document is assist with the setup, installation, operation and maintenance of the 11 111 as well as providing technical specifications and basic data, for further information about this product can be found at [www.springres.com](http://www.springres.com)

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## 1 General Information

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The 11 111 is a 4 - 20mA loop powered pressure transmitter capable of measuring gauge pressure for a variety of applications including liquids, gases and vapors. The 11 111s compact size, simplistic installation and economical cost make it an ideal choice for most pressure applications with measurement ranges up to 35 MPa. The 11 111 can be mounted in any orientation and uses a 1/2" NPT or M20 x 1.5 process connection.

The purpose of this document is to provide an overview of the 11 111 and its various technical specifications.

For more information on the 11 111 and all other Springfield Research products, please visit our web site at [www.springres.us](http://www.springres.us).

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## 2 Safety Information

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### Basic Safety Information

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The 11 111 is a continuous pressure transmitter for use in applications within the range of technical specifications as outlined in the Technical Specifications section of this document. The 11 111 is to be installed and operated by trained personnel with proper authorization.

All instructions in this manual should be performed by such personnel only. The 11 111 is a self contained unit and any internal work on the 11 111 must be performed by Springfield Research and its authorized partners only. Failure to adhere to the instructions in this manual could result in application specific hazards, and/or equipment damage, and will void the 11 111 warranty.

Please adhere to specific governmental and/or company regulations and guidelines before installing any equipment. When installing the 11 111 in Ex environments, be sure to follow the Ex standard guidelines as well as the Ex specific instructions contained throughout this document.

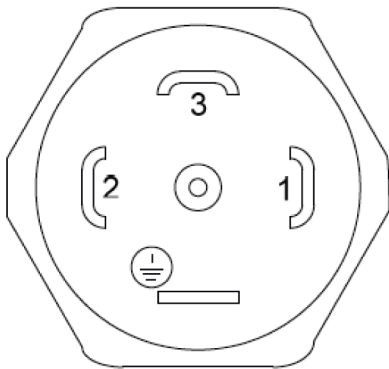
### Safety Approvals

The 11 111 meets CE conformity with the following standards:

- EMC (89/336/EWG)
- NSR (73/23/EWG)
- R & TTE guideline (1999/5/EC)
- Namur NE 21 recommendation

### 3 Connection Information

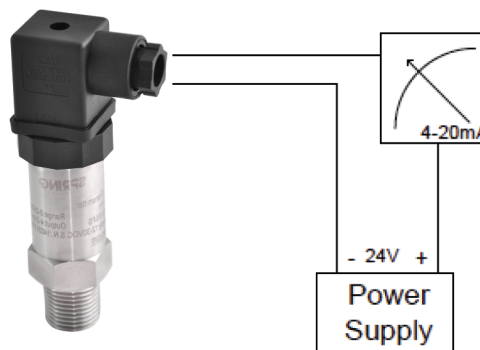
Figure 1.1 shows the connection descriptions of the 11 111.



Connection	Description
1	Signal +
2	Signal -
3	NC
GND	Chassis Ground

**Fig. 1.1** – Connections and description of the 11 111 Top View

The 11 111 may be mounted in any orientation to provide easy installation into any process. It can be ordered to fit an 1/2" NPT or an M20 x 1.5 process connection. Connection of the 11 111 should be as indicated in Fig. 1.2.



**Fig. 1.2** – Wiring Diagram for the 11 111

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## 4 Technical Specifications

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### Functional Specifications

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#### Output Signal

Two-wire, 4-20 mA

#### Power Supply

24V +- 10%

#### Measurement Range

From 0-2 Bar (200 KPa) up to 0-350 Bar (35MPa)

See figure 1.4 for all options

#### Max Allowed Overpressure

2.5 times full scale

#### Pressure Form

Gauge Pressure

#### Hazardous Location

Available both in Explosion proof and  
Non Explosion Proof

#### Mechanical Dimensions

See Fig. 1.3

#### Temperature Limits

*Compensated Temperature:*

-10 to 60oC (14 to 140oF)

*Working Temperature:*

-40 to 80oC (-40 to 176oF)

#### Humidity Limits

10 to 100% RH

#### Turn-on Time

Approximately 10mS

#### Update Time

10mS

#### Mounting

Available with process connection 1/2" NPT or  
M20 x 1.5 (others available on request)

### Performance Specifications

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#### Accuracy

0.5% of Full Scale (including linearity,  
repeatability and hysteresis)

#### Long Term Stability

+/- 0.2% Full Scale per year

#### Vibration Effect

Meets SAMA PMC 31.1

#### Electro-Magnetic Interference Effect

Designed to comply with IEC 801

### Physical Specifications

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#### Electrical Connection

3 Pin connector accommodates conductors up  
to 2.5mm<sup>2</sup> (12 AWG)

5 Mechanical Dimensions

**Note:**  
All Units are mm

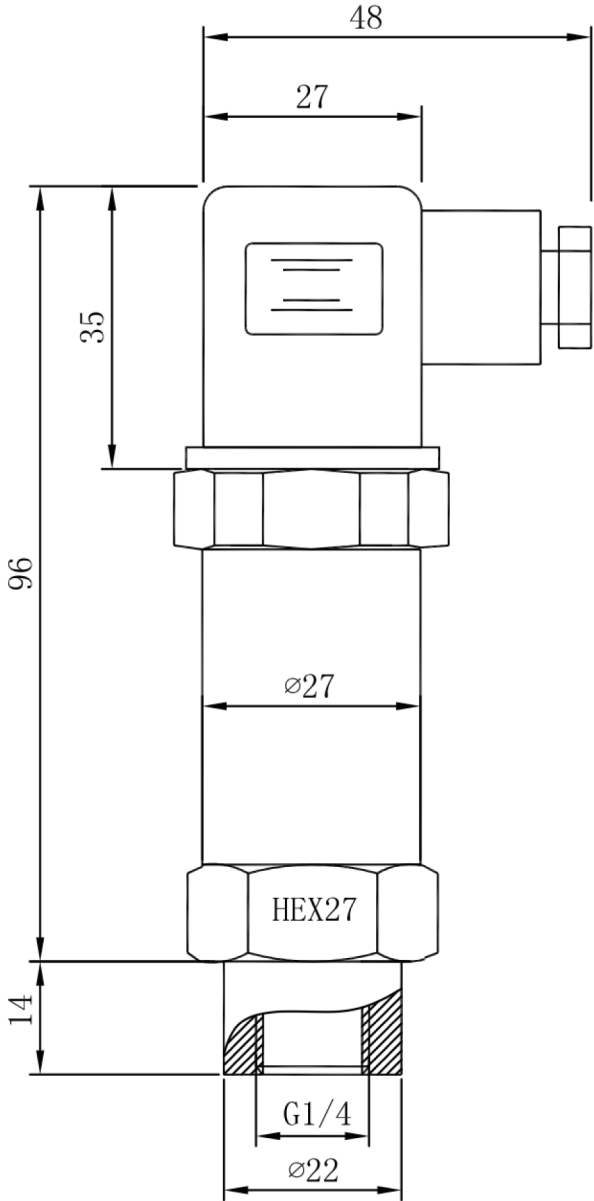


Fig. 1.3 – Mechanical Dimensions

## 6 Ordering Information

Output Signal	PRESSURE TRANSMITTER				
:	<b>CODE</b>	<b>MEASUREMENT RANGE</b>			
:	01	0~2 Bar ( 0~200 KPa )			
:	02	0~4 Bar ( 0~400 KPa )			
:	03	0~10 Bar ( 0~1 MPa )			
:	04	0~35 Bar ( 0~3.5 MPa )			
:	05	0~60 Bar ( 0~6 MPa )			
:	06	0~100 Bar ( 0~10 MPa )			
:	07	0~160 Bar ( 0~16 MPa )			
:	08	0~250 Bar ( 0~25 MPa )			
:	09	0~350 Bar ( 0~35 MPa )			
:	10	Others On Request			
:	:	<b>CODE</b>	<b>Process Connection</b>		
:	:	01	M20 x 1.5		
:	:	02	1.2" NPT		
:	:	03	G 1/4"		
:	:	04	G 1/2"		
:	:	05	Others On Request		
:	:	<b>CODE</b>	<b>Explosion Proofing</b>		
:	:	O	Non-Anti-Explosion		
:	:	E	Anti-Explosion		
:	:	<b>CODE</b>	<b>Explosion Proofing</b>		
:	:	A	Shielded PVC Cable		
:	:	B	3-pin Connector		
:	:	C	Hirschmann Connector		
:	:	:	:		
<b>11 111</b>	1	1	E	B	*indicates factory default

Fig. 1.4 – 11111 Ordering Codes

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