

# Non-display Solid-state Pressure Transmitter

Catalog Numbers 836P-N2x, 836P-N3x

## Safety Considerations

- Read this document for information on installation, handling, mounting, general product specifications, and operation of this product. These installation instructions contain important information on handling the instrument.
- Working safety requires that all safety instructions and work instructions are observed.
- Observe the relevant local accident prevention regulations and general safety regulations for the range of use of the instrument.
- The installation instructions are part of the product and must be kept in the immediate vicinity of the instrument and readily accessible to skilled personnel at any time.
- Skilled personnel must have carefully read and understood the installation instructions, before any work begins.
- The Bulletin 836P-N is a pressure transmitter for measuring and monitoring absolute and gauge pressures. The device has been safely built with state-of-the-art technology and meets the applicable requirements and EC directives. It can, however, be a source of danger if used incorrectly or for anything other than the designated use.
- Qualified individuals are required for installation and commissioning. Failure to comply will result in personal injury or equipment damage.
- During mounting, make sure that the sealing faces at the instrument and the measuring point are clean and undamaged.
- **Safety Installation Considerations:** Before installation, commissioning, and operation, be sure that the appropriate pressure transmitter has been selected in terms of measuring range, design, and specific measuring conditions.

## Qualified Personnel

Qualified Personnel are understood to be personnel who, based on their technical training, knowledge of measurement and control technology, and on their experience and knowledge of the country-specific regulations, current standards and directives, are capable of carrying out the work described and independently recognizing potential hazards.

## Specifications

### Output Signals

Signal	Load
4...20 mA	≤ power supply -8V/0.02 A

### Power Supply

Power Supply	Total Current Consumption
8...30V DC	Signal current, maximum 25 mA

**Note:** The power supply for the pressure transmitter must be made via an energy limited electrical circuit in accordance with section 9.3 of UL/EN/IEC 61010-1, or an LPS per UL/EN/IEC 60950-1, or class 2 in accordance with UL-1310/UL1585(NEC or CEC). The voltage supply must be suitable for operation above 2,000 m should the pressure transmitter be used at this altitude.

## Specifications (continued)

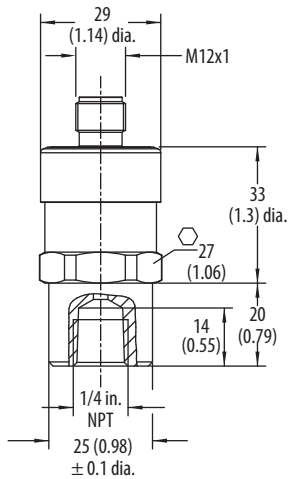
### Measuring Ranges

Gauge Pressure											
bar	Measuring Range	0...1	0...1.3	0...2	0...2.5	0...4	0...6	0...9	0...13	0...17	0...20
	Overpressure Limit	2	2.6	4	5	8	12	18	26	34	40
psi	Measuring Range	0...24	0...34	0...68	0...99	0...137	0...206	0...344	0...399	0...551	0...689
	Overpressure Limit	48	68	136	198	274	412	688	798	1,102	1,378
psi	Measuring Range	0...14.5	0...20	0...30	0...36.2	0...60	0...100	0...145	0...200	0...250	0...300
	Overpressure Limit	29	40	60	72	120	200	290	400	500	600
	Measuring Range	0...362	0...500	0...1,000	0...1,450	0...2,000	0...3,000	0...5,000	0...5,800	0...8,000	0...10,000
	Overpressure Limit	724	1,000	2,000	2,900	4,000	6,000	10,000	10,600	16,000	20,000
Absolute Pressure											
bar	Measuring Range	0...1	0...1.3	0...2	0...2.5	0...4	0...6	0...9	0...13	0...17	0...20
	Overpressure Limit	2	2.6	4	5	8	12	18	26	34	40
psi	Measuring Range	0...14.5	0...20	0...30	0...36.2	0...60	0...100	0...145	0...200	0...250	0...300
	Overpressure Limit	29	40	60	72	120	200	290	400	500	600
Vacuum and +/- Measuring Range											
bar	Measuring Range	-1...1	-1...1.3	-1...2	-1...2.5	-1...4	-1...6	-1...9	-1...13	0...17	0...20
	Overpressure Limit	2	2.6	4	5	8	12	18	26	34	40
psi	Measuring Range	-30 inHg...14.5	-30 inHg...20	-30 inHg...30	-30 inHg...36.2	-30 inHg...60	-30 inHg...100	-30 inHg...145	-30 inHg...200	-30 inHg...250	-30 inHg...300
	Overpressure Limit	29	40	60	72	120	200	290	400	500	600

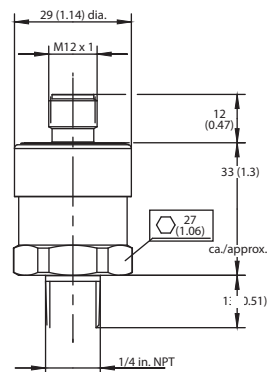
Performance Characteristics		Reference Operation Conditions (per IEC 61298-1)		Operating Conditions: Environment	
Load	Analog signal 4...20 mA: (Power supply -8V)/0.02 A	Temperature [C (F)]	15...25 ° (59...77 °)	Ambient Temperature Range [C (F)]	0...80 ° (32...176 °)
Settling Time	< 4 ms	Atmospheric Pressure	860...1,060 mbar	Medium Temperature [C (F)]	0...80 ° (32...176 °)
Switch On Time	< 15 ms	Humidity	45...75 % r. h.	Storage Temperature [C (F)]	0...80 ° (32...176 °)
Accuracy Data		Mounting Position	As required	Vacuum Resistance	10 mbar <sub>abs</sub> (0.145 psi)
Non-Repeatability	≤ 0.1% of span	Power supply	24V DC	Humidity	45...75 % r. h.
Signal Noise	± 0.3% of span			Service Life	10 million load cycles
Temperature error at 0...80 °C in rate temperature range	Typical: 1.0% of span Maximum: 2.5% of span			Shock resistance	500 g (17.64 oz)(IEC 60068-2-27, mechanical)
Long-term Drift	± 0.1% of span			Short-circuit resistance	Analog + vs. Analog -
Non-linearity	± 0.5% of span			Reverse polarity protection	Analog + vs. Analog -
				Vibration resistance	10 g (0.35 oz) (IEC 60068-2-6, under resonance)
				Ingress protection (per IEC 60529)	IP65 – Angular Connector IP67 – M12x1 4 pin

## Dimensions [mm (in.)]

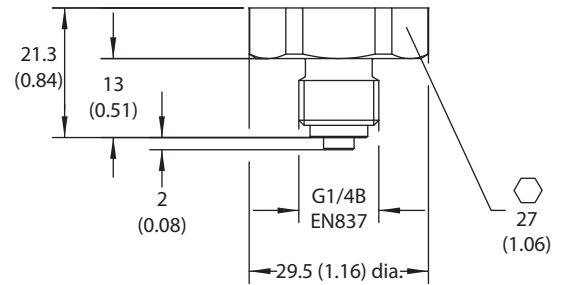
### 1/4 in. NPT Female



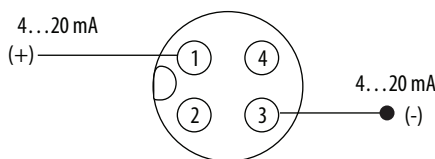
### 1/4 in. NPT Male



### G 1/4 BSPP Process Connection



## Wiring Diagrams



## Mating Cables

889D-F4AC-2 (M12x1 connector)

889D-R4AC-2 (M12x1 right angle connector)

## Process Connection

Measuring Cell	Piezoresistive measuring cell and metallic measuring diaphragm
Application	Measurement and monitoring of absolute and gauge pressures
Process connection	Thread – 1/4 NPT female – 1/4 NPT male – G1/4 BSPP male

## Commissioning



**ATTENTION:** Prior to commissioning, the pressure transmitter must be subjected to a visual inspection.

- Leaking fluid is indicative of damage.
- Only use the pressure transmitter if it is in perfect condition with respect to safety.

## Making the Mechanical Connection

- While mounting, make sure that the sealing faces at the instrument and the measuring point are clean and undamaged.
- Only screw or unscrew the instrument via the spanner flats and to the prescribed torque using an appropriate tool. The correct torque depends on the dimensions of the process connection and the gasket used (form/material). When screwing or unscrewing the pressure transmitter, do not use the housing as contact surface.
- Be careful to not cross-thread.
- Max Torque is 50 Nm.

## Types of Sealing

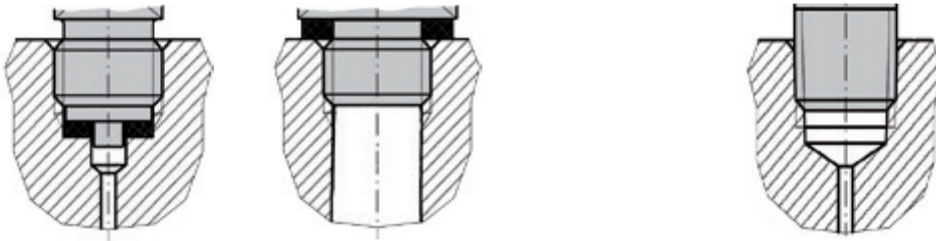
**Figure 1 - Parallel Thread**

per EN 837

per DIN 3852-E

**Tapered Thread (NPT)**

NPT



Correct sealing of the process connections with parallel threads at the sealing face must be made using suitable flat gaskets and sealing rings.

The sealing of the tapered threads (e.g. NPT thread) is made by providing the thread with additional sealing material such as, for example, PTFE tape (EN 837-2).

## Dismounting and Disposal



**ATTENTION:** Residual media in the dismantled pressure transmitter can result in a risk to persons, the environment, and equipment. Take sufficient precautionary measures.

---

**Dismounting:** Only disconnect the pressure transmitter once the system has been depressurized!

**Disposal:** Incorrect disposal can put the environment at risk.

Dispose of instrument and packaging materials in an environmentally compatible way and in accordance with the country-specific waste disposal regulations.

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

Allen-Bradley, Rockwell Software, and Rockwell Automation are trademarks of Rockwell Automation, Inc.  
Trademarks not belonging to Rockwell Automation are property of their respective companies.

Rockwell Otomasyon Ticaret A.Ş., Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400

**[www.rockwellautomation.com](http://www.rockwellautomation.com)**

---

### Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444  
Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640  
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846