

Eddy Current Signal Converters Specifications (CON 011, CON 021, CON 041)

The signal converters CON 011, CON 021, and CON 041 in connection with eddy current sensors of type PR 6422 to PR 6426 provide measurement of static and dynamic displacements. See PR 6422 to PR 6426 datasheet for sensor information.

Applications include steam, gas, compressor and hydro turbomachinery, blowers and fans.

Construction and dimensions of measuring amplifier (converter) and relevant sensors apply to international standards, such as API 670, DIN 45670, ISO 10817 part 1. In combined use with corresponding barriers, the sensor and the signal converter CON 011 may also be operated in hazardous areas. The certificate of conformity according to the European standard EN 50014/50020 has been submitted.

Signal converters CON011/91, CON021/91, and CON04/91 are available to provide an extended measuring range for standard sensors. Extended measuring range converters are paired with a sensor and calibrated at the factory.

The converters are available in different constructions to meet various requirements (see technical data below). Each converter may be operated with each transducer. When using extended measuring ranges, replacement converters and/or sensors require adjustment.

Connection of sensor power and signal output is made via screw terminals. The transducer connection is made either by means of a self-locking Lemo plug or via screw terminals for transducers with open cable ends.



CON 041

- The signal converter is part of a complete transducer system which includes transducer system which includes sensor, cable and signal converter
- Complete transducer systems are commonly used for axial and radial shaft displacement, radial shaft vibration, eccentricity, thrust, and expansion
- Meets international standards, DIN 45670, ISO 10817-1 and API 6704
- CON 011 designed for use in explosive areas, EEx ib IIC T6
- Displacement sensor selections for these converters include PR 6422, PR 6423, PR 6424, PR 6425 and PR 6426

Technical Data			
	CON 011/	CON 021/	CON 041/
Input	Connection of eddy current type sensors PR 6422, PR 6423, PR 6424, PR 6424, PR 6425, PR 6426		
Output	AC and DC voltage proportional to the dynamic and static transducer output. Connections protected against short circuit, open circuit and wrong polarity		
Maximum output range	-4 to -20 V		
Reference point of the output voltage	-12 V for symmetrical measuring ranges		
Internal resistance	100Ω		
Rise time	<15 μsec		
Measuring error (with respect to full scale measuring range)	Maximum temperature error of sensitivity over the entire sensor temperature range		
Material:	42CrMo4		
Linearity error for extended measuring range :	Linearity error	[%/10°K]	
PR 6422 MB: 1.5 mm (0.06 in)	±1.5%	1.8	
PR 6423 MB: 3.0 mm (0.12 in)	±1.5%	1.4	
PR 6423 MB: 4.0 mm (0.16 in)	±2.0%	1.8	
PR 6424 MB: 6.0 mm (0.24 in)	±1.0%	0.7	
PR 6424 MB: 8.0 mm (0.31 in)	±1.5%	1.4	
PR 6424 MB: 10.0 mm (0.39in)	±2.0%	2.6	
PR 6425 MB: 6.0 mm (0.24 in)	±2.0%	1.5	
PR 6425 MB: 8.0 mm (0.31 in)	±3.0%	1.7	
PR 6425 MB: 10.0 mm (0.39 in)	±4.0%	3.0	
PR 6426 MB: 12.0 mm (0.47 in)	±1.5%	2.2	
PR 6426 MB: 16.0 mm (0.63 in)	±2.0%	2.3	
PR 6426 MB: 20.0 mm (0.79 in)	±2.5%	2.8	
PR 6426 MB: 24.0 mm (0.94 in)	±3.5%	3.6	
Influence of supply voltage	<20 mV/V		
Suitable for standard and/or Ex- applications according to	II1G EEx ia IIC T6, Ta < 57° C (135° F)	No Ex Approval	No Ex Approval
Frequency range	0 to 20 kHz (-3dB) (C = 20 nF)		
Interference level	<5 mVrms		
Load resistance	>10kΩ (for error < 1%)		

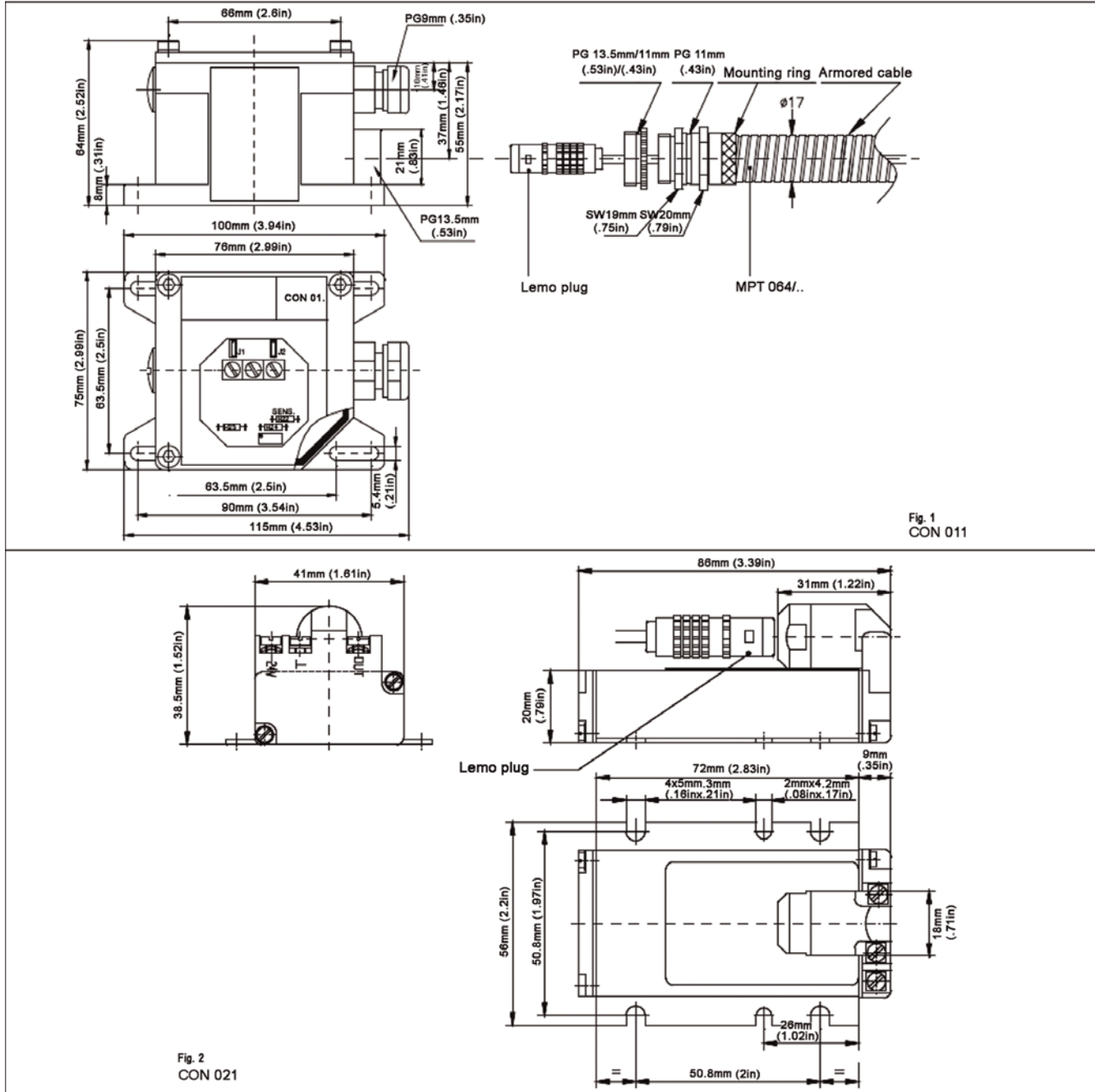


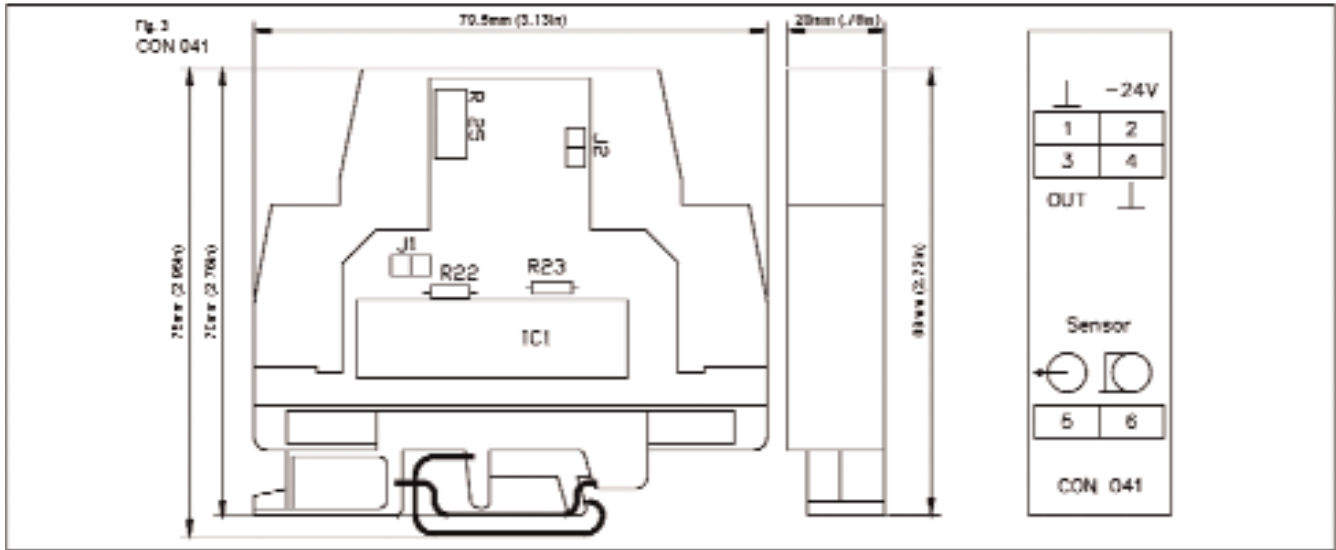
CON 011 designed for use in explosive areas, EEx ib IIC T6

Environmental
 Reference value: 23° C (73° F)
 Operating range: -35 to +70° C (-31 to 158° F)
 Storage range: -35 to +80° C (-31 to 176° F)
 Storage and transport: -40 to +80° C
 (-40 to 171° F)
 Relative humidity: 5 to 95% non-condensing

Protection class	IP 67	IP 20	IP 20
Vibration and shock	0.35 mm 10 to 60 Hz, 5 g (.18 oz) 60 to 150 Hz, 40 g (1.41 oz) for 6 ms		
Housing material	GD-ALSi9 u3	ALMgSi 0.5 F22	PA 6.6
Mounting	With screws M5 x 20 (included in delivery)		Hat rail
Weight: net / gross	0.5 kg (1.1 lbs) / 0.7 kg (1.54 lbs)	0.12 kg (.26 lbs) / 0.2 kg (.44 lbs)	0.06 kg (.13 lbs) / 0.12 kg (.26 lbs)
Connections, transducer in	Self locking Lemo plug	Self locking Lemo plug	Wire-end sleeve, screw terminal
Connections, supply/signal out	3 (4 CON 041/...) screw terminals max. 1.5 mm ² (.06 in ²)		

Dimensions:





Order Matrix for Standard Measuring Range

Converter

- CON 011, for use with all sensors, ex approved, Lemo connector
- CON 021, for use with all sensors, Lemo connector
- CON 041, for use with all sensors, DIN rail mount, screw terminal

Order Matrix for Extended Measuring Range

	CON 0	xx	/	9	1	x	-	x	x	x
Converter										
CON 011		11								
CON 021		21								
CON 041		41	/				-			
For use with transducer:										
PR 6422						2				
1.5 mm (.06 in)			/				-	0	1	5
For use with transducer:										
PR 6423						3				
3.0 mm (.12 in)								0	3	0
4.0 mm (.16 in)			/				-	0	4	0
For use with transducer:										
PR 6424						4				
6.0 mm (.24 in)								0	6	0
8.0 mm (.31 in)								0	8	0
10.0 mm (.39 in)			/				-	1	0	0
For use with transducer:										
PR 6425						5				
6.0 mm (.24 in)								0	6	0
8.0 mm (.31 in)								0	8	0
10.0 mm (.39 in)			/				-	1	0	0
For use with transducer:										
PR 6426						6				
12.0 mm (.47 in)								1	2	0
16.0 mm (.63 in)								1	6	0
20.0 mm (.79 in)								2	0	0
24.0 mm (.94 in)			/				-	2	4	0

For wiring between the converter and monitor, LiYCY-CY 2 x 2x 0.25 is recommended.

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