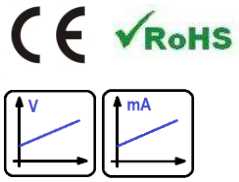


EPRB-2

Miniature Pressure Transducer

SPECIFICATIONS

- **Ranges from 0.6 to 700 bar (10 to 10,000 PSI)**
- **Gage and absolute pressure references**
- **Operating temperature up to 150 °C (300 °F)**
- **Variety of pressure ports**
- **0.5 to 4.5V or 4-20mA amplified output**

EPRB-2 is an ultra-miniature pressure transducer using stainless steel material. It is designed for harsh environments where minimum size and light weight are required.

Multiple interfaces such as pressure ports, electrical outputs, connection thru cables and connectors have been designed to offer a wide range of adaptability to meet customer requirements.

EPRB-2 models have amplified output, either $5V_{DC}$ regulated, $8\text{-}30V_{DC}$ or 4-20 mA for use in a variety of applications.

On request, instruction documents can be provided to assist with the selection and use of our sensors.

FEATURES

- Liquid and gas media compatible with stainless steel
- Variety of available pressure ports
- Variety of connector and cable outputs
- IP66 rating for absolute pressure reference

APPLICATIONS

- Aerospace
- Motorsports
- Downhole Exploration
- Off-Road Vehicles
- Pipeline pressure

STANDARD RANGES

PRESSURE RANGES (FS)		REFERENCE PRESSURE		PROOF PRESSURE	BURST PRESSURE
bar	**psi**	**gage*** (type1)	**abs.** (type3)	**(rated pressure)**	**(rated pressure)**
0.6	10	•	•	3 x FS	5 x FS
1	15	•	•	3 x FS	5 x FS
2	30	•	•	3 x FS	5 x FS
3.5	50	•	•	2 x FS	3 x FS
6	100	•	•	2 x FS	3 x FS
10	150	•	•	2 x FS	3 x FS
20	300	•	•	2 x FS	3 x FS
35	500	•	•	2 x FS	3 x FS
60	1K		•	2 x FS	3 x FS
100	1.5K		•	2 x FS	3 x FS
200	3K		•	2 x FS	3 x FS
350	5K		•	2 x FS	3 x FS
700	10K		•	1.5 x FS	2 x FS

* Gage model (type 1) is vented to atmosphere through one hole into sensor housing (sensor to be used into dry and clean environment)

PERFORMANCE SPECIFICATIONS (typical values at temperature 23°C)

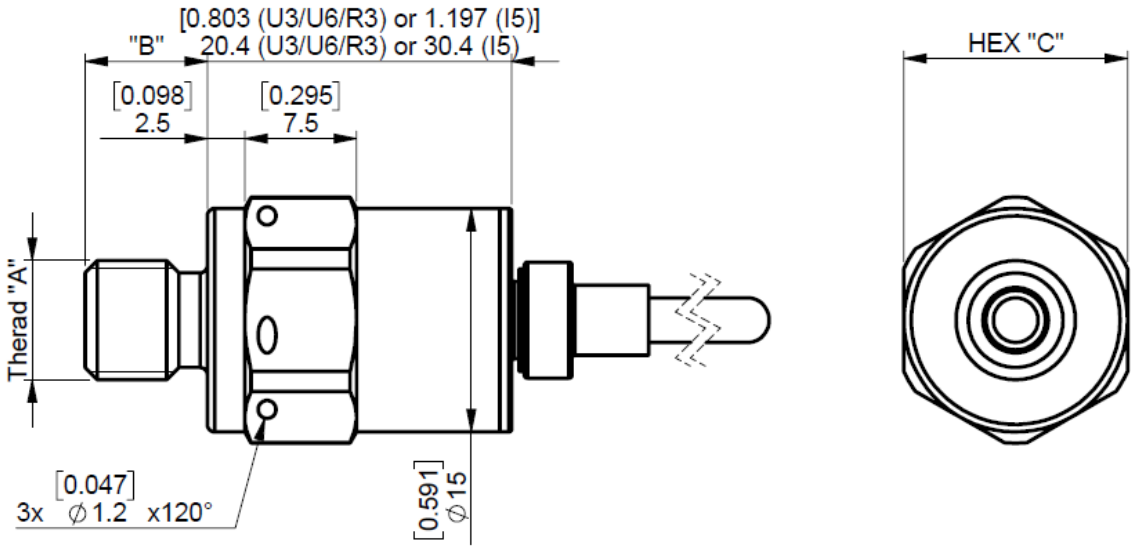
PARAMETERS	VALUES	NOTES
Signal & Supply Voltage	Code I5 : 4 to 20mA (tolerances ±0.2 mA) Code U3 : 0.5 to 4.5 V (tolerances ± 50 mV) Code U6 : 0 to 5 V (tolerances ± 50 mV) Code R3 : 0.5 to 4.5 V (tolerances ± 50 mV)	Supply 10 to 30 V_{DC} Supply 8 to 32 V_{DC} Supply 8 to 32 V_{DC} Supply 5 Vdc regulated
Max Current	< 10 mA	NA for model I5 (4 to 20 mA)
Non-Repeatability	± 0.05% FS	
Combined Non-Linearity & Hysteresis	± 0.25% FS	
Long term stability	Zero Offset = 0.1% FS/year Sensitivity = 0.1% /year	
Bandwidth (-3 dB)	400 Hz	
Thermal Zero Shift "TZS" in CTR	± 0.5%FSO /50° C (±1% FSO/50°C for ranges ≤ 1 bar or 15 psi)	
Thermal Sensitivity Shift "TSS" in CTR	± 0.5% /50° C (±0.75%/50°C for ranges ≤ 1 bar or 15 psi)	
Operating Temperature Range (OTR)	- 40° C to 150° C (-40 °C to 120°C for model I5 : 4-20 mA)	
Compensated Temperature Range (CTR)	0° C to 100° C	
Zero Offset	Code U3/R3 = 0.5V ± 50mV (0.5V ±100mV for ranges ≤ 1 bar or 15 psi) Code I5 = 4 mA ± 0.2 mA (4 mA ±0.4 mA for ranges ≤ 1 bar or 15 psi) Code U6 = ± 50mV (±100mV for ranges ≤ 1 bar or 15 psi)	
Vibration	2g (10Hz to 60Hz) and 20g (60Hz to 1 KHz)	
Shock (1/2 sine)	50g (11 ms) and 200g (6 ms)	
Weight (without cable)	20 g for model U3 + 25 g per meter of cable	
Ingress Protection	IP66	IP40 for Gage (type 1)

CE compliance

EN55022 Emissions Class A & B
IEC61000-4-2 Electrostatic Discharge Immunity (1kV contact)
IEC61000-4-3 EM Field Immunity (3V/m)
IEC61000-4-4 Electrical Fast Transient Immunity (1kV)

DIMENSIONS

STANDARD EPRB-2 WITH SHIELDED CABLE OUTPUT (standard length = 1m)



MODEL	THREAD "A"	THREAD LENGTH "B"	HEX. "C"	O-RING SUPPLIED	INSTALLATION TORQUE
N	M5X0.8	8.2 (.323")	15 mm (.590")	Ø3.5x1.5 FKM Fluoroelastomer*	1 Nm (2 Nm max.)
V	10-32 UNF-2A	8.2 (.323")	15 mm (.590")	Ø3.5x1.5 FKM Fluoroelastomer*	1 Nm (2 Nm max.)
S	M8X1	8.2 (.323")	15 mm (.590")	Ø6.07x1.78 FKM Fluoroelastomer*	2.5 Nm (5 Nm max.)
Q	5/16"-24 UNF-2A	8.2 (.323")	15 mm (.590")	Ø6.07x1.78 FKM Fluoroelastomer*	2.5 Nm (5 Nm max.)
P	M10X1	8.2 (.323")	15 mm (.590")	Ø7.65x1.63 FKM Fluoroelastomer*	3 Nm (6 Nm max.)
X	3/8"-24 UNF-2A	8.2 (.323")	15 mm (.590")	Ø7.65x1.63 FKM Fluoroelastomer*	3 Nm (6 Nm max.)
Z	7/16"-20 UNF-2A	8.2 (.323")	18 mm (.71")	Ø8.92x1.83 FKM Fluoroelastomer*	5 Nm (10 Nm max.)
W	G 1/4A (BSP)	11.7 (.460")	18 mm (.71")	Not Supplied	5 Nm (10 Nm max.)
Y	1/4"-18 NPT	14 (.551")	18 mm (.71")	Not Supplied	5 Nm (10 Nm max.)
E	AS4395E02			per AS4395	
F	AS4395E04			per AS4395	

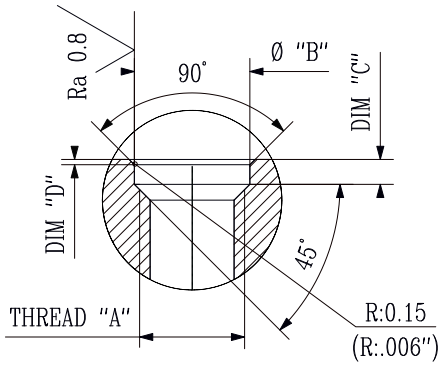
* Temperature -20 to 120°C. Consult factory for other material.

INSTALLATION

RECOMMENDED MOUNTING PORT

Thread "A"	Dim. "B"	Dim. "C"	Dim. "D"
M5X0.8	5.6 mm	1.5 mm	0.2 mm
10-32 UNF	0.22"	0.06"	0.01"
M8x1	8.8 mm	1.9 mm	0.4 mm
5/16-24 UNF	0.35"	0.075"	0.015"
M10x1	10.4 mm	2.0 mm	0.4 mm
3/8"-24 UNF	0.41"	0.077"	0.015"
7/16"-20 UNF	0.48"	0.086"	0.015"

Tolerances on dimensions = ± 0.05 mm (0.002")



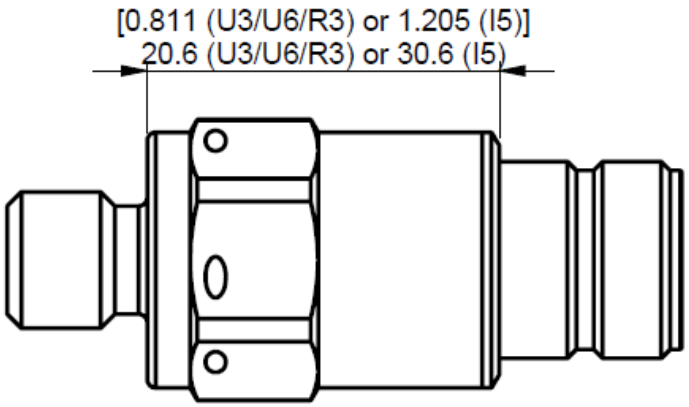
WIRING AND CONNECTOR OUTPUT OPTIONS

Standard cable output: shielded cable (4 x AWG26)
➔ Cable shield not connected to housing for model **U3/U6/R3**
➔ Cable shield connected to housing for model **I5**

Wire color	Models U3/U6/R3	Model I5
Red	+SUPPLY	+SUPPLY
Black	-SUPPLY	-SUPPLY
Green	+OUTPUT	reserved to factory
White	-OUTPUT	reserved to factory

Option **CM1:** integral connector Deutsch **DCS 11 T 8-7 PN** (recommended for Mil-Aero applications)

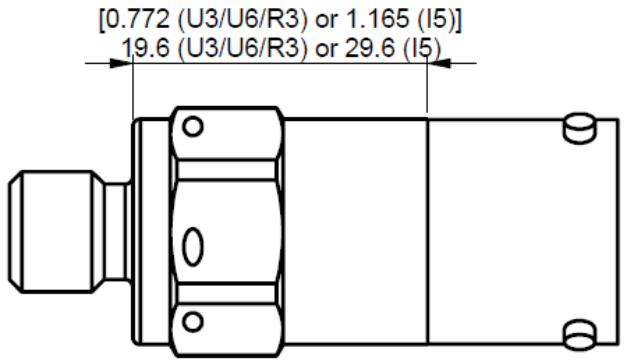
➔ Mating connector **DCS 07 D 8-7 SN RD** not supplied.



CM1	Model U3/U6/R3	Model I5
1	-SUPPLY	-SUPPLY
2	not used	not used
3	common with pin 1	not used
4	+OUTPUT	reserved to factory
5	-OUTPUT	reserved to factory
6	not used	not used
7	+SUPPLY	+SUPPLY

Option **CM2**: integral connector **MIL-C 26482 MS3113H10-6P** (limited to operating temperature 125°C)

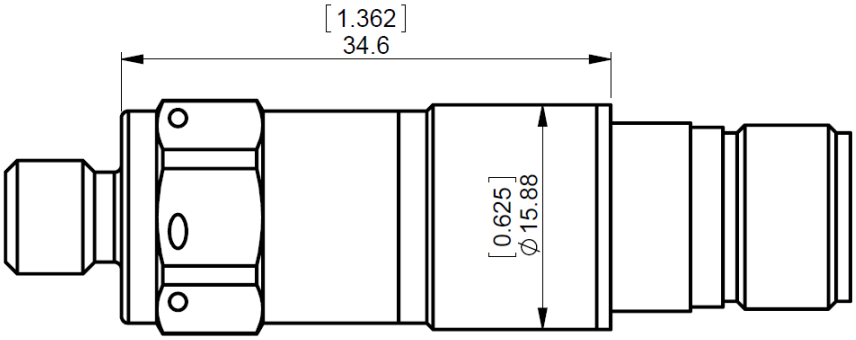
➔ Mating connector **MS3116J10-6S** not supplied. To order mating connector with wired shielded cable 4 leads AWG26, use the reference ECS-CM2-/LxxM by replacing xx by length in meter (1m, 3m, 5m or 10m available).



CM2	Model U3/U6/R3	Model I5
A	+SUPPLY	+SUPPLY
B	+OUTPUT	reserved to factory
C	-OUTPUT	reserved to factory
D	-SUPPLY	-SUPPLY
E	not used	not used
F	not used	not used

Option **CM3**: integral connector **805-006-03Z18-4CA**

➔ Mating connector **805-001-16M8-4SA** not supplied.



CM3	Model U3/U6/R3	Model I5
1	+SUPPLY	+SUPPLY
2	+OUTPUT	reserved to factory
3	-OUTPUT	reserved to factory
4	-SUPPLY	-SUPPLY

OPTIONS

OPTIONS	CODES	DESCRIPTIONS
Compensated Temperature Ranges	**Z1** **Z35**	-20° C to 40° C +20° C to 120° C (TZS = **±4%** FSO/100°C for FS ≤ 1 bar or 15 psi)
Special Cable Length (standard = 1 m)	**L00M**	Replace “00” with total length in meters (L3M ; L5M ; L10M…)
Integral connector	**CMx**	See drawings on pages 4 & 5
Acceptance Test Report	**ATR**	A complete Acceptance Test Report provided with transducer

ORDERING INFORMATION

The **bar** range models can only be supplied with a metric thread design (Pressure Port N, S, P or W).

The **psi** range models can only be supplied with an imperial thread design (Pressure Port V, Q, X, Y, Z, E or F).

EPRB-2 – X U6 3 – 500P – /Z1/CM2

Pressure Port	
N	M5x0.8
V	10-32 UNF
S	M8x1
Q	5/16-24 UNF
P	M10x1
X	3/8-24 UNF
W	G1/4A
Y	1/4-18 NPT
Z	7/16”-20 UNF-2A
E	AS4395E02
F	AS4395E04

Output Signal		
Code	Output	Supply Voltage
I5	4 – 20 mA	10 – 30 V_{DC}
U3	0.5 – 4.5 V	8 – 32 V_{DC}
U6	0 – 5 V	8 – 32V_{DC}
R3	0.5 – 4.5 V ratiometric	5 V_{DC} reg.

Pressure Reference	
1	Gage
3	Absolute

Options
/Z1
/Z35
L00M
/CM1
/CM2
/CM3
/ATR

Pressure Range	
0.6B	**10P**
1B	**15P**
2B	**30P**
3.5B	**50P**
6B	**100P**
10B	**150P**
20B	**300P**
35B	**500P**
60B	**1KP**
100B	**1.5KP**
200B	**3KP**
350B	**5KP**
700B	**10KP**

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