Hydrogen Fuel Cell Transducer

BHyT Series

Data Sheet

Features

- Advanced sensor signal conditioning ASIC ensures high accuracy ±0.25% and low offset error at zero pressure.
- Offers wide operating temperatures -40 °C to +100C and water tight IP67 protection and compatibility with demanding media such as H2 and O2.
- Superior EMI-EMC protection as per IEC standards & thermally compensated sensors ensure high accuracy over wide temperature ranges to mitigate thermal errors on sensitive components
- Has the ability to measure pressure ranges from Vacuum to 10,000 psi (0-700 BAR)

NEW

Exactly What OEMS Want...Without the Wait

Applications

- Hydrogen Fuel Cell
- Electrolyzers

General Specifications

Supply (Class II power source)	BT3: 7 to 33 VDC BT4: 4.5 to 5.5 VDC ratiometric BT5: 8 to 33 VDC BT6: 12 to 33 VDC
Output	BT3: 1 to 5 VDC BT4: 0.5 to 4.5 VDC ratiometric BT5: 4 to 20 mA BT6: 0 to 10 VDC
Pressure Range	0 to 40 BAR (-W Class) 0 to 700 BAR (-M Class)
Operating Temperature	-40 to 212 °F (-40 to 100 °C)
Compensated Temperature Range	14 to 158 °F (-10 to 70 °C)
Accuracy (BFSL@25°C)	± 0.25% FSO (W), ± 0.50% FSO (M)
Proof Pressure	2X Typical (Consult factory for specific pressure ranges)
Zero Offset	± 1% FSO (W), ± 2% FSO (M)
Span Offset	± 1% FSO
Lifecycle	10M cycles minimum
Long-Term Stability	± 0.2% FSO (per year,typical)
Response Time	For current output < 5 ms, For voltage output < 3 ms
Supply Current	BT3, BT4, BT6 : 15 mA max, BT5 : 22mA max

Shock	50 g's, 11 ms, MIL-STD 202 Method 213, Cond. G
Vibration	15 g's, 10 to 2,000 Hz, MIL-STD 202
Storage Temperature	-40 to 212 °F (-40 to 100 °C)
Media Temperature	-40 to 248 °F (-40 to 120 °C)
Wetted Materials	316 L welded construction
Ingress Protection	IP67
Reverse Polarity	Yes
Enclosure	NEMA 4X
Approvals	UL 508, UL 61010-1 with class II power source
Compliance	REACH, RoHS, CE
Weight	4.23 oz (120gm) Approximately (Consult factory for exact weights)
EMI-EMC Compliance	IEC 61000-4-2: Electrostatic discharge (ESD) IEC 61000-4-3: Radiated immunity IEC 61000-4-4: Burst (fast transient) IEC 61000-4-5: Surge IEC 61000-4-6: Conducted RF IEC 61326-1: CISPR11 Class A for radiated and conducted emission
Media Restricted	All common industrial and gases and fluids. Refer to wetted materials section or consult factory for special media compatibilty

Barksdale®
CONTROL PRODUCTS

Industrial Transducer

BHyT Series

ELECTRICAL CONNECTIONS										
ELECTRICAL SIGNAL	ELECTRICAL TERMINATION									
	H3		D3/T6		H4/T4/T5		D4		T9	
	VOLTAGE	CURRENT	VOLTAGE	CURRENT	VOLTAGE	CURRENT	VOLTAGE	CURRENT	VOLTAGE	CURRENT
+EXCITATION	RED	RED	PIN 1	PIN 1	PIN 1	PIN 1	PIN 2	PIN 2	PIN 1	PIN 1
-EXCITATION (COMMON)	BLACK	BLACK	PIN 2	PIN 2	PIN 2	PIN 2	PIN 1	PIN 1	PIN 3	PIN 3
VOLTAGE OUTPUT	WHITE	-	PIN 3		PIN 3	-	PIN 4		PIN 2	
CASE GROUND/DRAIN/EARTH	DRAIN	DRAIN		PIN 3	PIN 4	PIN 4	PIN 3	PIN 3	PIN 4	PIN 4

BT5	-H3	-05	A	-P2	-M	-Z17-S131

Base Model

BT3	1-5 VDC analog output
BT4	0.5-4.5 VDC ratiometric analog output
BT5	4-20 mA analog output
BT6	0-10 VDC analog output

Electrical Connection

-H3	PVC Shielded & jacketed #24 AWG Cable (1 meter)
-H4[1]	Mini-DIN 43650 Type "C"
-T4[1]	M12 circular connector
-T5[1]	Standard DIN 43650 Type 'A"
-T6[1]	Aptiv/Delphi Metripack 150 Series
-T9[1]	T4 with European pinning
-D3[1]	3-Pin Deutsch Connector - DT04-3P
-D4[1]	4-pin Deutsch Connector - DT04-4P

Pressure Range[5]

-23[4]	0-29.9" of Hg	0 to -1 BAR
-27[4]	0-1 psi	0-0.1 BAR
-25[4]	0-5 psi	0-0.35 BAR
-38[4]	0-7 psi	0-0.5 BAR
-01[4]	0-15 psi	0-1 BAR
-39[4]	0-25 psi	0-1.6 BAR
-21[4]	0-30 psi	0-2 BAR
-40[4]	0-36 psi	0-2.5 BAR
-03[4]	0-50 psi	0-3 BAR
-22[4]	0-60 psi	0-4 BAR
-41[4]	0-87 psi	0-6 BAR
-04[4]	0-100 psi	0-7 BAR
-05[4]	0-150 psi	0-10 BAR
-06[4]	0-200 psi	0-15 BAR
-42[4]	0-230 psi	0-16 BAR
-07[4]	0-300 psi	0-20 BAR
-43[4]	0-360 psi	0-25 BAR
-08	0-500 psi	0-35 BAR
-44	0-580 psi	0-40 BAR
-45	0-725 psi	0-50 BAR
-46	0-870 psi	0-60 BAR
-10	0-1,000 psi	0-70 BAR
-11	0-1,500 psi	0-100 BAR
-12	0-2,000 psi	0-150 BAR
-47	0-2300 psi	0-160 BAR
-13	0-3,000 psi	0-200 BAR
-48	0-3600 psi	0-250 BAR
-14	0-4000 psi	0-300 BAR
-15	0-5,000 psi	0-350 BAR
-16	0-6,000 psi	0-400 BAR
-17	0-7500 psi	0-520 BAR
-36	0-9000 psi	0-600 BAR
-18	0-10,000 psi	0-700 BAR

Pressure Unit and Type

G	PSI - Sealed gauge pressure (standard)
A[4,5]	PSI - Absolute pressure
BG	Bar - Sealed gage pressure
BA[4,5]	Bar - Absolute Pressure (ranges start from 1 Bar)
V	PSI - Compound pressure range
BV	Bar - Compound pressure range

Process Connection

Blank	1/4" NPT male
-P2	7/16-20 SAE #4 ORB
-P3	7/16-20 UNF male (JIC 37°)
-P4	1/2" NPT, male
-P7	1/8" NPT male
-P9	G1/4 male (gasket seal)
-P17[6]	9/16 - 8 (SAE #6, O-RING)
- P11[6]	G1/2 male(gasket seal)
-P14[6]	7/16-20 UNF female (JIC 37°)
- P18[6]	M12 X 1.5
- P19[6]	G1/4 EN 837
- P20[6]	G1/2 EN 837

Accuracy

-M	±0.50% FSO
-W[2]	±0.25% FSO

Options

Blank	Standard
-0(x)	Custom Voltage Output Up to 11VDC. Consult Factory -01 :1 -6 VDC Output -02 : 0.5-4.5 VDC Non-ratiometric
-Z17	Larger pressure port orifice
-A	+6 ft cable
-B	+10 ft cable
-C	+15 ft cable
-D	Consult Factory for Custom length of free leads
-SXXY[3]	Special pressure ranges Consult Factory
-Q1...Q999	Custom and proprietary options; consult factory
-U[7]	UL approved

1. Mating connector not included, consult factory for accessories
2. Limited to 580 PSI (40 BAR.)
3. Add suffix SXXY for special pressure range calibration. XX= significant digits. Y= number of trailing zeros. Example: 130 psi calibration: add -S131
4. With -W option only
5. Absolute models available up to 360 psi only
6. Consult factory for availability
7. cULuS approval with 30 VDC excitation and 55°C max ambient temperature

Barksdale®
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3211 Fruitland Avenue
Los Angeles, CA 90058
Telephone: 800-835-1060
Fax: 323-589-3463
Barksdale.com