

Model DXD Series Digital Pressure Transducer

FEATURES

- Accuracy: $\pm 0.02\%$ F.S. total error band, includes the effects of nonlinearity, hysteresis, non-repeatability and temperature
- Update rate: as low as 15ms
- Port speed: up to 115.2k bps
- Digital Communication: 4-wire RS232, 6-wire RS485 or USB
 - Up to 99 transducers on a single RS232 line
 - Up to 32 transducers on a single RS485 line
 - USB communication one transducer per USB port.
- ASCII command structure
- Gauge, absolute, vacuum and compound pressure types
- Pressure ranges vacuum to 10,000 psi
- 316 SS wetted materials, 304 SS housing
- Rugged, shock and vibration resistant design
- Switchcraft EN3, IIT Cannon KPT107 or USB mini B connector
- Connection components terminate in standard RJ-11 telephone jack (RS232), standard RJ-45 Ethernet connectors (RS485) or standard USB connector
- Driver available to facilitate communication between the DXD and custom LabVIEW™ analysis and control program



SPECIFICATIONS

Accuracy:	$\pm 0.02\%$ of full span 10-30°C (50-86°F) $\pm 0.04\%$ of full span 0-50°C (32-122°F) $\pm 0.05\%$ of full span -10-70°C (14-158°F) Note: 0-10,000 psi range is limited to $\pm 0.1\%$ full span at 10-30°C
Temperature Effects:	Compensated operating -10-70°C (14-158°F) Storage -40-80°C (-40-176°F) If stored above or below compensated range, zeroing of transducer is recommended at ambient temperature (70°F $\pm 2^\circ$)
Update Rate:	27.7 ms standard configuration 12.6 ms fast mode
Signal Stability:	± 1 count in 50,000 counts in standard configuration ± 3 counts in 50,000 counts in fast mode Up to 50,000 counts range dependent
Resolution:	Up to 50,000 counts range dependent
Turnaround Time (Total Response Time):	30 ms @ 115.2k baud standard configuration 15 ms @ 115.2k baud fast mode
A/D Resolution:	23 bit plus sign Sigma/Delta internally reduced to 50,000
Output Signal:	ASCII digital, format 7 data bits, 1 stop bit, even parity
Bits Per Second:	1200, 2400, 4800, 9600, 19.2k, 38.4k, 57.6k, 115.2k
Output Electrical:	RS 232 full duplex- asynchronous serial interface up to 99 units. 9 pin "D" type com port adapter included RS485 full duplex, asynchronous serial interface up to 32 units USB 2.0

Electrical Connection

Type:	Switchcraft EN3 vented or not vented IIT Cannon KPT107 vented or not vented USB mini B connector vented housing or sealed housing Venting is recommended on pressure ranges 300 psi or less
Power Requirement:	RS232 and RS485, 12-24 Vdc, 15 mA minimum USB, operates from 5 Vdc supply
Power Consumption:	Watts + supply voltage X 15mA (with optional 12 vdc supply accessory power consumption = 0.18 watts per DXD)
Certification:	NIST traceable calibration certification provided with each unit
Sensor Type:	Piezoresistive strain gauge
Shock and Vibration:	Shock 10g per 11 ms. Vibration 10g RMS within 20 to 2000Hz
Wetted Materials:	316 SS
Housing Material:	304 SS
Pressure Inlet Types:	$\frac{1}{4}$ NPT Male, standard on ranges up to 5,000 psi $\frac{1}{16}$ "-18UNF-2B female port for $\frac{1}{4}$ " O.D. high pressure tube standard on ranges 5001 psi and greater, optional on lower pressures Optional MS33656-4 $\frac{7}{16}$ "-20 male with 37° flare for $\frac{1}{4}$ " tubing Optional VCR fitting for ranges up to 5,000 psi
Options	Cleaned to ASME B40.100 level IV not marked for O ₂ service

Model DXD Series Digital Pressure Transducer

The DXD Series digital pressure transducer provides the advantages of a precise digital output, simple interface and support software at an affordable price. The DXD Series features accuracy of $\pm 0.02\%$ of full scale including the effects of nonlinearity, hysteresis, nonrepeatability and temperature. The design is capable of an update rate of 15mS. Connection with a host computer is simple and versatile via full-duplex four-wire RS232, six-wire RS485 electrical standard or via standard USB connection. Support software provides access to the DXD's built-in features utilizing an ASCII protocol. The support software also provides zero and span adjustment, user label read/write capability, tare, device address, serial number, pressure type and full scale range.

Up to 99 DXD transducers can share the same RS232 line. The RS232 version includes a port adapter that plugs directly into an RS232 port. Transducers are connected utilizing telephone type (RJ11) connectors.

The RS485 version requires a user-supplied RS485 card or port adapter and transducer wiring. Note that these connections are also available from ASHCROFT. Up to 32 DXD transducers can share the same RS485 line.

On RS232 and RS 485 models power is supplied by a 12 Vdc, 500mA ac to dc converter. USB versions are powered by the USB cable. Each unit requires approximately 15mA maximum. The standard electrical connector is an 8 pin Switchcraft EN3 connector. Other connection options include ITT Cannon KPT107 and USB mini B type. Snap-together wiring components are available for simple and quick connection.

Available

ELECTRICAL CONNECTION



Standard – Switchcraft EN3, 8 pin weather-tight receptacle and mating connector



Optional – ITT Cannon kPT07 receptacle with kPT06 mating connector (Bendix PT07/PT06 compatible)

PRODUCT SPECIFICATIONS

GAUGE (PSI)	ABSOLUTE (PSI)	VACUUM (PSI)	COMPOUND (PSI)
0.50000			
010.000	010.000	010.000	-010.000/+010.000
015.000	015.000	015.000	-015.000/+015.000
020.000	020.000		-015.000/+030.000
025.000	025.000		-015.000/+0060.00
030.000	030.000		
050.000	050.000		
060.00	060.00		
0100.00	0100.00		
0150.00	0150.00		
0200.00	0200.00		
0250.00	0250.00		
0300.00	0300.00		
0500.00	0500.00		
0600.0	0600.0		
01000.0	01000.0		
01500.0	01500.0		
02000.0	02000.0		
02500.0	02500.0		
03000.0	03000.0		
05000.0	05000.0		
06000.	06000.		
007500.	007500.		
010000.	010000.		

Note: Ranges shown are in actual output format. Output resolution of up to 50,000 counts is range dependent as shown in table.

Proof Pressure:

0-250 psi	4X range
251-3,000 psi	3X range
3,001-5,000 psi	2X range
5,001-10,000 psi	1.33X range



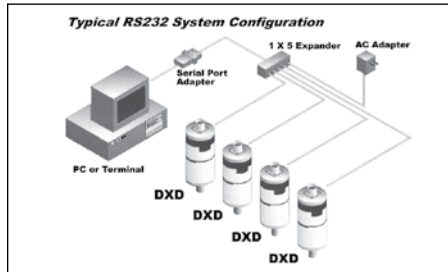
Optional – USB Mini B type

Model DXD Series Digital Pressure Transducer

ORDERING CODE	Example:	DXSA	P	G	100	N	SV	4	N
DXD Transducer									
DXSA		DXSA							
Sensor Type									
P - Piezoresistive			P						
Pressure Type									
G - Gauge				G					
A - Absolute									
V - Vacuum									
C - Compound									
RANGE									
5									
10									
15									
20									
25									
30									
60									
100					100				
150									
200									
250									
300									
500									
600									
1000									
1500									
2000									
2500									
3000									
5000									
6000									
7500									
10000									
Inlet Port									
N - 1/4 NPT Male, standard on ranges up to 5,000 psi						N			
A - 9/16"-18 UNF-2B female for 1/4" OD high pressure tube, standard on 5,001 psi and higher									
M - MS33656-4 (7/16"-20 male w/ 37° flare for 1/4" tube)									
S - VCR with standard finish									
T - Swagelock 1/8" tube fitting									
Electrical Connection									
SV - Switchcraft receptical vented, standard							SV		
SS - Switchcraft receptical sealed housing									
BV - IIT Cannon KPT107 vented									
BS - IIT Cannon KPT107 sealed housing									
US - USB with sealed housing									
UV - USB with vented housing									
Output Type									
2 - RS232									
4 - RS485								4	
U - USB (Includes 6' USB mounting cable)									
Options									
N - None									N
W - Cleaned to ASME B40.100 Level IV NOT marked for oxygen service									

Model DXD Series Digital Pressure Transducer

SYSTEM CONNECTION RS-232



RS232 configurations require:

- (1) Serial Port Converter (supports up to 99 DXDs (RS-232) on one serial port)
- ac Adapter (powers up to 32 DXDs)
- 5 Port Expander Module; to connect up to 4 DXD (RS-232) cables and 1 ac adapter to serial port converter. (Multiple 5 port expander modules can be interconnected for systems requiring 5 DXDs or more).
- Setup/Utility Software (to allow DXD to communicate with PC)
- Mating Connector and Cable (one provided with each DXD)

Complete kit includes all required accessories identified above to operate up to 4 DXD transducers

RS-232 ACCESSORIES



Complete Kit for RS-232 configurations.



ac adapter with RJ11 plug (powers up to 32 DXD units maximum).



5 port (RJ11) expander module (provides system expansion capability).



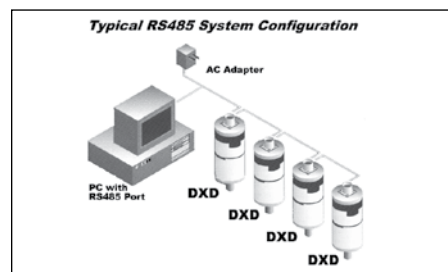
DB25 male to DB9 female plug adapter.



25 ft. cable with mating connector and RJ11 plug. (provided with each DXD; RS-232)

Consult price sheet for complete list of USB, RS-232 and RS-485 accessories and kits.

SYSTEM CONNECTION RS-485



RS485 configurations require:

- Mating connector/adapter assembly terminating in dual RJ45 (modular "Y") jacks
- 25 ft. cable assembly with RJ45 plug ends
- ac adapter with RJ45 plug (powers up to 32 DXD units maximum)
- Adapter; RJ45 jack to DB9 female "D" connector
- Setup/utility software (to allow DXD to communicate with PC)
- Customer supplied RS-485 interface card or adapter installed on PC

Complete kit includes all required accessories above to operate 1 DXD (RS-485) transducer. For systems with multiple DXDs (RS-485), add one additional mating connector/adapter assembly and one 25 ft. cable assembly per DXD; **or**, for systems with customer provided power, wiring and PC interface card or adapter:

- Mating connector only (provided with each DXD (RS-485) transducer)
- Setup/utility software (to allow DXD to communicate with PC)

RS-485 ACCESSORIES



Complete Kit for RS-485 configurations.



Mating connector/adapter assembly terminating in dual RJ45 (modular "Y") jacks.



Adapter; RJ45 jack to DB9 pin "D" connector.



ac adapter with RJ45 plug (powers up to 32 DXD units maximum).

DIMENSIONS

