

Technical Datasheet



D Series

Analogue Compact Differential Pressure Transmitter

Model: D32

Key Features

- Accuracy $\pm 0.25\%$.
- 4-20mA output signal.
- Static pressure limit up to 420 bar.
- Gold plated diaphragm option.
- Hastelloy C276 wetted parts option.
- Intrinsic safety certificate (ATEX, IECEx)

Series Overview

The D-Series pressure, differential pressure and temperature transmitters offer customers cost-effective and accurate solutions to their individual process requirements.

Available with a wide range of process connections, the D-Series can be used for a variety of applications when pressure, differential pressure, temperature, level or flow measurements are needed.

Other products in the series include:

- D22 Pressure Transmitter



Product applications

The D32 D-Series is suitable for a wide range of applications for measuring:

- Differential Pressure
- Level
- Flow

The choice of models available ensures that the D32 D-Series is suitable for use in:

- Corrosive atmospheres
- Resistant to chemical attack

How can we help you?

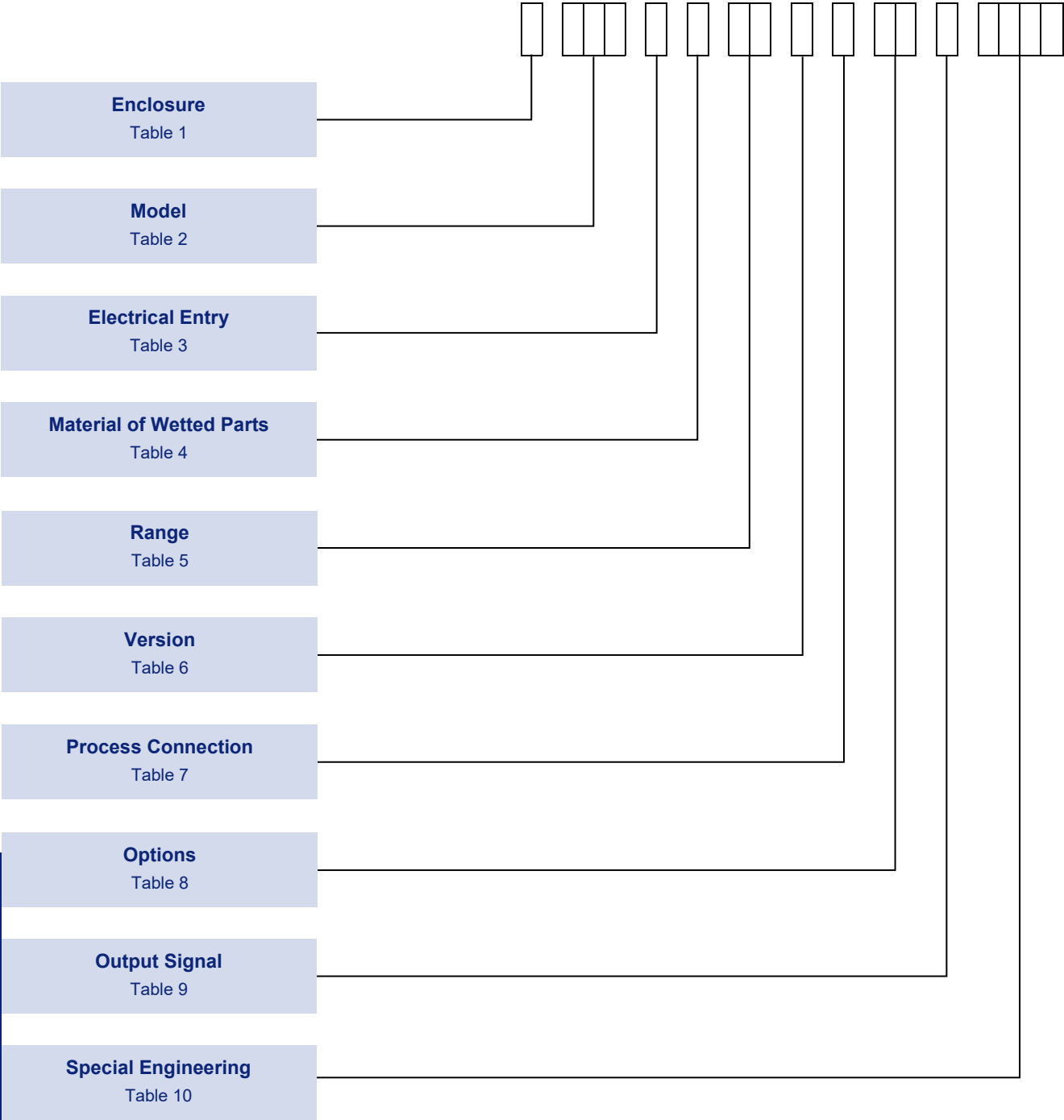
Delta Mobrey offers fast, efficient and knowledgeable support when and where you need it. Please visit our website at www.delta-mobrey.com to find your local support centre or call us on:

+44 (0) 1252 729140

D-Series
Model: D32

How to order

Transmitters can be configured by selecting codes representing the desired features from the tables that follow. The chart below, describes how the model code is built up. For assistance in configuring a transmitter that best suits your needs, please contact your local sales office.



NOTE: Only the most common options are shown in this datasheet. Should you require a feature that is not shown, please contact your local sales office for further details.

NOTE: The non-standard option code is shown by “X” in the part number. Should you require any clarification on this codes please contact your local sales office.

Enclosure

NOTE 1:

Refer to the Approvals' section for details about the certification on Intrinsically Safe models and Flameproof models.

NOTE 2:

An aluminium enclosure with programmable local display for weatherproof construction only, is available, please contact local sales for more details.

TABLE 1



ENCLOSURES TYPES	Code
WEATHERPROOF ENCLOSURE	
304 Stainless steel housing, IP65.	B
316 Stainless steel housing, IP65.	D
304 Stainless steel housing, IP66.	G
316 Stainless steel housing, IP66.	K
304 Stainless steel housing, IP67.	M
304 Stainless steel housing, IP66/67.	O
316L Stainless steel housing, IP68.	Q
INTRINSICALLY SAFE ENCLOSURES (ZONE 0)	
304 Stainless steel housing, IP65. (Ex ia)	C
316 Stainless steel housing, IP65. (Ex ia)	F
304 Stainless steel housing, IP66. (Ex ia)	J
316 Stainless steel housing, IP66. (Ex ia)	L
304 Stainless steel housing, IP67. (Ex ia)	N
304 Stainless steel housing, IP66/67. (Ex ia)	P
316L Stainless steel housing, IP68. (Ex ia)	S
FLAMEPROOF ENCLOSURES (ZONE 1)	
316L Stainless steel housing, IP68. (Ex d)	Z

Model

TABLE 2



	Code
D32 Analogue Differential Pressure Transmitter For applications up to 25 bar. Static pressure up to 413 bar Refer Table 5.	D32

Electrical Entry

TABLE 3



	Code
PZ type connection, packing gland M20x1.5	1
PD type connection, DIN43650 Connector	3
PM12 type connection, thread M12x1 & connector with cable 3m length	4
PK type connection, cable 3m length	5

NOTE: Code 1

Available on Enclosure code G,K,J & L only.

NOTE: Code 3

Available on Enclosure code B,D,C & F only.

NOTE: Code 4

Available on Enclosure code M & N only.

NOTE: Code 5

Available on Enclosure code O & P only.

Refer Table 1 for Enclosure

(Table 3 continued...)	Code
PKD type connection, cable 3m length	6
SG type connection, cable 3m length	7
SGM type connection, thread 1/2" NPT Male & cable 3m length	8
FL type connection, thread 1/2" NPT Male & flying leads 2m length (for Ex d only)	A
SGM type connection, thread 1/2" NPT Male & cable 3m length (for Ex d only)	B

TABLE 4



	Code
Stainless Steel 316L diaphragm and process connection	A
Hastelloy C276 diaphragm and process connection	B
Gold plated diaphragm and Stainless Steel 316L process connection	C

TABLE 5



Other ranges available on request

Code	Nominal measuring range (FSO)	
D0	0...0.25 bar	(0...25 kPa)
D1	0...1 bar	(0...100 kPa)
D2	0...2.5 bar	(0...250 kPa)
D5	0...0.4 bar	(0...40 kPa)
D6	0...0.6 bar	(0...60 kPa)
D7	0...1.6 bar	(0...160 kPa)
D8	0...4 bar	(0...400 kPa)
D9	0...6 bar	(0...600 kPa)
E0	0...16 bar	(0...1.6 MPa)
E1	0...25 bar	(0...2.5 MPa)
XX	Non Standard Range	

	Measuring range				
	25 mbar	100 mbar	1 bar	2 bar	25 bar
Overpressure Limit	250 bar (option 420 bar) (40 bar for P type process connection)				
Static Pressure Limit (repeated, without hysteresis)					
Accuracy	0,4%	0,4%	0,25%		
Long term stability	0,6% / year	0,2% / year	0,1% / year		
Thermal error	Typically 0,6% / 10°C Max 1% / 10°C	Typically 0,3% / 10°C	Typically 0,2% / 10°C		
Zero shift error for static pressure*	0,1% / 10 bar				

Version

NOTE: Code 4

Only available with process connection code A & D.

NOTE: Code B

Only available with output signal code O.

Refer Table 7 for Process Connection

Refer Table 9 for Output Signal

TABLE 6



	Code
Applies when no option is required.	0
For oxygen service (sensor filled with Fluorolube fluid)	4
Response time < 30ms	B

Process Connection

NOTE: Codes C & D

Available with NACE MR-01-75 certificate.

Note: Codes C

With M10 threaded holes, Pmax 250bar

TABLE 7



	Code
G1/2 (male)	Y
1/4" NPT Female	Q
1/4" NPT Female on the cover flanges. Cover flanges material SS316L. Allows mounting with valve manifold with M10 threaded holes	C
C type process connection rotated 90°	M
1/4" NPT Female on the cover flanges. Cover flanges material SS316L. Allows mounting with 7/16-20 UNF threaded holes according to IEC61508	D
D type process connection rotated 90°	R

Options

Combination of more than one option is available.

(i.e. Code 35 - combination of code 30 & 50)

TABLE 8



	Code
Applies when no option is required	00
Stainless Steel Tag plate mounted on wire	30
Mounting bracket for 2" pipe (only version with C-type process connection), zinc coated steel	50
Mounting bracket for 2" pipe (only version with C-type process connection), stainless steel	60
Mounting bracket for 2" pipe (only version with process connection Code P & Q), stainless steel	70
Connector to weld impulse pipes Ø12 and Ø14 mm, material 15HM (only version with C-type process connection)	C0
Connector to weld impulse pipes Ø12 and Ø14 mm, material 15HM(SO) or SS316(S) (only version with process connection Code P & Q)	D0

Output Signal

TABLE 9



Note: For the constructions certified for Hazardous areas, the instruments are supplied as standard with ATEX marking on the label. The instrument will be supplied with nameplate marked according to the selected code on Table 9,

	Code
4 to 20mA (Weatherproof or Hazardous Area with ATEX marking)	O
4 to 20mA (Hazardous Area with IECEx marking)	6
0 to 10VDC / power supply 13-30VDC	C

Special Engineering

TABLE 10



Last 4 digits of model code only used when special engineering is required.

	Code
Please consult Delta Mobrey sales engineering for special	TBA

Application & Construction

The D32 Analogue Differential Pressure Transmitters are suitable for measurement of the differential pressure of gases, vapours and liquids. The active sensing element is a piezoresistive silicon sensor separated from the medium by a diaphragm and by a specifically selected type of manometric liquid. The electronics is placed in a casing with a degree of protection from IP 65 to IP 68, depending on the type of electrical connection applied. Refer Technical Data for more details.

Calibration

Potentiometers can be used to shift the zero position and the range by up to $\pm 10\%$, without altering the settings.

Installation

The transmitter with GP type process connection is not heavy, so it can be installed directly onto impulse lines. For fitting in any desired position on a 25 pipe the Delta Mobrey mounting bracket (FI25 mounting bracket), is recommended. The version with C type process connection can be fitted directly to a 3- or 5-valve manifold.

When the special process connections are required for the measurement of levels and pressures (e.g. at food and chemical industries), the transmitter is provided with a diaphragm seal. The differential pressure transmitters with diaphragm seals are described in detail further in the catalogue.

When the special process connections are required for the measurement of levels and pressures (e.g. at food and chemical industries), the transmitter is provided with a Delta Mobrey diaphragm seal. Contact a Delta Mobrey sales representatives to get a quote for a suitable diaphragm seal.

Technical Data

Hysteresis, repeatability	0,05%	Output signal	4...20 mA, two wire transmission 0..10V
Thermal compensation range	0...70°C	Material of diaphragms	316Lss, Hastelloy C 276, Au
Operating temperature range (ambient temp.)	-25...70°C	Wetted parts type P/Q	316L SS or Hastelloy C276
FL electrical connection (Code B)	-25...70°C*	Wetted parts typ C/M/D/R	316LSS
SGM electrical connection (Code A)	-25...65°C*	Material of casing	304 SS optional.316SS
<i>*more information available in user 's manual and certificate</i>			
Medium temperature range	-25...120°C	Power supply	output 4..20mA 8...36 V DC (Ex 9...28 V DC) Version B: 10.5...36 V DC (Ex 12...28 V DC) output 0..10V 13...30 VDC

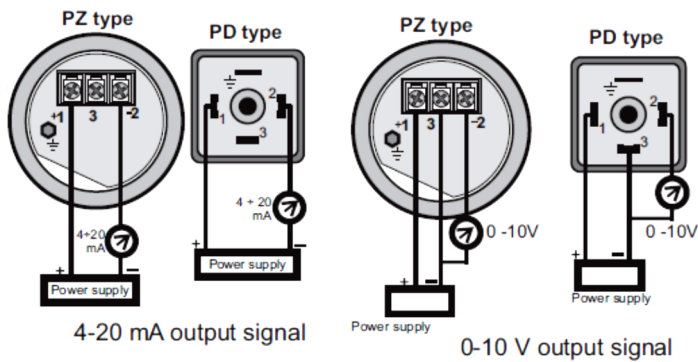
Over 120°C – measurement with use an impulse line or diaphragm seals

CAUTION: The medium must not be allowed to freeze in the impulse line or close to the process connection of the transmitter.

Error due to supply voltage changes 0,005% (FSO) / V

Load resistance $R[\Omega] \leq \frac{(U_{sup}[V]-8V)}{0,02A}$

Electrical diagrams



Approvals

EUROPEAN DIRECTIVES



ATEX Directive 2014/34/EU

INTRINSICALLY SAFE:

Certificate No.: FTZU 18 ATEX 0143X
EN 60079-0, EN 60079-11, EN 50303

For Zone 0 models (**Refer Table 1 for Enclosure code**)

M1 Ex ia I Ma
II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb
II 1D Ex ia IIIC T110°C Da
II 1/2G Ex ia IIC T4 Ga/Gb (for transmitter with electrical connection ALW, ALM)

FLAMEPROOF:

Certificate No.: KDB 19 ATEX 0030X
EN60079-0, EN 60079-1, EN 60079-31

For Zone 1 models (**Refer Table 1 for Enclosure code**)

II 2G Ex db IIC T6/T5/T4 Gb
II 2D Ex tb IIIC T85°C/T100°C/T120°C Db

GLOBAL CERTIFICATION



IECEX Certified

INTRINSICALLY SAFE:

Certificate No.: IECEX FTZU 18.0023X
IEC 60079-0, IEC 60079-11

For Zone 0 models (**Refer Table 1 for Enclosure code**)

Ex ia I Ma
Ex ia IIC T4/T5/T6 Ga/Gb
Ex ia IIIC T110°C Da
Ex ia IIC T4 Ga/Gb (for transmitter with electrical connection ALW, ALM)

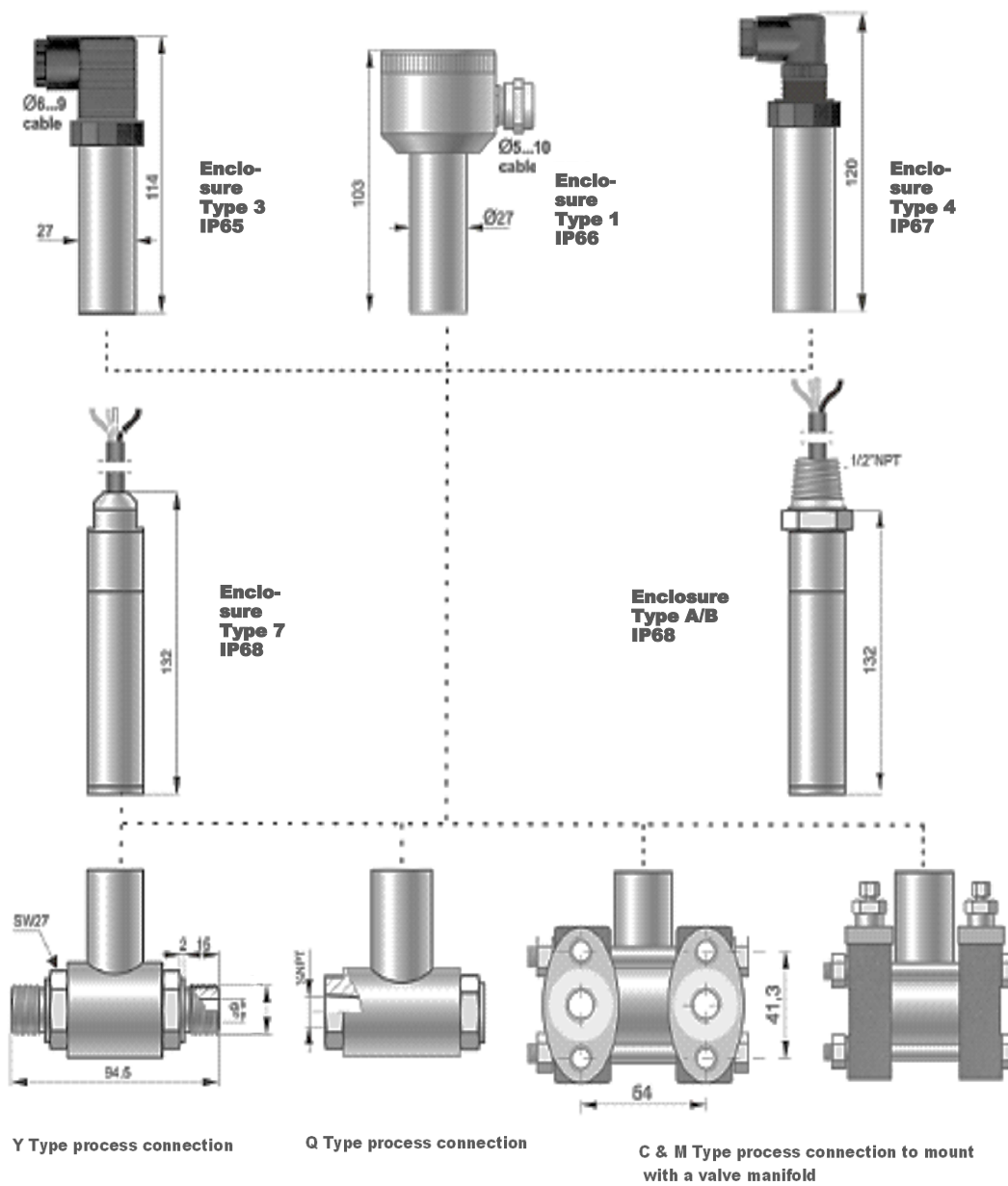
FLAMEPROOF:

Certificate No.: IECEX KDB 19.0005X
IEC 60079-0, IEC 60079-1, IEC 60079-31

For Zone 1 models (**Refer Table 1 for Enclosure code**)

Ex db IIC T6/T5/T4 Gb
Ex tb IIIC T85°C/T100°C/T120°C Db

Dimensions



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