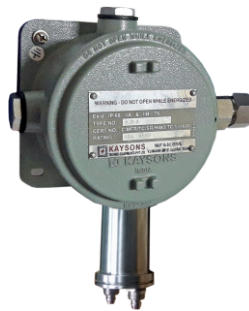


AIR FLOW TRANSMITTER

MULTI-FUNCTIONAL, MULTIRANGE AIR VELOCITY/AIR FLOW/DIFFERENTIAL PRESSURE



DUCT MOUNT



WALL MOUNT - FLAMEPROOF



DUCT MOUNT - FLAMEPROOF

ABOUT DPT522

DPT522 measures Air Flow and Air Velocity using Differential Pressure measurement. It generates analog output that can be assigned to DP or Air Flow or Air Velocity

APPLICATION

- Measurement of very low pressure applications such as hospitals, fume hoods, computer rooms etc.
- Clean room monitoring HVAC/building control monitoring
- Green house monitoring
- Process system monitoring
- Air economizers
- Duct mount application

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FEATURES

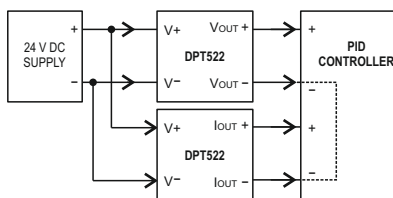
Transmitter features

- Analog Voltage or Current output
- Isolated RS485 output with 4800 to 11500 baud rates.
- Analog output selection for voltage or current output can be done using DIP switch or keys
- Input type selection possible via DIP switch
- High pressure ranges available on request
- Accuracy $\pm 0.5\%$ of reading $\pm 2\text{Pa}$
- Output can be assigned to DP, Air Velocity or Air Flow
- Mutual 1.5KV optical isolation for supply, output and RS485
- Dual row 7 segment LCD option to display DP, air flow or air velocity
- Parameter configuration via LCD & keys or remote display module or PC configurator using USB to Serial Converter DCC501
- DPT522 can be configured via RS485 interface using DCC505 programmer
- Zero and span calibration for DP can be done via in-built keys and /or PC configurator
- Duct mount model with SS pipe available for static pressure measurement

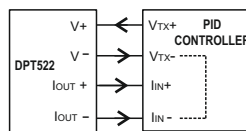
Transmitter mounting features

- Blind transmitter (Display absent) is electronically protected against construction site pollution
- Transmitter without display has optimum protection against mechanical damage during installation
- Easy and fast mounting IP65 enclosure
- Flameproof model with IP66 protection
- Duct mount and surface wall mount FLP models available

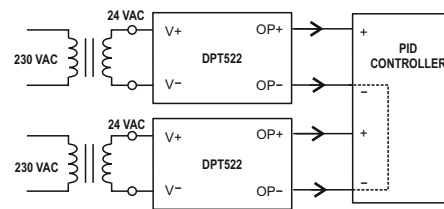
CONNECTION DIAGRAM



VOLTAGE/CURRENT OUTPUT



CURRENT OUTPUT



VOLTAGE/CURRENT OUTPUT

Note : DPT522 separately powered by 24 VAC transformers.
Common wiring does not form a loop.

Fig 1

24 VDC SUPPLY

Fig 2

24 VAC SUPPLY

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SPECIFICATIONS

All specifications at ambient of 25 °C, unless specified otherwise

INPUT

Unit of measurement	
DP	Pa, mmWC, mbar, inWC, inHG, PSI, mmHG
Air velocity	FPM (Standard feet per minute) MPS (Meter per second)
Air flow	CFM (Standard cubic feet per minute) M ³ H (Cubic meter per hour)
Range	See Table 1
Resolution	See Table 1
Display	Dual 7-segment, 4-digit, 0.5" (12.7 mm) LCD
Current consumption	50mA max
Service	Air and non-combustible, compatible gases
Stability	±1% / year
Response time	Adjustable: 0 to 240 sec

OVER PRESSURE See Table 3

ACCURACY

Linearity & calibration	See Table 1
Supply voltage effect	± 0.001% of span / V
Supply ripple effect, 50/60 hz, 5 Vp - p	± 0.005% of span

POWER SUPPLY

Supply voltage	18~30 V AC or DC
----------------	------------------

OUTPUT

Output type	
Standard	
Current	4~20 mA
Load for current output	0~500 ohms
Voltage	0~10 V DC
Load for voltage output	> 10 kohms
Non-standard	Please specify
	Note : For each output, one of the Std or Non-standard outputs MUST be specified

ISOLATION

Mutual isolation between supply, output, RS485 output	a) 1500 V AC RMS, 50 hz / 1 minute b) 250 V AC RMS, 50 hz, continuous
-------------------------------------------------------	--------------------------------------------------------------------------

CALIBRATION, CONFIGURATION

Zero & span	a) Through keys b) Through PC using serial converter (To be ordered separately)
-------------	------------------------------------------------------------------------------------

COMMUNICATION

Port	RS485
Protocol	MODBUS RTU
Slave ID	User programmable (1~247)
Supported baud rate	4800, 9600, 19200, 38400, 57600, 115200

TEMPERATURE, HUMIDITY

Ambient, storage	-40 ~ +70 °C
Ambient, operation	-15 ~ +50 °C (For with display) -40 ~ +60 °C (For without display)
Relative humidity	0~95% RH, non-condensing

MECHANICAL

See Table 2

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TABLE 1 - PRESSURE RANGE AND ACCURACY

ORDER CODE	UNIT	TYPICAL ACCURACY AT 30 °C (°C / % SPAN)	WORST CASE ACCURACY (°C / % SPAN)	MIN SPAN	RESOLUTION
2796 0 X X X X 2796 1 X X X X 2796 2 X X X X	Pa	± 0.5% ± 2 Pa	± 1.5% of reading ±3 Pa	10% of full scale	1
	mmWC	± 0.5% ± 0.2 mmWC	± 1.5% of reading ±0.3 mmWC	10% of full scale	0.1
	mbar	± 0.5% ± 0.02 mbar	± 1.5% of reading ±0.03 mbar	10% of full scale	0.01
	inWC	± 0.5% ± 0.008 inWC	± 1.5% of reading ±0.012 inWC	10% of full scale	0.01
	PSI	± 0.5% ± 0.0003 PSI	± 1.5% of reading ±0.00045 PSI	10% of full scale	0.001
	inHg	± 0.5% ± 0.0007 inHG	± 1.5% of reading ±0.0008 inHG	10% of full scale	0.001
2796 3 X X X X 2796 4 X X X X 2796 5 X X X X	mmHg	± 0.5% ± 0.016 mmHG	± 1.5% of reading ±0.024 mmHG	10% of full scale	0.01
	KPa	± 0.5% ± 0.02 KPa	± 1.5% of reading ±0.03 KPa	10% of full scale	0.01
	mmWC	± 0.5% ± 2 mmWC	± 1.5% of reading ±3 mmWC	10% of full scale	1
	mbar	± 0.5% ± 0.2 mbar	± 1.5% of reading ±0.3 mbar	10% of full scale	0.1
	inWC	± 0.5% ± 0.08 inWC	± 1.5% of reading ±0.12 inWC	10% of full scale	0.01
	PSI	± 0.5% ± 0.003 PSI	± 1.5% of reading ±0.0045 PSI	10% of full scale	0.001
	inHg	± 0.5% ± 0.007 inHG	± 1.5% of reading ±0.008 inHG	10% of full scale	0.001
	mmHg	± 0.5% ± 0.16 mmHG	± 0.5% of reading ±0.24 mmHG	10% of full scale	0.01

TABLE 2 - MECHANICAL

Parameters	Surface mount	Duct mount	Flameproof wall mount	Flameproof duct mount
Dimensions (in mm)	See Fig 3	See Fig 4	See Fig 5	See Fig 6
Enclosure housing	ABS plastic	ABS plastic	LM6, pressure die-cast	LM6, pressure die-cast
Protection	IP65	IP65	IP65	IP66
Cable gland	PG7, suitable for cable dia 3 to 6.5 mm	PG7, suitable for cable dia 3 to 6.5 mm	3/4" ET threading gland	3/4" ET threading gland
Certification	-	-	Flameproof for gas group I, IIA & IIB	Flameproof for gas group I, IIA & IIB
Process connection				
Nozzle material	SS304	SS304 with adjustable flange	SS304	SS304 with adjustable flange
Tubing size	5mm ID, Max OD 9mm	12mm ID, Max OD 16mm	5.5mm ID, Max OD 8mm	12mm ID, Max OD 16mm

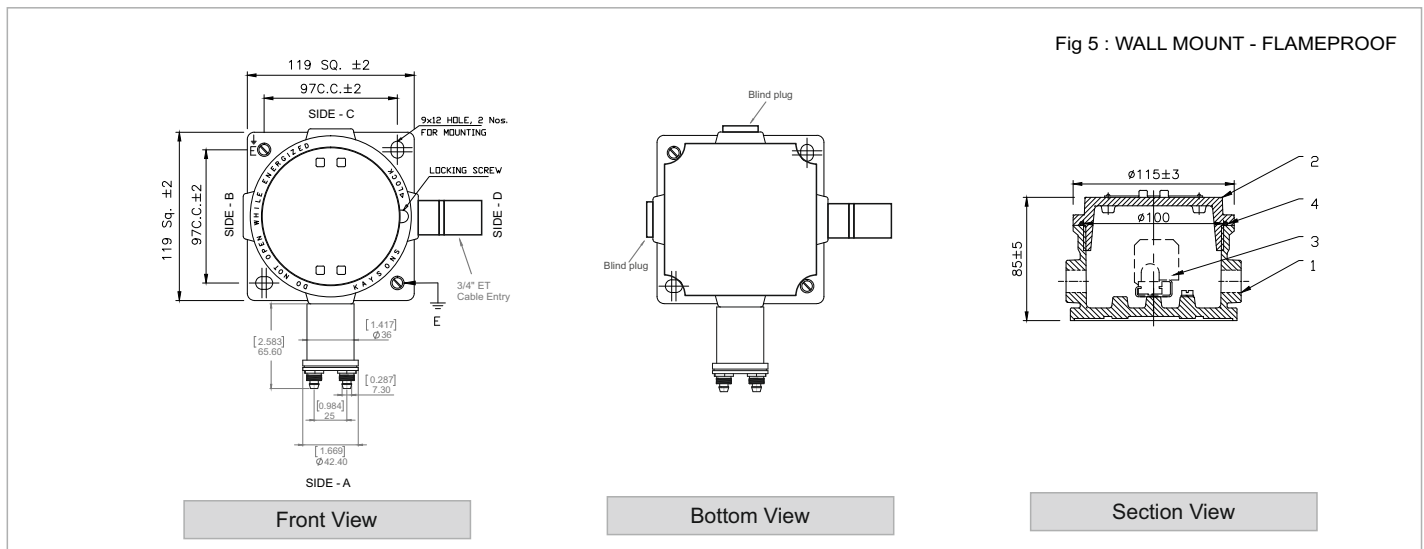
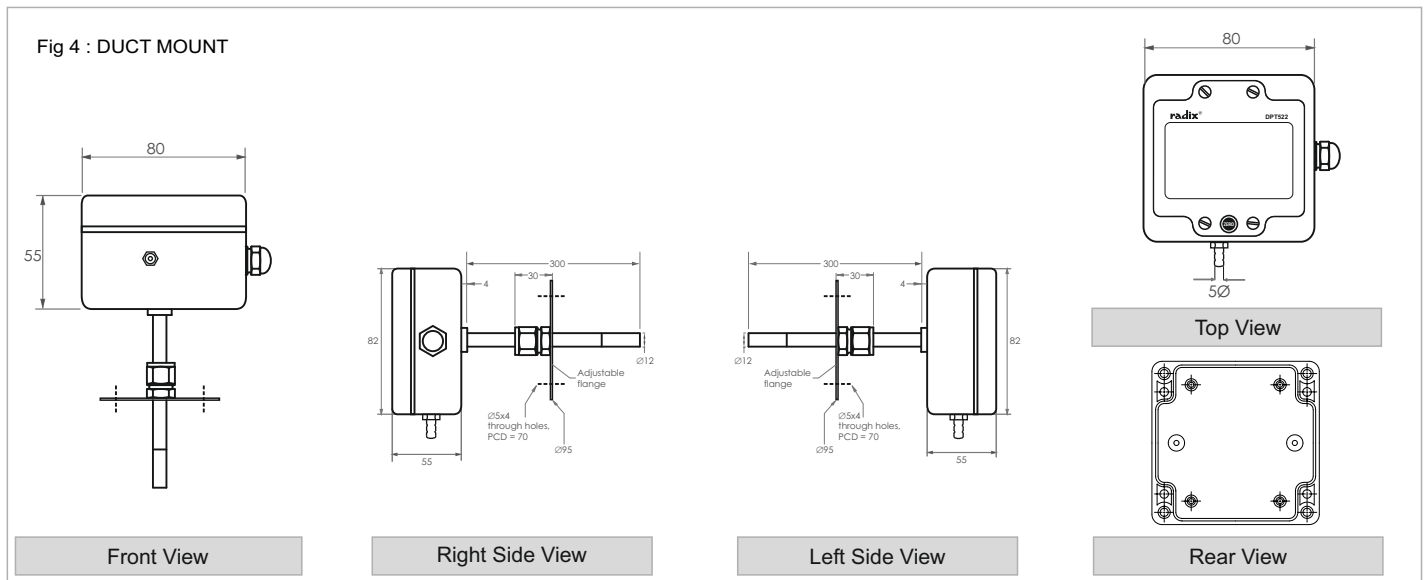
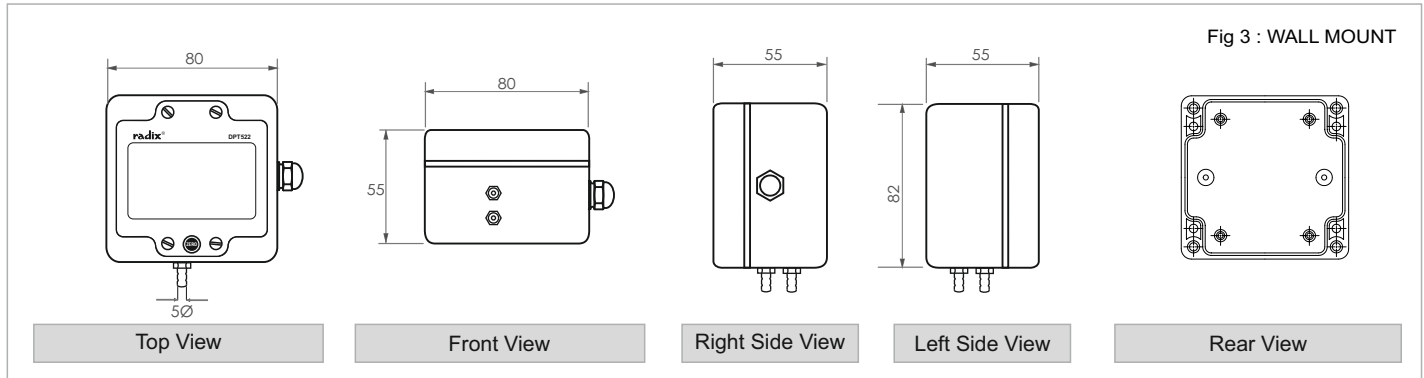
TABLE 3 - OVER PRESSURE

Sr No.	Order Code	Operating Pressure	Proof Pressure	Burst Pressure
1	2796 0 X X X X X, 2796 1 X X X X X	-20.0~20.0mmWC	±1000mmWC (±1.5 PSI)	±2100mmWC (±3.0 PSI)
		-100.0~100.0mmWC		
2	2796 2 X X X X X, 2796 3 X X X X X	-200.0~200.0mmWC	±3370mmWC (±4.8 PSI)	±4200 mmWC (±6.0 PSI)
		-500.0~500.0mmWC		
3	2796 4 X X X X X, 2796 5 X X X X X	-1000.0~1000.0mmWC	±8440 mmWC (±12 PSI)	±10500mmWC (±15 PSI)

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DIMENSIONS mm



AIR FLOW TRANSMITTER

MULTI-FUNCTIONAL, MULTIRANGE AIR VELOCITY/AIR FLOW/DIFFERENTIAL PRESSURE

DIMENSIONS mm

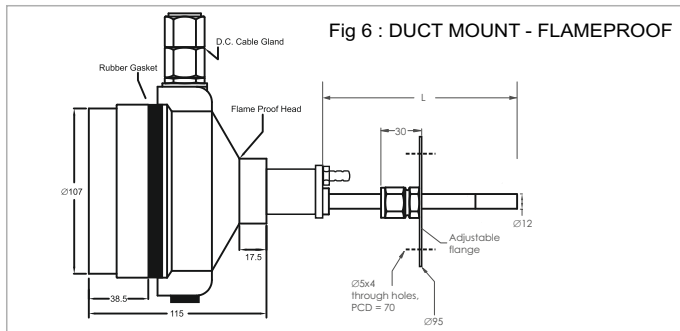


TABLE 4

Dimension "L"
150
200
300
400
500

ORDERING INFORMATION

Example	2796	0	0	1	0	0	L	R	
Order code	2796								
Pressure Unit	0								Pa
	1								mmWC
	2								mbar
	3								inWC
	4								mmHg
	5								PSI
Housing Type	6								inHg
	0								Surface wall mount
	1								Surface duct mount
	2								Flameproof wall mount
LCD Display	3								Flameproof duct mount
	0								Absent
Output	1								Present
	0								0~10 VDC
Communication	1								0~5 VDC
	2								0~2 VDC
	3								4~20 mA
	4								0~20 mA
Immersion length for Duct Mount sensor	0								RS232 USB to UART : #1
	1								RS485 MODBUS output : #2
Pressure Range							L	R	Default length is 300mm. User can specify a different length from Table 4
									See Table 5

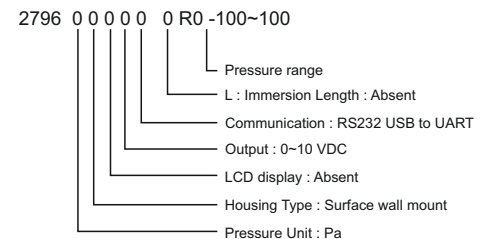
User can also select range and unit through PC using serial converter

ITEM	MODEL	ORDER CODE	COMMENT
USB TO SERIAL CONVERTER - ISOLATED*	DCC501	2555 0	If RS485 is not present
USB TO RS485 CONVERTER - ISOLATED*	DCC505	2588	If RS485 is present

* To be purchased separately.

EXAMPLE

Pressure unit : Pa, Housing type : Surface wall mount,
LCD display : Absent, Output : Present,
Communication : RS232 USB to UART, Pressure range : -100~100



Default order code

Pressure unit : Pa, Housing type : Surface wall mount,
LCD display : Absent, Output : Present,
Communication : RS232 USB to UART, Pressure range : 0~100

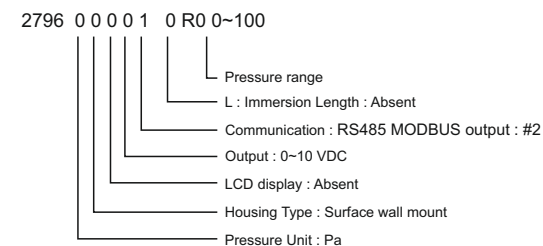


TABLE 5

Maximum available pressure range

R_code	Pa	mmWC	mbar	inWC	mmHg	PSI	inHg	User specified range
R0	-200~200	-20.0~20.0	-2.00~2.00	-0.80~0.80	-1.50~1.50	-0.030~0.030	-0.060~0.060	User need to specify actual pressure range as per selected unit
R1	-1000~1000	-100.0~100.0	-10.00~10.00	-4.01~4.01	-7.50~7.50	-0.145~0.145	-0.300~0.300	
R2	-2000~2000	-200.0~200.0	-20.00~20.00	-8.03~8.03	-15.00~15.00	-0.290~0.290	-0.600~0.600	
R3	-5000~5000	-500~500	-50.0~50.0	-20.0~20.0	-37.5~37.5	-0.725~0.725	-1.500~1.500	
R4	-10000~10000	-1000~1000	-100.0~100.0	-40.0~40.0	-75.0~75.0	-1.450~1.450	-3.00~3.00	
R5	-20000~20000	-2000~2000	-200.0~200.0	-80.3~80.3	-150.0~150.0	-2.90~2.90	-6.00~6.00	

CAT#660R0/A

ENQUIRIES

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Automation: automation@radix.co.in
Level: level@radix.co.in

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