



bb = Pressure Port

CODE	DESCRIPTION (Union Type)
0H	1/2" NPT
02	1/4" - 18 NPT
0E	1/4" - 18 NPT Female
4C	1/4" - 18 NPT Dryseal
0A	1/4" - 19 PT (JIS) or 1/4" - 19 BSPT
4B	1/4" Female (7/16UN with Schraeder Deflator)
08	1/8" - 27 NPT
4D	1/8" - 27 NPT Dryseal
4N	3/8" - 24 UNF Union
04	7/16" - 20 (37FLARE SAE J514 SIZE 4)
1J	7/16" - 20 UNF 2A SA1926/2 O-RING
1P	9/16" - 18UNF 22 A/F
4P	G1/2" A 27A/F
05	G1/4" A Integral Face Seal
01	G1/4" A Stud (BS 5380 Port)
0S	G1/8" A Stud (BS 5380 Port)
2T	M12x1.5 (6g) High Pressure (Washer Seal)
0L	M12x1.5P (6g) O Ring to ISO 6149-2
1G	Schraeder 7-16" - 20 UN 2B Female
ZZ	Place Holder in Compliance with Schedule Drawing 1051-100-0SD

c = Connector Code

CODE	DESCRIPTION (Electrical Connection)
3	1/2" NPT MALE CONDUIT
6	AMP SUPERSEAL 1.5 SERIES
8	DEUTSCH DT04-4P
9	METRIPACK T (150 SERIES)
E	M12
G	EN175301-803 (DIN 43650 A)
R	INDUSTRY STANDARD FORM C
F	INTEGRATED CABLE
Z	Place Holder in Compliance with Schedule Drawing 1051-100-0SD

d = Output Code

CODE	DESCRIPTION (Output)	OUTPUT TYPE
B	4-20mA	Current
C	1-6V	Absolute
F	0.1-5.1V	Absolute
G	0.2-10.2V	Absolute
H	1-5V	Absolute
N	0.5-4.5V Non Ratio-metric	Absolute
P	1-10V	Absolute
R	0-5V	Absolute
S	0-10V	Absolute
T	0.5-4.5V Ratio-metric	Ratio-Metric
V	0.5-4V	Absolute
Z	Place Holder in Compliance with Schedule Drawing 1051-100-0SD	

ee = Cable Length

CODE	DESCRIPTION (Cable Length)
00	NOT FITTED
01	1 METRE
02	2 METRE
03	3 METRE
05	5 METRE
10	10 METRE
ZZ	Place Holder in Compliance with Schedule Drawing 1051-100-0SD

HAZARDOUS PRODUCTS

Products which are supplied per this bulletin may be classified as Electrical, Electro-Mechanical and Electronic equipment. These products are tested and supplied in accordance with our published specifications or individual special requirements that are agreed in writing at time of order. They are constructed so as not to affect adversely the safety of persons and property installed, maintained and used by qualified personnel, in the application for which they were designed and manufactured.

ZENER BARRIER & ENTITY PARAMETERS

Zener Barrier Parameters:
 Voltage: $U_i = 30V$ d.c.
 Current: $I_i = 100mA$
 Power: $P_i = 0.7W$

Entity Parameters:
 Signal Current: $I_n = 4-20mA$
 Effective Internal Capacitance: $C_i = 323nF$
 Effective Internal Inductance: $L_i = 9\mu H$

Values to be added when supplied with Integrated Cable:
 Cable Capacitance: $C_l = 300pF / m$ (maximum) Wire to Wire or Wire to Shield
 Cable Inductance: $L_l = 2 \mu H / m$ (maximum) Wire to Wire

GENERAL

The equipment is designed and manufactured to:

- a) Avoid physical injury or other harm which may be caused by direct or indirect contact.
- b) Ensure that excess surface temperature of accessible parts or radiation which would cause a danger are not produced.
- c) Eliminate non-electrical dangers which are revealed by experience.
- d) Ensure that foreseeable conditions of overload will not give rise to dangerous situations.

Provided that:

- Pressure range must be compatible with the maximum pressure being measured.
- Pressure media must be compatible with the transducer/transmitter wetted parts listed in these instructions.
- Liquid must not be allowed to freeze in the pressure port.
- The gasket must be fitted under the electrical connector where applicable.

INSTALLATION & START UP

Install and start up the transducer ONLY if it is in a faultless condition. Screw or unscrew the transducer using the hexagon flats ONLY and observing the prescribed torque, do NOT use the electrical connector case for screwing or unscrewing!

Tools required for Installation:
 Transducer Mounting: Wrench 22mm or 27mm depending on product
 Industry Standard form C Connector and DIN43650 A: Screwdriver

Cables: Where applicable, ensure cable selected is suitable to fit the electrical connector cable gland. On installation of cables and cable glands, ensure all seals are correctly fitted and that cable positioning does not impair ingress protection of seals. For transducers supplied with integrated cable, minimum bend radius is 75mm.

'O' Rings: Transducers are not shipped with soft seals. Process connections which require a soft seal ('O' ring) are the responsibility of the installer. They must be suitable for both application temperature and relevant media.

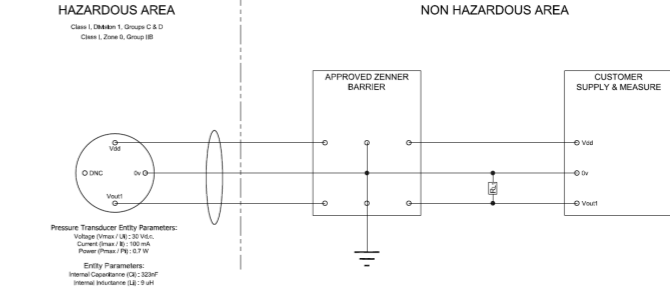
ELECTRICAL INSTALLATION

Installation of this type must be carried out in accordance with the Approved Installation condition for Intrinsically Safe Pressure Transmitters.

Voltage Applications:

The following schematic is applicable for any voltage output – only pull-down configuration shown. External load (R_L) is optional and can be connected between Vout1 and EITHER supply rail. With "0V offsets", pull-up resistors cannot be used.

Application Schematic (Example):



Absolute Output Mode: (Typical output ranges are 0-10V, 0-5V, 1-6V and 1-5V)

Parameter	Min	Typ	Max	Units	Comments
Supply Voltage (Vdd)	8		30	V	Measured at the input to the transducer terminals. For higher operating voltages consult factory.
Supply Head-Room to Vout1 Output	1			V	Example: 0-10V doable from 11V supply. This is only valid with no external leads

Supply voltage to product must be limited by appropriate zener barrier as a requirement under I.S.

WARNING
 SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR INTRINSIC SAFETY

INDUSTRY STANDARD FORM C

DEUTSCH DT04-4P: Recommended Mating Connector: DT04-4P-1 as female, DT04-4P-2 as male. Pin 1: NC, Pin 2: +V, Pin 3: -V, Pin 4: NC.

AMP SUPERSEAL 1.5 SERIES: Recommended Mating Connector: W45-P12 as female, D452-01T as male. Pin 1: +V, Pin 2: -V, Pin 3: NC, Pin 4: NC.

METRIPACK T (150 SERIES): Recommended Mating Connector: M12-150 as female, M12-150 as male. Pin 1: +V, Pin 2: -V, Pin 3: NC, Pin 4: NC.

ENT175301-803 (DIN 43650 A): Recommended Mating Connector: W45-P12 as female, D452-01T as male. Pin 1: +V, Pin 2: -V, Pin 3: NC, Pin 4: NC.

Pressure Port: 1. Porting Key, 2. O-ring, 3. Gasket, 4. Sealant.

Electrical Connector: 1. Porting Key, 2. O-ring, 3. Gasket, 4. Sealant.

CONNECTION INFORMATION (Please see the available Connector & Pin Assignments below:

PLEASE NOTE: To comply with Health and Safety requirements, the instrument must be clean and safe to handle and accompanied by a formal statement to that effect duly signed by an authorized officer of the Company. Any instrument returned without certification will be quarantined and no action will occur until cleared. It may ultimately be returned to you and subject to a transportation charge.

Route Inspection: Not required except for periodic inspection of the cable and connector to ensure that these are neither damaged nor softened by incompatible liquid.

STORAGE & DISPOSAL
 When storing or disposing of transducer, take precautions with remaining media – it may be hazardous or toxic. Re-fit thread protection cap during storage periods.

Dispose of transducer and packaging materials in accordance with local waste treatment disposal regulations of the country or region to which the instrument is supplied.

RETURN TO FACTORY
 Repairs should only be carried out by the manufacturer or an approved repairer.

SERVICING
 The transducer is not to be repaired by the user and must be replaced by an equivalent certified unit.

MAINTENANCE
 The instrument should be returned to you and subject to a transportation charge.

ROUTINE INSPECTION: Not required except for periodic inspection of the cable and connector to ensure that these are neither damaged nor softened by incompatible liquid.

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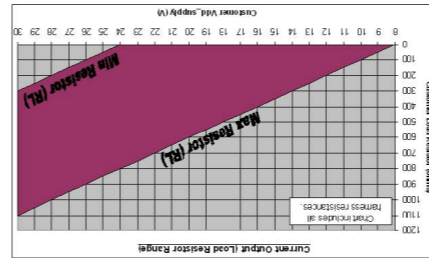
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R_L Load Limitations for Current Output Mode:
 Min Resistor (R_L) = $50 * (V_{DD} - 2.4) : \text{for } V_{DD} > 2.4V$
 Max Resistor (R_L) = $50 * (V_{DD} - 8) : \text{for } V_{DD} > 8V$

CURRENT APPLICATIONS

Parameter	Min	Typ	Max	Units	Comments
Operating Current	3.5	5.5	mA		With no external loads
Output Impedance	-10%	80	+10%	Ω	Any external output load must not sink or source more than 2mA. Consult factory for further limitations
External Load		2	mA		

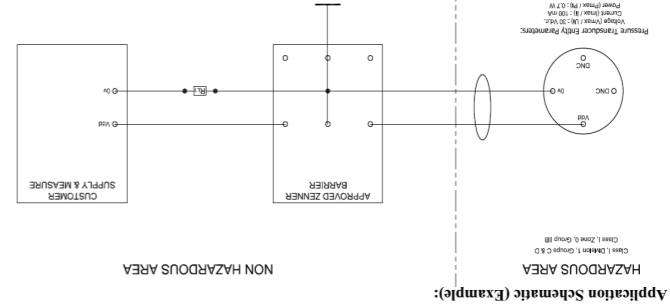
General Voltage Output Modes: (Additional Voltage Mode Specification)

Parameter	Min	Typ	Max	Units	Comments
Supply Voltage (Vdd)	4.5	5	5.5	V	

Ratiometric Output Mode: (Typical output ranges are 0.5-4.5V(f) and 0.25-4.75V(f))
 Various Optional failure diagnostics exist – consult factory.

Supply voltage to product must be limited by appropriate zener barrier as a requirement under I.S.

Current Output Mode: (Typical output is 4-20mA)



The external loop load (R_L) is optional within limits specified below and includes all connection/buss resistances. Load can be placed in either supply line.

Parameter	Min	Typ	Max	Units	Comments
Operating Current	3.5	5.5	mA		With no external loads
Output Impedance	-10%	80	+10%	Ω	Any external output load must not sink or source more than 2mA. Consult factory for further limitations
External Load		2	mA		

General Voltage Output Modes: (Additional Voltage Mode Specification)

Parameter	Min	Typ	Max	Units	Comments
Supply Voltage (Vdd)	4.5	5	5.5	V	

Ratiometric Output Mode: (Typical output ranges are 0.5-4.5V(f) and 0.25-4.75V(f))
 Various Optional failure diagnostics exist – consult factory.