AET-D ATEX Pressure Transmitter

Description:

AET-D series high precision pressure transmitters has been specially designed to cover the majority of industrial applications where need high accuracy measuring. Compact design and robust construction make this instrument is suitable for all application in machine construction, process control, laboratory or quality and materials testing equipment.

Applications Engineering Ltd
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AET-D ATEX Pressure Transmitter

AET-D series is available in an intrinsically safe version for a use in explosive environments

Features:

- ATEX Directive 2014/34/EU
- An intrinsically safe version
- II 1G Ex ia IIC T4 Ga
- II 1G Ex ia IIC T6 Ga
- II 1D Ex ia IIIC T110 °C Da

Specification:

Pressure ranges																
Nominal pressure [1]	[bar]	0.04	0.06	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	100	160	200 *
Level	[mH_2O]	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40	60	1000	1600	2000
Overpressure	[bar]	2	2	4	4	6	6	8	8	15	25	25	35	350	450	450
Permissible vacuum	[bar]	-0.2		-0.3		-0.5				-1						
[1] *available in gauge and absolute; nominal pressure ranges absolute from 1 bar*																

Output signal / Supply		
Standard	2-wire:	4 ... 20 mA / V_s = 9 ... 32 V_{DC}
Option IS-version	2-wire:	4 ... 20 mA / V_s = 14 ... 28 V_{DC}
Option 3-wire	3-wire:	0 ... 10 V / V_s = 12.5 ... 32 V_{DC}
Performance		
Accuracy [2]	standard:	≤ ± 0. 5 % FSO
	option for $p_N \geq 0.6$ bar:	≤ ± 0.25 % FSO
Permissible load	current 2-wire:	$R_{max} = [(V_s - V_{smin}) / 0.02\ A]\ \Omega$
	voltage 3-wire:	R_{min} = 10 kΩ
Influence effects	supply:	0.05 % FSO / 10 V
	load:	0.05 % FSO / kΩ
Long term stability	≤ ± 0.1 % FSO / year at reference conditions	
Turn-on time	700 msec	
Mean measuring rate	5/sec	
Response time	mean response time: < 200 msec	max. response time: 380 msec
[2] *accuracy according to IEC 60770 - limit point adjustment (non-linearity, hysteresis, repeatability)*		
Thermal effects (offset and span)		
Tolerance band	≤ ± 1 % FSO	
in compensated range	-20 ... 80 °C	
Permissible temperatures		
Medium [3]	-40 ... 125 °C	
Electronics / environment	-40 ... 85 °C	
Storage	-40 ... 100 °C	
[3] *for pressure port in PVDF or PP the medium temperature is -30 ... 60 °C*		

* Other ranges available up to 600 bar.

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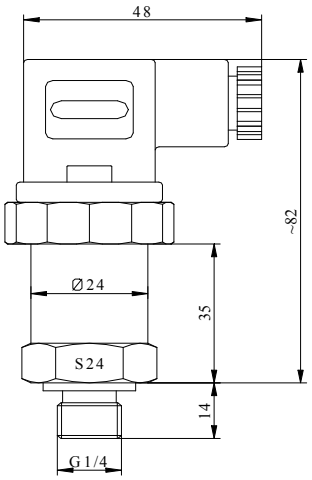
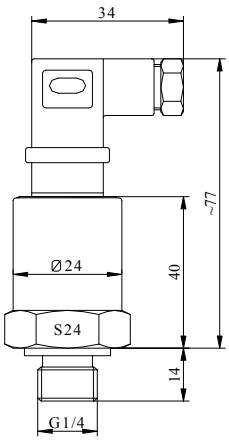
Mechanical stability		
Vibration	10 g RMS (20 ... 2000 Hz)	according to DIN EN 60068-2-6
Shock	100 g / 1 msec	according to DIN EN 60068-2-27
Materials		
Pressure port	standard: stainless steel 1.4404 (316L)	option [4]: PP, PVDF
Housing	standard: stainless steel 1.4404 (316L)	option [4]: PP, PVDF
Option compact field housing	stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 ... 8 mm)	
Seal	standard: FKM	option: EPDM
Diaphragm	standard: 316L	
Media wetted parts	pressure port, seals, diaphragm	
[4] *only with mech. connection G1/2" DIN 3852 open port, bore 12 mm, $p_N \leq 10$ bar and without explosion protection possible*		
Explosion protection (only for 4 ... 20 mA / 2-wire with stainless steel version)		
Approval	IBExU 05 ATEX 1070 X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T110 °C Da	option: II 1G Ex ia IIC T6 Ga
Safety technical maximum values	U_i = 28 V_{DC}, I_i = 93 mA, P_i = 660 mW, C_i = 14 nF, $L_i \approx 0$ µH, C_{grid} = 27 nF	
Max. permissible temperature for environment	in zone 0: -20 ... 60 °C for p_{atm} 0.8 bar up to 1.1 bar in zone 1 and higher: -25 ... 70 °C for T6: -25 ... 60 °C	
Connecting cables (by factory)	cable capacity: signal line / shield also signal line / signal line: 220 pF/m cable inductance: signal line / shield also signal line / signal line: 1.5 µH/m	
Miscellaneous		
Installation position	any	
Current consumption	signal output current: max. 21 mA signal output voltage: max. 5 mA	
Weight	min. 200 g	
Operational life	100 million load cycles	
CE-conformity	EMC-directive: 2014/30/EU	
ATEX Directive	2014/34/EU	

Dimensions

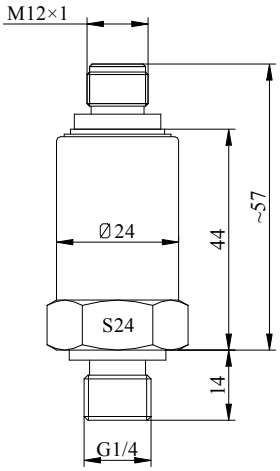
DIN 43650A



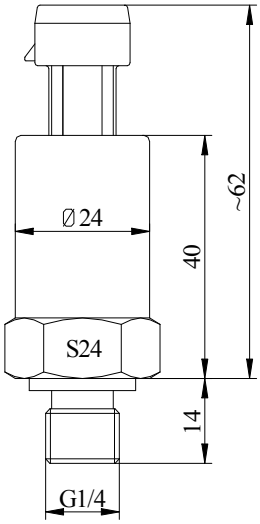
DIN 43650C



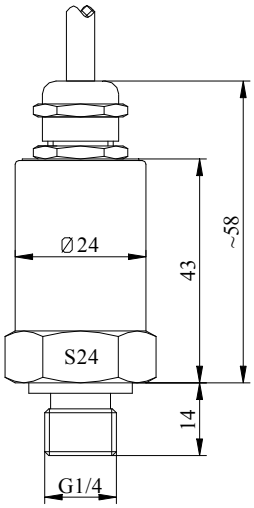
M12x1 (4 Pin)



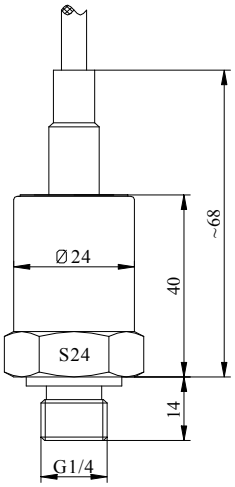
Packard Metri-Pack

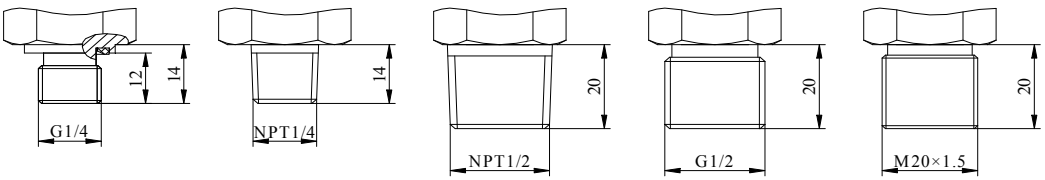


Cable outlet A



Cable outlet B





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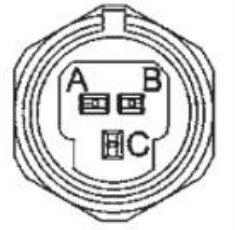
Wiring Connections

DIN43650C Connector

	Pin	2-wire		3-wire	
		Definition	Wire Color	Definition	Wire Color
	1	Power	Red	Power	Red
	2	Output	Green / Blue	GND	Black
	3			Output	Green/ Blue
	⏚	Shield	Black	Shield	Yellow

Packard Connector

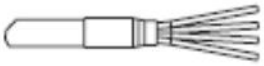
	Pin	2-wire		3-wire	
		Definition	Wire Color	Definition	Wire Color
	A	Shield	Black	GND	Black
	B	Power	Red	Power	Red
	C	Output	Green / Blue	Output	Green / Blue
					Yellow (Shield)

M12x1 4-pin Connector

	Pin	2-wire		3-wire	
		Definition	Wire Color	Definition	Wire Color
	1	Power	Red	Power	Red
	2	Output	Green / Blue	Output	Green / Blue
	3			GND	Black

	4	Shield	Black	Shield	Yellow

Cable Outlet



Wire Color	Pin Definition	
	2-wire	3-wire
Red	Power	Power
Green / Blue	Output	Output
Black	Shield	GND
Yellow		Shield

Ordering Guide

AET-D **Series Pressure Transmitter**

Code **Measuring Range**

X X stands for actual pressure measuring range

Code	Pressure Connection
G14	**G1/4**
G12	**G1/2**
R14	**R1/4**
G18	**G1/8**
N14	**1/4" NPT**
N18	**1/8" NPT**

Other sizes available on request

Code	Electrical Connection
DC	DIN43650C connector
P	Packard connector
M	M12 x 1 connector
CG	Cable outlet
C	Sheathed cable outlet

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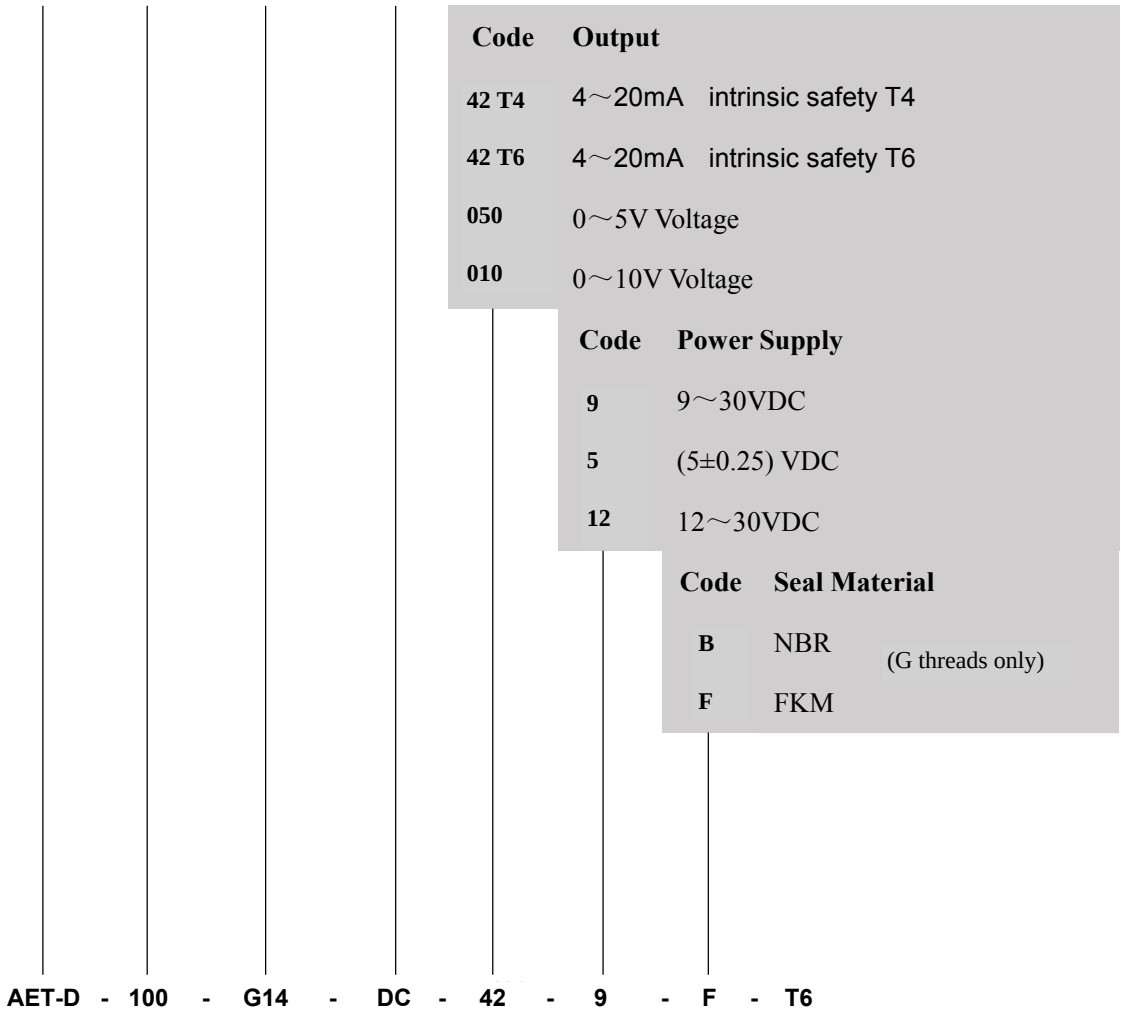

Notice:

a. The pressure transmitter must be used in a medium that is non-corrosive to the seal material and the housing material.

b. In case the pressure guiding hole of the transmitter is blocked, it is forbidden to use sharp tools to clear it. Instead, one should remove the transmitter from the system, immerse the pressure guiding hole part in the liquid which can dissolve the blockage, and then the blockage will flow out easily.

c. It's prohibited to open the transmitter by users for calibration or repair.

d. Please contact **AEL** if you're not sure whether the transmitter is suitable for the medium to be measured.

e. The transmitter should be installed in a location that is not easily bumped or stepped on.

f. Exceeding of the transmitter overload pressure may cause permanent damage.

g. Where lightning may occur, customers should consider lightning protection measures.

Statement:

AEL company reserves the right to modify the specifications and contents of this instruction. No further notice will be given if any changes are made. Due to product updates, the individual details of this document may not match the product. Please refer to the actual product.