

# 140 failsafe series

## Current to pressure, (I/P) electronic converter



- > Port size: 1/4" (ISO G/NPT)
- > Advanced electronic control
- > Explosion proof/ Intrinsically Safe
- > Complete electronics modularity for ease of maintenance
- > Jack Socket for on-site monitoring
- > Fail-Safe (unit pressure falls to zero on signal failure)
- > Field replaceable filter
- > Weatherproof (IP 66 or Type 4X)
- > High performance and accuracy
- > Fast response and minimal temperature effect
- > Large flow capacity



### Technical features

#### Medium:

Oil free, dry media, min filtered to 50 µm; internal in-built filter

#### Output pressure:

0,2 ... 1 bar (3 ... 15 psi)  
0,2 ... 2 bar (3 ... 30 psi)

#### Supply pressure:

1,2 ... 10,3 bar (18 ... 150 psi)

#### Flow capacity:

up to 300 NL/min

#### Air Consumption:

< 2,5 NL/min at 50% signal

#### Linearity independent:

Typically <0.1%, guaranteed <0.2%

#### Hysteresis & deadband:

Typically <0.1%, guaranteed <0.2%

#### Response time:

<1 second (from 0 ... 90% or 90 ... 10% of output pressure into a 0,5 litre load)

#### Temperature sensitivity:

Typically <0,06% span/°C between -40 ... +85°C (-40 ... +185°F)

#### Supply sensitivity:

<0,1% of span for full supply pressure range

#### Port sizes:

Main ports: G1/4 or 1/4 NPT  
Integral gauges: G1/4 or 1/4 NPT  
Exhaust port: 1/8 NPT

#### Calibration:

Independent user adjustment of 0% and 100% calibration points. Independent adjustment of tight shut off point. Adjustable by potentiometers up to 20% of output range. Unit is factory calibrated to within 1% of span.

#### Ambient/Media Temperature:

-40 ... +85 °C (-40 ... +185 °F)  
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).I.P.

#### Rating:

IP 66, NEMA Type 4X

#### Maintenance:

Modular Electronics and in-built filter offered as field replaceable parts

#### Mounting position:

Integral bracket allows for flat surface or 2" (50 mm) pipe mounting in any orientation. Designed for mounting with 57 ... 73 mm pitch U bolts.

#### Vibration effect:

Output pressure changes less than 3% for vibration amplitude 4 mm 5 ... 15 Hz, 2g15 ... 150 Hz, 1g150 ... 1000 Hz

#### Leak sensitivity:

<0,875% of span for up to 3,0 scfm downstream leakage

#### Materials:

Body: aluminium and zinc diecasting  
Diaphragms: NBR  
Black epoxy powder coating standard

### Technical data - standard models

Symbol	Certification	Port size	Output pressure	Conduit Entry	Weight (kg)	Model Multi certified units only – IS/Exd
	Cenelec only	G1/4	0,2 ... 1 bar	M20 x 1,5	2,07	EX14001BJ4LE2
		G1/4	3 ... 15 psi	M20 x 1,5	2,07	EX14001PJ4LE2
	Triple certification / Triple agency	1/4 NPT	0,2 ... 1 bar	1/2 NPT	2,07	EX14001BK4EE1
		1/4 NPT	3 ... 15 psi	1/2 NPT	2,07	EX14001PK4EE1

Standard models: conduit entry 1/2 NPT

Options available: conduit entry M20, output pressure monitoring gauge

### Electrical parameters

<b>Input Signal</b>	4 ... 20 mA (two wire) Terminal voltage < 6,5 V at 20 mA
<b>Failure Mode</b>	Pressure falls to below 15 mbar (0,2 psi) in < 2 sec when input signal fails
<b>Overload Protection</b>	100 mA max overload current
<b>Insulation Resistance</b>	> 100 MΩ at 850 V d.c., electrical terminals to chassis
<b>Connections</b>	1/2 NPT or M20; internal terminal block with capacity up to 2,5 mm <sup>2</sup> conductor
<b>Span/Zero</b>	Independently adjustable tight shut off point adjustable up to 4,5 mA .
<b>Input Impedance</b>	The impedance changes with applied current, because it's terminal voltage remains fairly constant, therefore 4 mA = approx 1370 Ω; 12 mA = approx 470 Ω; 20 mA = approx 290 Ω

### Option selector

EX140★★★★4★★★

Output pressure bar (psi)	Substitute
0,2... 1 (3 ... 15)	<b>01</b>
0,4... 2 (6 ... 30)	<b>02</b>
Unit of Pressure	Substitute
Bar	<b>B</b>
Psi	<b>P</b>
KPa	<b>K</b>
Kg/cm <sup>2</sup>	<b>G</b>

Certification	Substitute
Triple certification/ triple agency	<b>E1</b>
Cenelec only (M20x1,5)	<b>E2</b>
Conduit Entry	Substitute
1/2 NPT	<b>E</b>
M 20 Cenelec Only	<b>L</b>
Ports	Substitute
G1/4	<b>J</b>
1/4 NPT	<b>K</b>

### Accessories

#### Pipe mounting kit

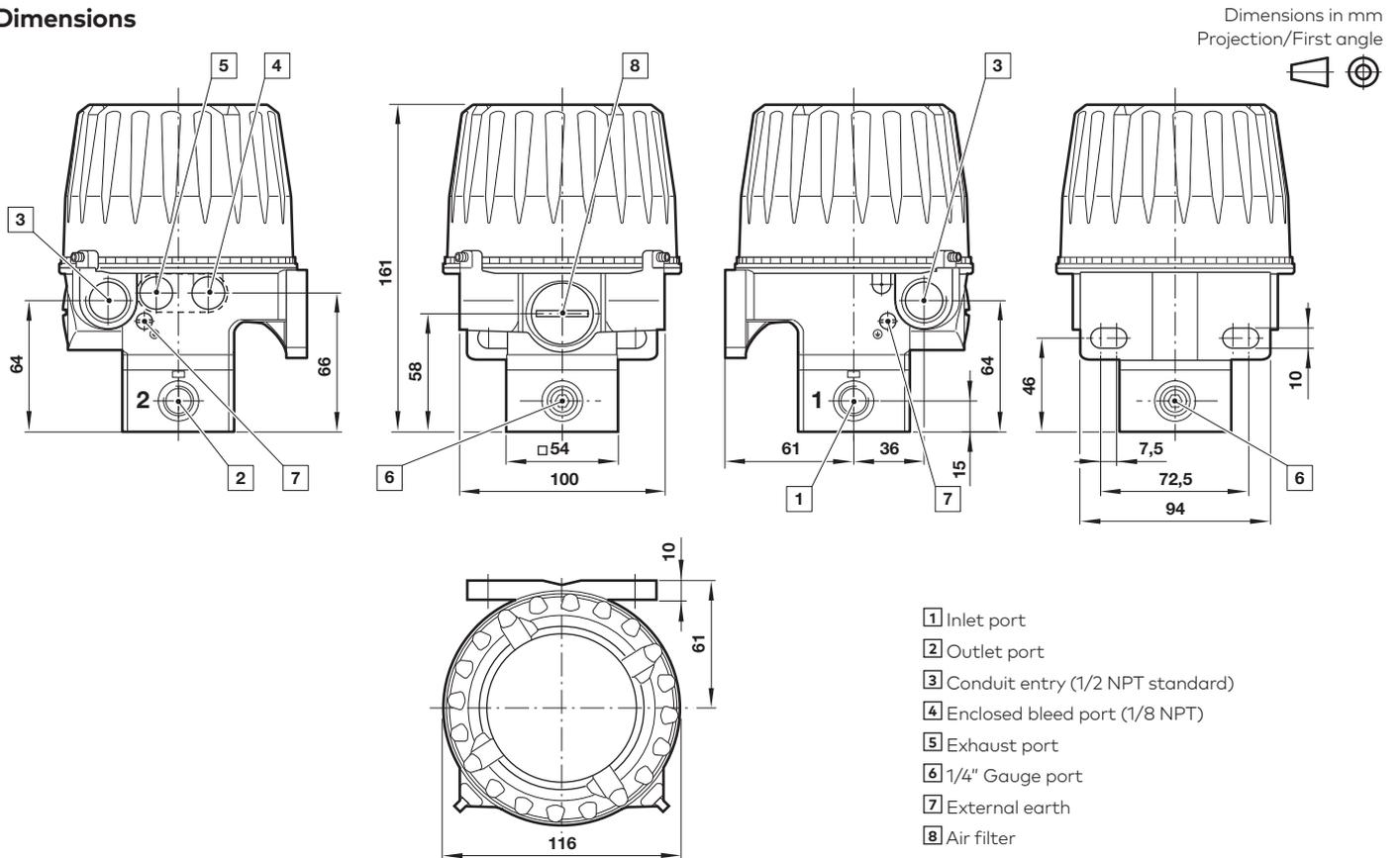


ZZ0150 (2")

### Certification

Certification agency	Flame Proof / Explosion Proof	Intrinsically Safe	Non-Incendive	others
<b>SIRA</b> (CENELEC ATEX approved) 	Sira 01ATEX1006 Ex d IIC T4 Gb (Ta = -20 ... +40°C) Ex d IIB+H2 T5 Gb (Ta = -20 ... +80°C) Ex d IIB+H2 T6 Gb (Ta = -20 ... +65°C) Ex t III C T95 °C Db (Ta = -20 ... +85°C) Umax = 30 V d.c. 2GD	Sira 01ATEX2007X Ex ia IIC T4 Ga Ex ia IIIC Da T95°C (Ta = -40 ... +85°C)  Ui = 30 V d.c. Ii = 110 mA Pi = 0.84 W Ci = 6 nF Li = 100 µH 1GD		
<b>FACTORY MUTUAL</b> 	Class I, Division 1, Group BCD. T6 Ta = 75°C, T5 Ta = 85°C.	Class I, II & III, Division 1, Group ABCDEFG. T4 Ta = 85°C.  Vmax = 30 V d.c. Imax = 110 mA  Ci = 0,006 µF Li = 100 µH	Class I, Division 2, Group ABCD. T6 Ta = 75°C, T5 Ta = 85°C.	Dust Ingress Protection: Class II & III, Division 1, Group EFG. T6 Ta = 75°C, T5 Ta = 85°C.  Suitable for: Class II, III Division 2, Group FG, T6 Ta = 75°C, T5 Ta = 85°C;
<b>CSA</b> 	Class I, Division 1, Group BCD. Class II, Groups EFG Class III Ta = -40 ... +85°C; T5 Ta = -40 ... +65°C; T6	Ex ia, Class I, Division 1, Group ABCD. Class II, Groups EFG, CL III Ta = -40 ... +85°C; T4  Vmax = 30 V d.c. Imax = 100 mA Pmax = 0.75 W Ci = 10,5 nF Li = 100 µH (30 V d.c. max, 300 Ohms).	Class I, Division 2, Group ABCD. Class II, Division 2, Group EFG, Class III Ta = -40 ... +85°C; T5 Ta = -40 ... +75°C; T6  Ii = 24 mA  Ci = 6 nF Li = 100 µH	

## Dimensions



## Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/data**«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult Norgren Ltd.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.