

# ELECTRO-PNEUMATIC CONVERTER

DATA SHEET

ZLC

The electro-pneumatic converter installed in site converts a 4 to 20mA DC operation signals from an electronic controller into proportional 19.6 to 98.1 kPa {0.2 to 1.0kgf /cm<sup>2</sup>} pneumatic signals for transmitting to pneumatic positioner, or operating pneumatic final control elements such as diaphragm valves, etc.

## FEATURES

1. High conversion accuracy  
The guaranteed conversion accuracy is within 0.75%.
2. Various types  
Flame-proof type, intrinsically safe explosion-proof type, split range type, etc. are available.
3. A low input resistance of 200Ω permits two converters to simultaneously operate.



## SPECIFICATIONS

**Input signal :** 4 to 20mA DC, 4 to 12mA DC or 12 to 20mA DC

**Input resistance :** Approx. 200Ω (at 20°C)

**Accuracy rating :** ±0.75% of full range

**Hysteresis :** 0.5% of full range

**Response time :** Approx. 0.7 sec  
(90% time of full range when the load capacity is 0.5 ℓ)

**Air supply pressure and output signal :**

Air supply pressure [kPa] {kgf/cm <sup>2</sup> }	Output signal [kPa] {kgf/cm <sup>2</sup> }
140 {1.43}	19.6 to 98.1 {0.2 to 1.0}
240 {2.45}	39.2 to 196.1 {0.4 to 2.0}

**Output signal pressure gauge :**

As specified by the customer JIS class 3 with the graduation angle of 270°

**Input/output operations :**

As specified by the customer

Normal action;

The output signal level increases as the input signal level increases.

Reverse action;

The output signal level decreases as the input signal level increases.

**Nominal air consumption :**

12N ℓ /min (at the supply air pressure of

140kPa{1.43kgf/cm<sup>2</sup>})

20N ℓ /min (at the supply air pressure of

240kPa{2.45kgf/cm<sup>2</sup>})

**Maximum air consumption :**

60N ℓ /min (at the supply air pressure of 140kPa{1.43kgf/cm<sup>2</sup>})

80N ℓ /min (at the supply air pressure of 240kPa{2.45kgf/cm<sup>2</sup>})

**Ambient temperature :**

-20 to +80°C

Intrinsically safe explosion-proof type;

-20 to +60°C

Flame-proof type;

-20 to +70°C

**Ambient humidity :**

Less than 95% RH

**External dimensions (H × W × D) :**

176 × 176 × 124mm

**Mas(weight) :** Approx. 3kg

**Air pipe connection :**

Rc1/4 or NPT1/4 adapter

Conduit connection :  
G1/2

Waterproof structure :  
Splash proofing (JIS C 0920)

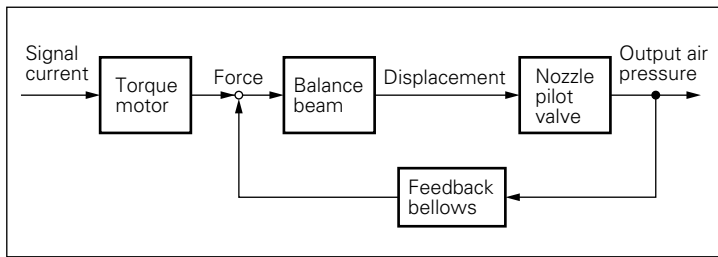
Explosion-proof structure :  
Intrinsically safe explosion-proofing  
(JIS i3nG5)  
Flame-proofing (JIS d2G4)

Finish color : Silver (epoxy resin coating)

Acid and alkali-proofing treatment :  
Mounting U-bolts, nuts and washers made  
of stainless steel are used upon request

Mounting method :  
Connected to pipe 50A (2B) or mounted on  
the wall.

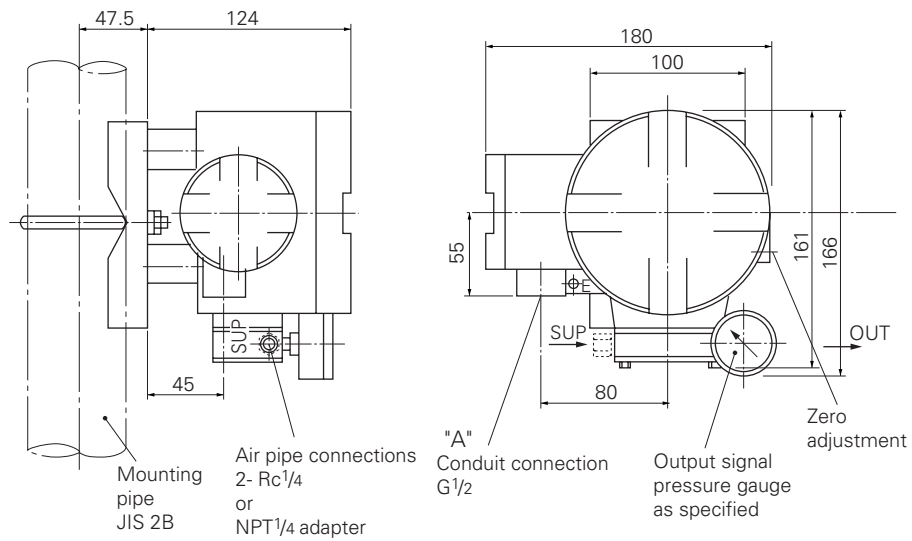
## FUNDAMENTAL BLOCK DIAGRAM



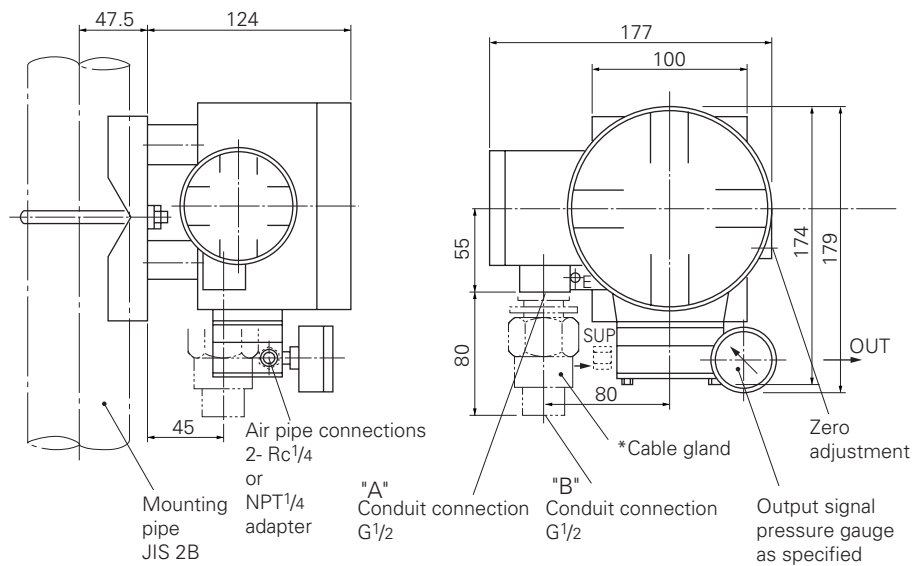
## CODE SYMBOLS

1	2	3	4	5	6	7	8	9	10	11	Description
Z	L	C		5							
1											<b>Input signal</b> 4 to 20mA DC
2											4 to 12mA DC
3											12 to 20mA DC } C or F in 5th digit is not available
											<b>Output signal: input/output operation:</b>
											<b>air supply pressure</b>
A											19.6 to 98.1 kPa (normal action) ... 140kPa {0.2 to 1.0kgf/cm <sup>2</sup> } {1.43kgf/cm <sup>2</sup> }
C											39.2 to 196.1 kPa (normal action) ... 240kPa {0.4 to 2.0kgf/cm <sup>2</sup> } {2.45kgf/cm <sup>2</sup> }
D											98.1 to 19.6 kPa (reverse action) ... 140kPa {1.0 to 0.2kgf/cm <sup>2</sup> } {1.43kgf/cm <sup>2</sup> }
F											196.1 to 39.2 kPa (reverse action) ... 240kPa {2.0 to 0.4kgf/cm <sup>2</sup> } {2.45kgf/cm <sup>2</sup> }
											<b>Explosion-proof structure</b>
Y											For general use (Non-explosion-proof)
A											Intrinsically safe explosion-proof structure (JIS i3nG5)
B											Flame-proof structure (JIS d2G4 conduit pressure-resisting screw-coupled type lead in system)
C											Flame-proof structure (JIS d2G4 flame-proof packing connection type)
											<b>Output signal pressure gauge</b>
0											Non provided
1											Provided
											<b>Treatment</b>
0											For general use
1											Acid and alkaliproof treatment
											<b>Air set</b>
Y											Non provided
A											Provided
											<b>Air pipe connection</b>
Y											RC 1/4
A											NPT 1/4 adapter

# OUTLINE DIAGRAM (Unit: mm)



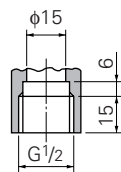
<GENERAL USE and INTRINSICALLY SAFE EXPLOSION-PROOF TYPES>



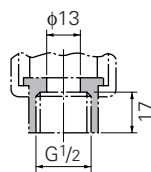
Note: \*shows the part used for the flame-proof packing type which used for 11mm diameter cable.

<FLAME-PROOF TYPE>

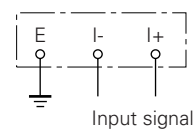
Details of "A"

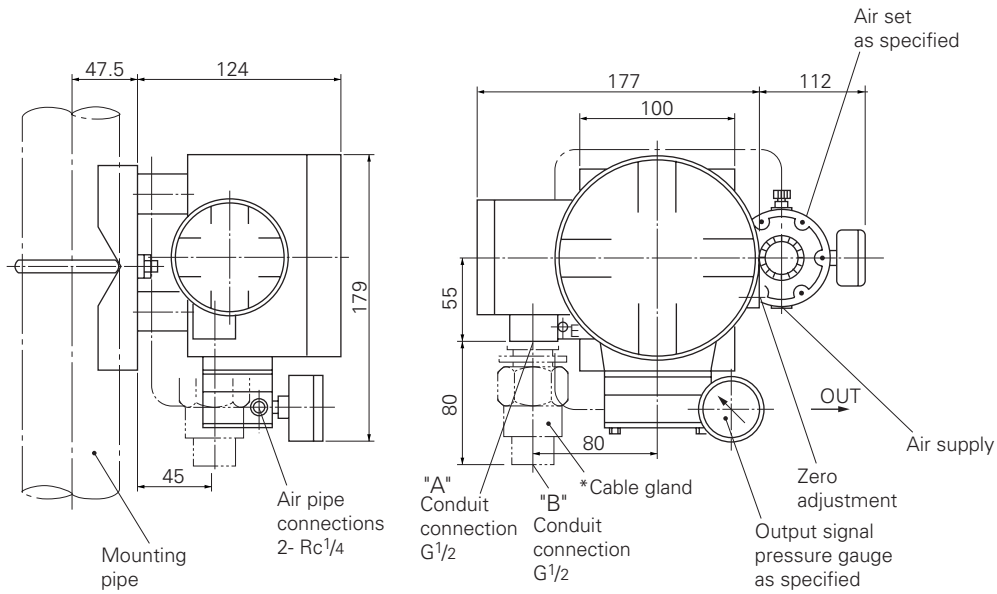


Details of "B"



Connection diagram

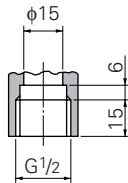




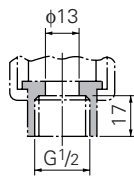
Note: \*shows the part used for the flame-proof packing type which used for 11mm diameter cable.

<FLAME-PROOF TYPE>

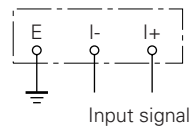
Details of "A"



Details of "B"



Connection diagram



## RELATED DEVICES

Electro-pneumatic positioner  
Diaphragm type control valve  
Opener (FXZ2 type)

## ORDERING INFORMATION

1. Product name
2. Code symbol
3. Other requirements

⚠ Caution on Safety

\*Before using this product, be sure to read its instruction manual in advance.

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