

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 /cm²) 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 ² }	Output signal [kPa] {kgf/cm ² }
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/cm²})

20N ℓ /min (at the supply air pressure of 240kPa{2.45kgf/cm²})

Maximum air consumption :

60N ℓ /min (at the supply air pressure of 140kPa{1.43kgf/cm²})

80N ℓ /min (at the supply air pressure of 240kPa{2.45kgf/cm²})

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)

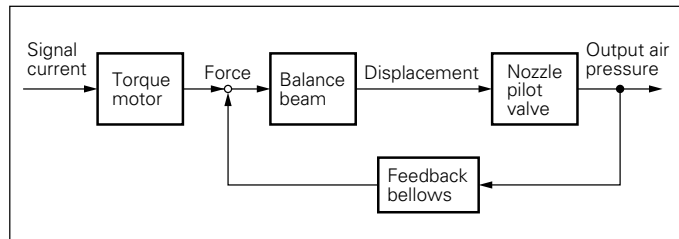
Acid and alkali-proofing treatment :

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.

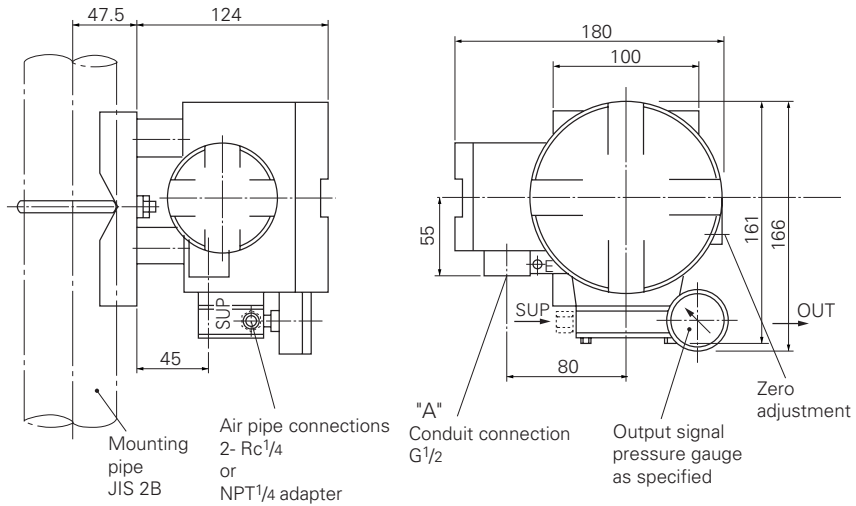
FUNDAMENTAL BLOCK DIAGRAM



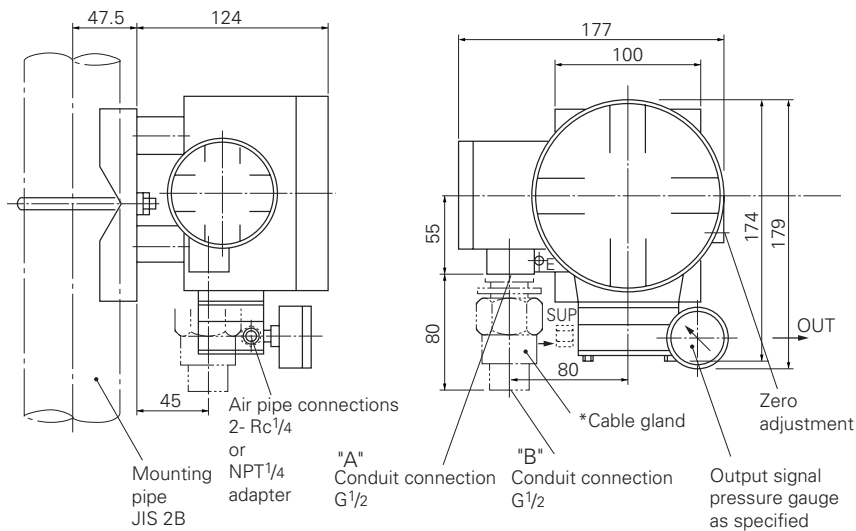
CODE SYMBOLS

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

OUTLINE DIAGRAM (Unit: mm)



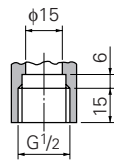
<GENERAL USE and INTRINSICALLY SAFE EXPLOSION-PROOF TYPES>



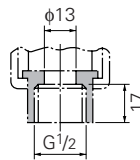
Note: *shows the part used for the flame-proof packing type which used for 11mm diameter cable.

<FLAME-PROOF TYPE>

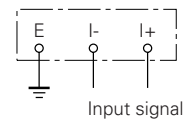
Details of "A"

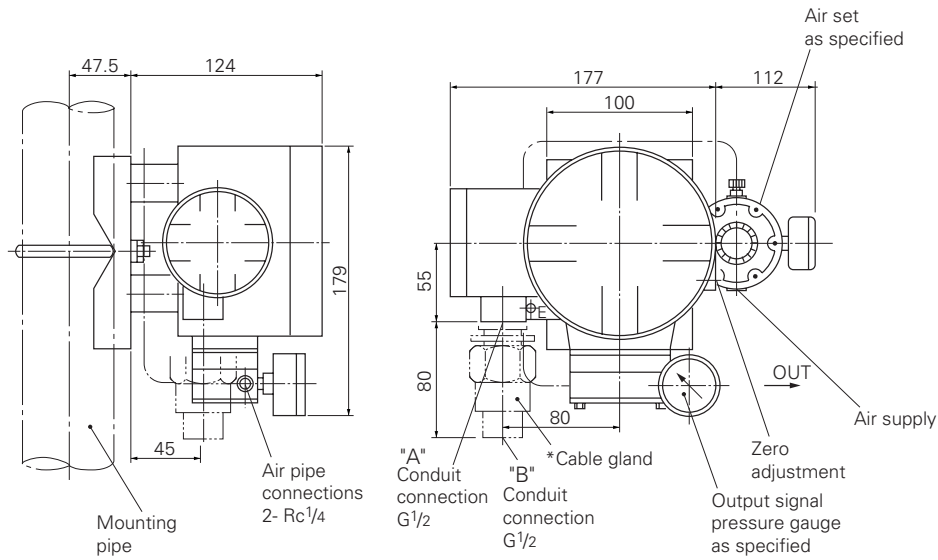


Details of "B"



Connection diagram

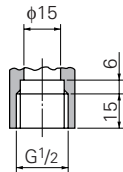




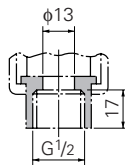
Note: * shows the part used for the flame-proof packing type which used for 11mm diameter cable.

<FLAME-PROOF TYPE>

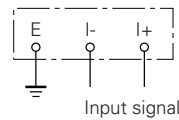
Details of "A"



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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