

INSTRUCTIONS FOR USE AND WARNINGS



TRANSLATION OF THE ORIGINAL INSTRUCTIONS



Digital electro-pneumatic regulator

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1 Preliminary information

1.1 Use

The electronic pressure regulator is a device that can be used in applications that require different flip intensity settings depending on the product being processed.

Compared to the factory settings, there are already 8 configurations that can be recalled using 3 bits combined with each other.

1.2 Configurations that can be used

The preset values are as follows:

Configuration	BIT 1	BIT 2	BIT 3	Value (bar)
1	0	0	0	6.00
2	1	0	0	5.00
3	0	1	0	4.00
4	1	1	0	3.50
5	0	0	1	3.00
6	1	0	1	2.50
7	0	1	1	2.00
8	1	1	1	1.50

2 Electrical connections

2.1 Procedure

To operate the device in digital mode, using presets, please observe the following procedure:

1. Make the following connection on the electrical panel:
 - **PIN 1 - BROWN** - Bit 1 Preset input signal;
 - **PIN 2 - ORANGE** - Bit 2 Preset input signal;
 - **PIN 3 - YELLOW** - Bit 3 Preset input signal;
 - **PIN 4** - Not assigned;
 - **PIN 5 - RED** - +24Vdc power supply;
 - **PIN 6,7,8,9** - Not assigned;
 - **PIN 10 - GREY** - Common (0V in PNP configuration) Preset input signals
 - **PIN 15 - BLACK** - 0V;
2. Connect the appliance by means of the supplied cable using the connector shown in the figure:



2.2 Wiring

The wiring summary table is shown below:

PIN NO.	1	2	3	4	5	6 - 9	10	11			12	13			14	15	
CABLE COLOUR	Brown	Orange	Yellow	-	Red	-	Grey	White			-	Green			Blue	Black	
INPUT TYPE	Preset input signal			N/A	Power supply +24Vdc	N / A	Common	Input signal			N/A	Output monitor	Output switch		Error output		0V
	Bit 1	Bit 2	Bit 3					0-10 Vdc	0-5 Vdc	4-20 mA		1-5 Vdc	N P N	P N P	N P N		



IMPORTANT!

For further information and/or modifications (preset values) please refer to the manufacturer's manual attached to this appendix.



IMPORTANT!

If you wish to use the instrument in analogue mode, please refer to the manufacturer's manual.

3 Pneumatic connections

3.1 Procedure

Please observe the following procedure for the pneumatic connection in order to ensure correct operation of the device:

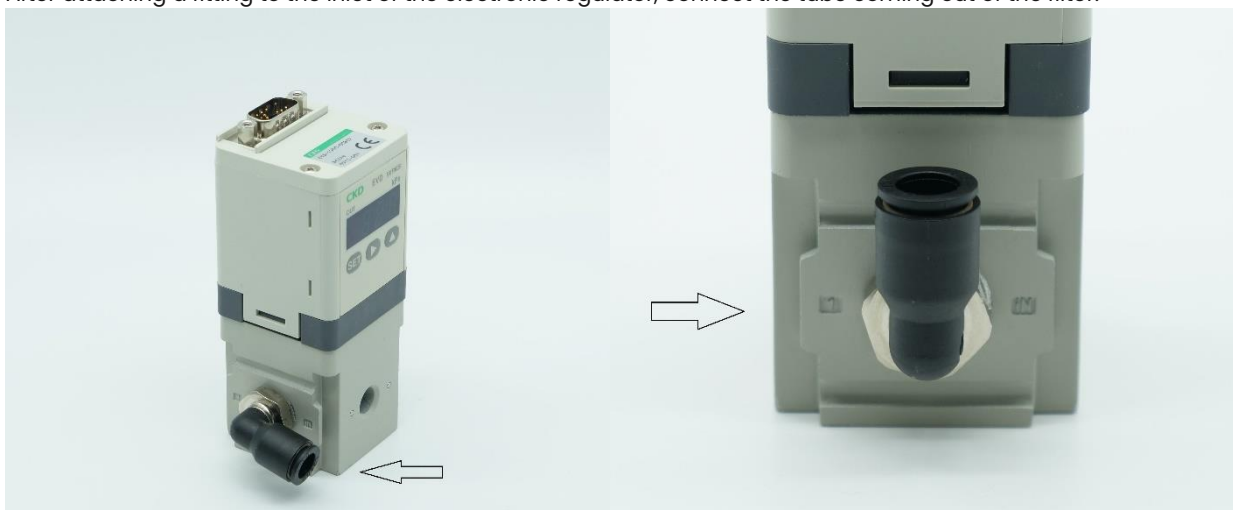
1. Take filtered and dried compressed air from the system and connect the corresponding pipe to the inlet of the oil separator filter (not included in the supply), as shown in the figure:



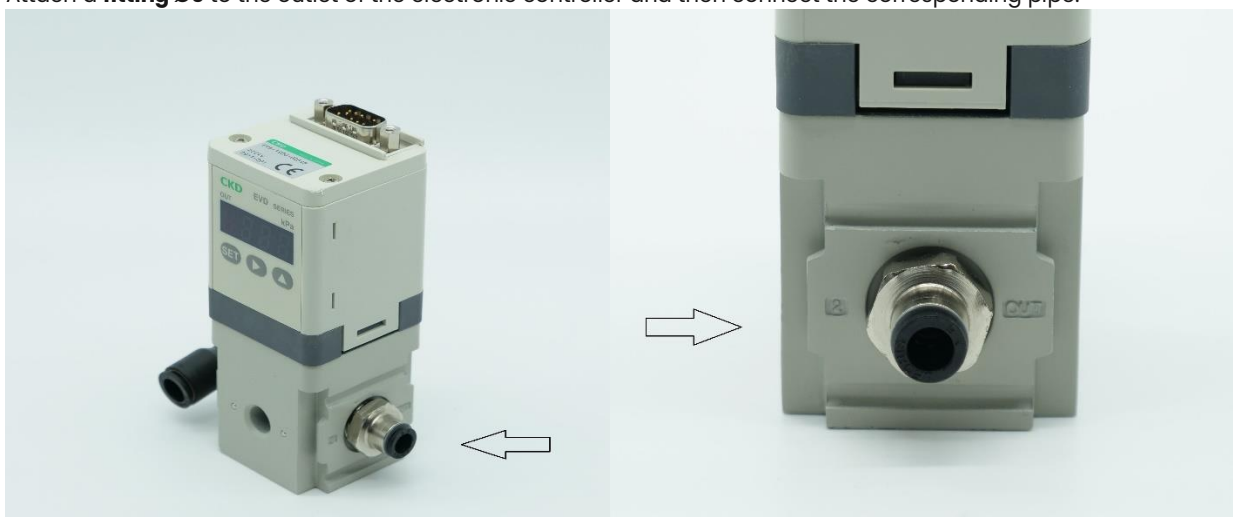
2. Connect the air outlet pipe to the other end of the filter:



3. After attaching a fitting to the inlet of the electronic regulator, connect the tube coming out of the filter:



4. Attach a **fitting Ø6** to the outlet of the electronic controller and then connect the corresponding pipe:



5. Finally, connect the Ø6 outlet pipe from the regulator to the FlexiBowl® control panel at the "AIR SUPPLY" inlet:



CAUTION!

In order to prevent damage to the product, it is necessary to use a de-oiling filter (not included in the scope of delivery).



CAUTION!

Make sure there is a shut-off valve between the room air supply and the Flexibowl®.

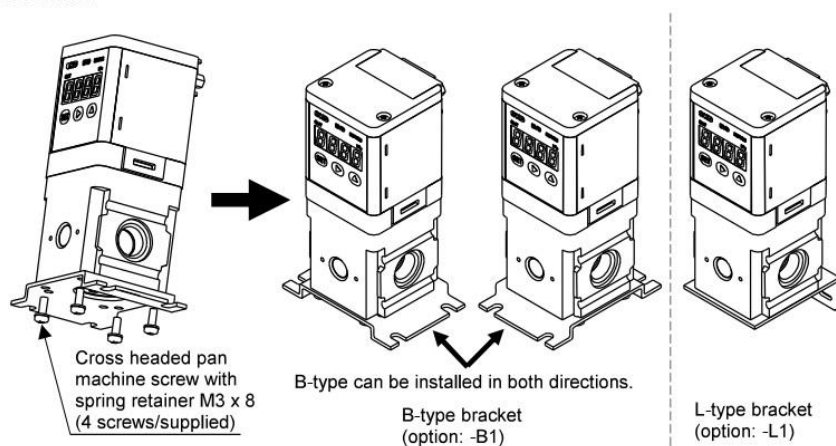
4 Installation

4.1 Regulator positioning

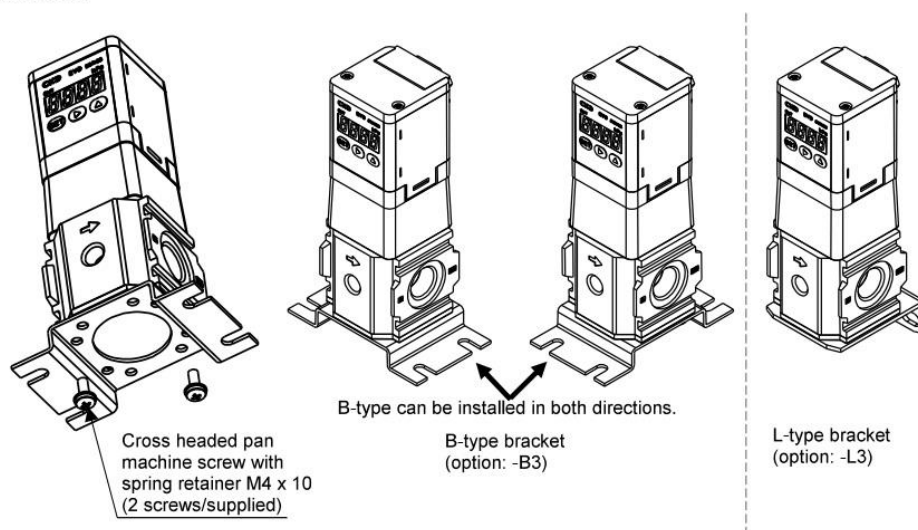
The installation of the regulator is the responsibility of the customer, who must ensure that it is positioned safely. Please refer to the manufacturer's manual.

- 1 Attach the optional bracket to the bottom of the product.
For the optional bracket, refer to "6.1 Optional Part Model Number".

•EVD-1000 Series



•EVD-3000 Series



- 2 Install the body to the specified position.

5 Datasheet

5.1 Technical specifications

■ EVD-1900-0/1/2/P (maximum pressure: 900 kPa)

Descriptions		EVD-1900-[*1][*2]□ (*1 --- 0/1/2)	EVD-1900-P[*2]□
		Analog type	Parallel type
Working fluid		Clean compressed air (equivalent to ISO Class1. 3. 2)	
Max. working pressure		1000 kPa	
Min. working pressure		Control pressure + 100 kPa	
Proof pressure	Inlet side	1500 kPa	
	Outlet side	1350 kPa	
Pressure control range <small>Note 1</small>		0 kPa to 900 kPa	
Power supply voltage		24 VDC ± 10% (stabilized power supply with ripple rate of 1% or less)	
Current consumption		0.15 A or less (starting current is 0.6 A or less when the power is turned on)	
Input signal (input impedance)		0 VDC to 10 VDC (6.7 kΩ)	10-bit
		0 VDC to 5 VDC (10 kΩ)	
		4 mADC to 20 mADC (250 kΩ)	
Preset input		8-point	None
Output signal <small>Note 2</small>		Analog output: 1 VDC to 5 VDC (connected load impedance 500 kΩ or more)	
		Switch output: NPN or PNP open collector output, 30 V or less, 50 mA or less, voltage drop of 2.4 V or less, compatible with PLC/relay	
Error output signal		NPN or PNP open collector output, 30 V or less, 50 mA or less, voltage drop of 2.4 V or less, compatible with PLC/relay	
Direct memory setting		9 kPa to 900 kPa (min. set width 1 kPa/set resolution 2 kPa)	
Hysteresis <small>Note 3</small>		0.5%FS or less	
Linearity <small>Note 3</small>		± 0.3%FS or less	
Resolution <small>Note 3</small>		0.2%FS or less	
Repeatability <small>Note 3</small>		0.3%FS or less	
Temperature characteristics	Zero point fluctuation	0.15%FS/°C or less	
	Span fluctuation	0.07%FS/°C or less	
Max. flow rate (ANR) <small>Note 4</small>		400 L/min	
Step response <small>Note 5</small>	No load	0.2 sec or less	
	With 1000 cm ³ load	0.8 sec or less	
Vibration resistance		98 m/s ² or less	
Ambient temperature		5°C to 50°C	
Fluid temperature		5°C to 50°C	
Port size		[*2] =08 Rc1/4	
		[*2] =08G G1/4	
		[*2] =08N NPT1/4	
Mounting orientation		No restriction	
Weight (body)		250 g	
Protection circuit		Power reverse connection protection, switch output reverse connection protection, switch output load short-circuit protection	

Note 1: There is 1%FS or less residual pressure (9 kPa or less) when the input signal is 0%.

Note 2: Select either analog output or switch output.

Note 3: The characteristics are based on the condition that power supply voltage is 24 VDC ± 0.1 VDC, working pressure is set to maximum control pressure +100 kPa, and control pressure is 10% to 90% (with no load, ambient temperature of 25°C ± 3°C). Also, the specified values are only for when the secondary side is a closed circuit and pressure fluctuations will occur if the product is used for blowing or similar applications.

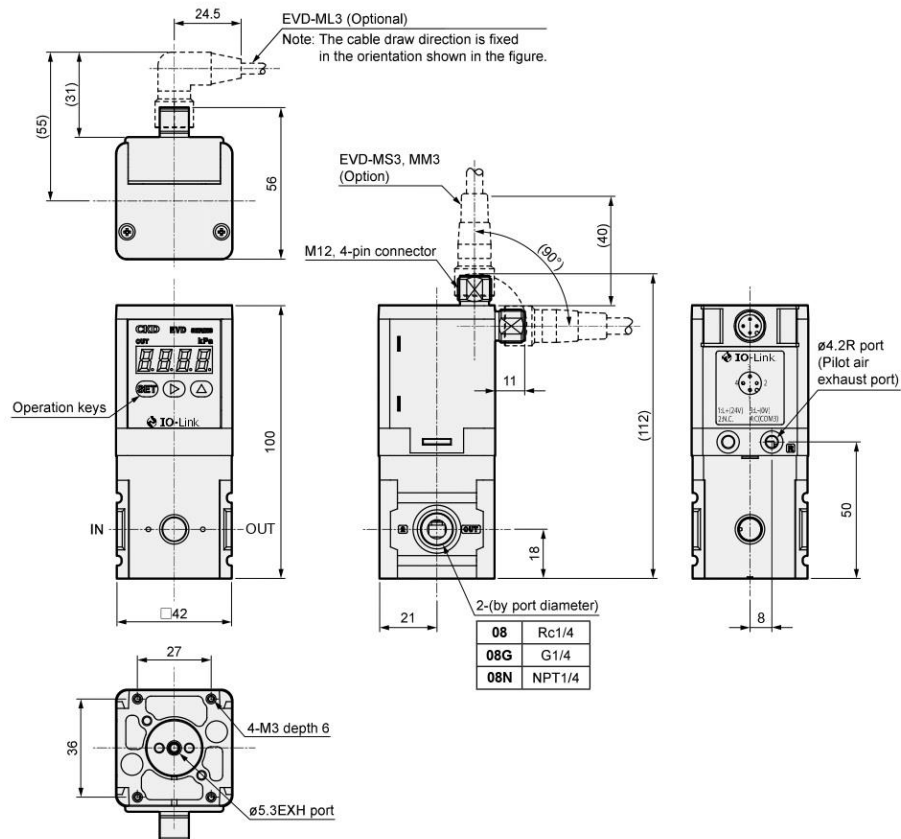
Note 4: The above characteristics are based on the condition that working pressure and control pressure are set to their maximum.

Note 5: The above characteristics are based on the condition that working pressure is set to maximum and the step amount is changed from

50%FS to 100%FS
 50%FS to 60%FS
 50%FS to 40%FS.

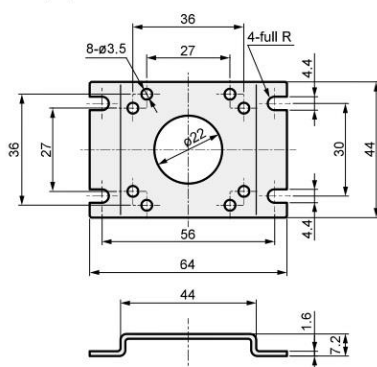
5.2 Dimensions

Dimensions



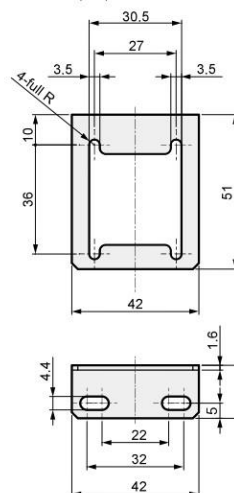
Optional dimensions

● B-bracket (-B1): Floor mounted



Material: SPCC
Ni plated
Weight: 32 g

● L-bracket (-L1): Wall mounted



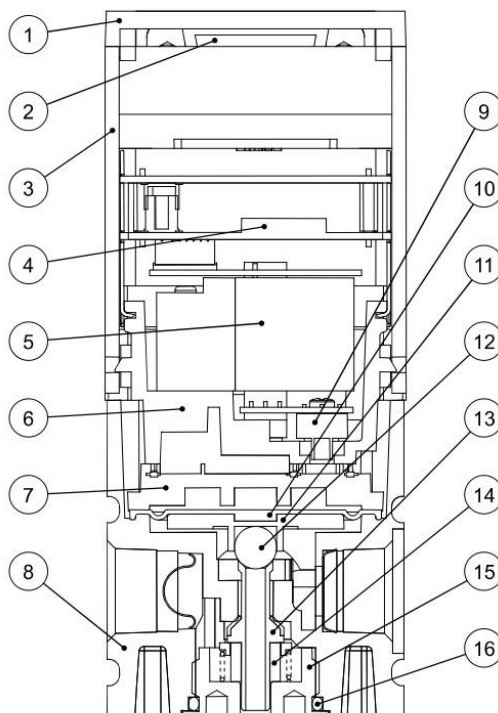
Material: SPCC
Ni plated
Weight: 21 g

* Refer to page 9 for details of cable option dimensions.

5.3 Internal structure

1.6 Internal Structure

■ EVD-1000 Series

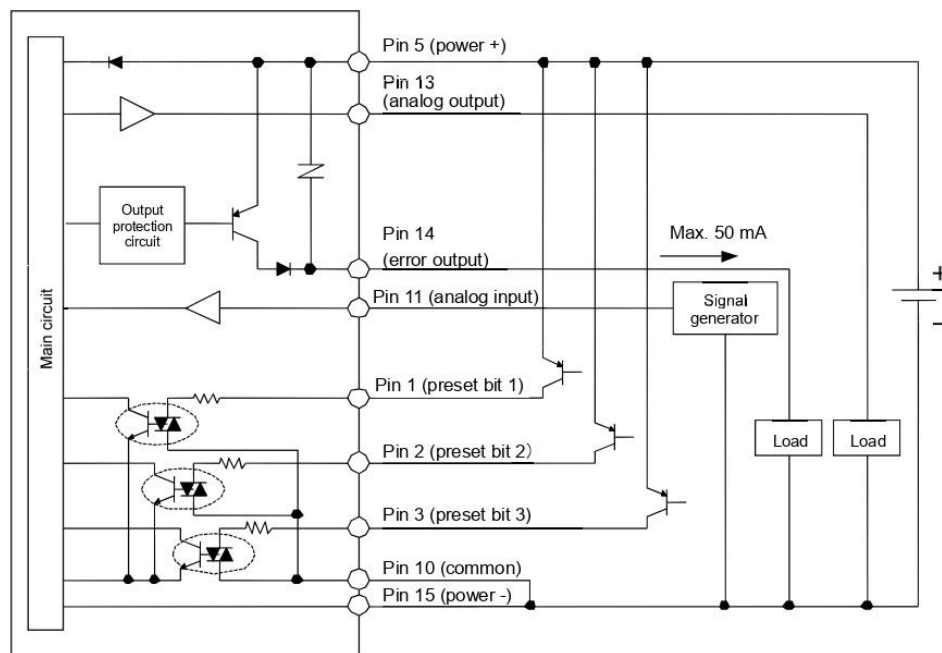


No.	Part name	Material
1	Lid	PBT resin
2	D-sub connector	---
3	Housing	ABS resin
4	Controller board	---
5	3-way valve	---
6	Valve base	Polyphenylene sulfide resin
7	Pilot chamber	Polyphenylene sulfide resin
8	Body	Aluminum alloy die casting
9	Pressure sensor	---
10	Diaphragm	Special NBR
11	Relief seat	Aluminum alloy
12	Steel ball (exhaust valve)	Stainless steel
13	Valve	Special NBR, stainless steel
14	Bottom rubber	Silicone rubber
15	Bottom plug	Brass, electroless nickel plating
16	O-ring	Fluoro rubber

5.4 Electrical diagram

■ Analog input type: EVD-1□00-0/1/2, EVD-3□00-0/1/2

- EVD-1□00-□□AP, EVD-3□00-□□AP: Analog output + error <PNP> output type



IMPORTANT!

Further information and/or specifications can be found in the manual attached to this appendix.



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