

Electro-pneumatic regulator EVS2 Series

New product

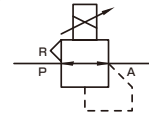


Overview

This is a small electric regulator that realizes compact, lightweight and high performance. The pilot regulator control, various pressure controls and very low speed cylinder control are ideal in the semiconductor and precision implementation fields.

RoHS

JIS symbol



The service life and responsiveness are higher! Realized reduction in volume by 20%

Main features

- **Compact / lightweight**

Reduction in volume by 20% and in weight by 35% is realized. This contributes to weight reduction and downsizing of the equipment.

- **Longer service life**

3 times longer than conventional products (compared to our company's products).

- **High precision and high response**

Fluid pressure is controlled at high accuracy and high speed response using electrical signals.

Repeatability of 0.3% F.S., resolution of 0.1% F.S., and a response time of 0.1 sec (no load) are realized.

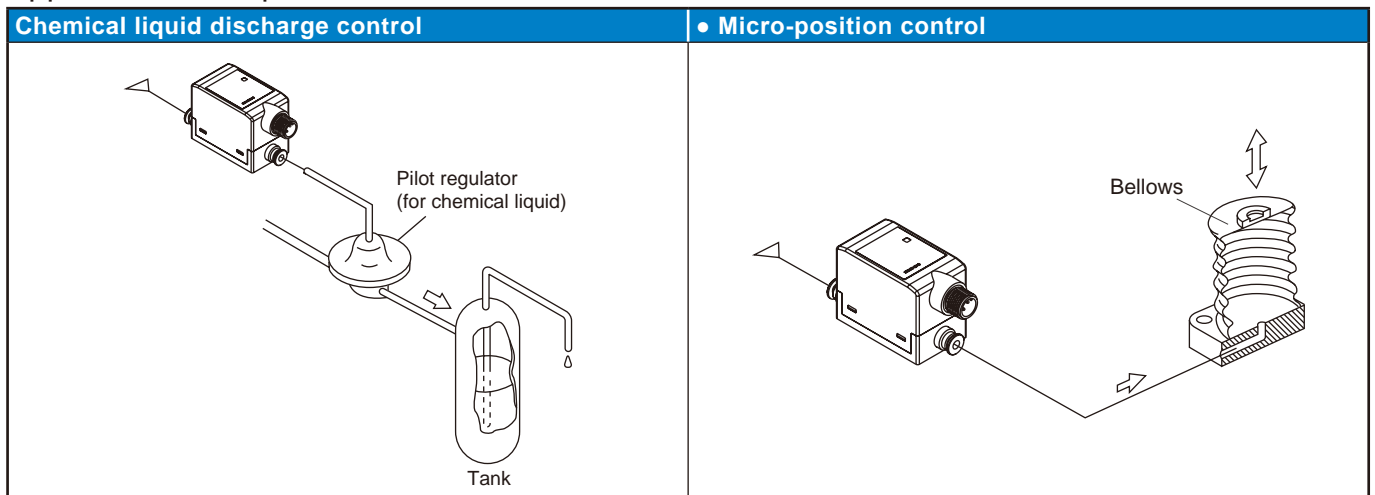
- **Operation status indicated with 2 colors**

The 2-color operation indicator indicates the green zone when pressure is at set pressure and the red zone when pressure is not within the setting or when an error occurs.

- **Easy piping and wiring tasks**

Push-in cartridge fitting and M12 connectors are used, which improves work efficiency..

Application example



! Please make sure to read the "Usage Guidelines" on the back before using this product.

Specifications

Descriptions		① EVS2-100	② EVS2-500
Working fluid		Clean compressed air	
Max. working pressure		200 kPa	0.7 MPa
Min. working pressure		Set pressure + Max. control pressure × 0.1	
Proof pressure	Inlet side	300 kPa	1.05 MPa
	Output side	150 kPa	0.75 MPa
Pressure control (Note 1)		1 to 100 kPa	0.005 to 0.5 MPa
Power supply voltage		DC24V±10% (stabilized power supply with a ripple rate less than 1%)	
Current consumption		0.1A or less (an inrush current of 0.6A during power supply ON)	
Input signal (Input impedance)	0	0 to 10 VDC (6.7 kΩ)	
	1	0 to 5 VDC (10 kΩ)	
	2	4 to 20 mADC (250 Ω)	
	3	0 to 20 mADC (250 Ω)	
Analog output (Connected load impedance)	AV	1 to 5VDC (50 kΩ and over)	
	AA	4 to 20mADC (300 Ω or less)	
Precision (Note 2)	Hysteresis	0.4%F.S. or less	
	Linearity	Within ±0.5% F.S.	
	Resolution	0.1%F.S. or less	
	Repeatability	0.3%F.S. or less	
Temperature characteristics	Zero point fluctuations	0.12%F.S./°C or less	
	Span fluctuations	0.07%F.S./°C or less	
Max. flow rate (Note 3)		2 L/min (ANR)	8 L/min (ANR)
Step response (Note 4)	No load	0.1s or lower	
	15cm ³ load	0.5s or lower	
Ambient temperature, fluid temperature		0 to 50°C	
Storage ambient temperature		-20 to 60°C	
Ambient humidity		45 to 90%RH (with no dew condensation)	
Storage ambient humidity		96% or lower	
Mounting orientation		Free	
Main dimensions		W30×D50×H39	
Port size	H4	ø4 push-in fitting	
	H6	ø6 push-in fitting	
Weight		90g	

Note 1: Input signals below 1% F.S. are in an uncontrollable range.

Note 2: Only in the static state with power supply voltage of 24.0±0.1VDC, ambient temperature of 25±3°C, load of ø4 (I.D.) × 10cm, working pressure of ①:110 to 200 kPa or ②:0.55 to 0.70 MPa.

Note 3: At max. working pressure and max. control pressure.

Note 4: At max. working pressure and step amount.

- 50%F.S.→100%F.S.
- 50%F.S.→60%F.S.
- 50%F.S.→40%F.S.

Note 5: Characteristics of the specifications above are limited to the static state, and when air consumption is on the output side, there may be fluctuations in the control pressure.

How to order

EVS2 - 100 - 1 H4 AV - C11 - 3

Model no.

A Pressure control

B Input signal

C Port size

D Analog output

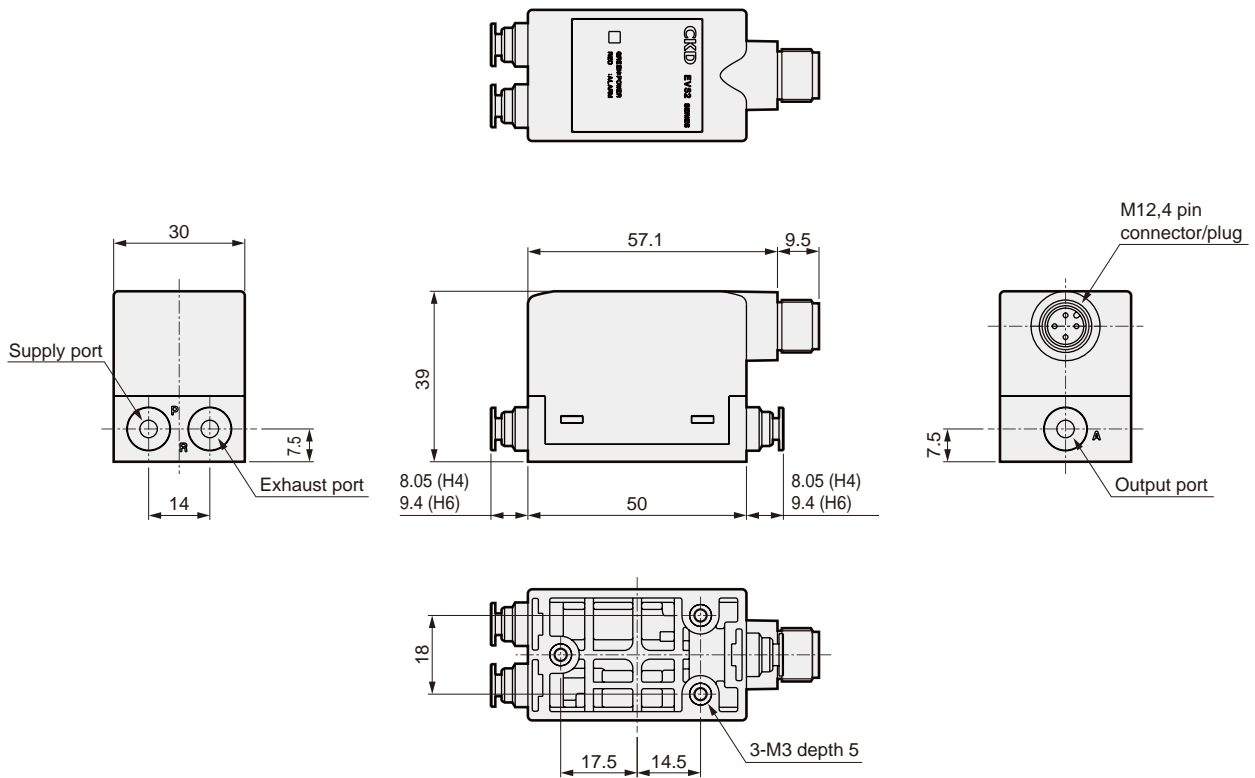
E Cable option

Symbol	Descriptions
A Pressure control	
100	1 to 100kPa
500	0.005 to 0.5 MPa
B Input signal	
0	0 to 5VDC
1	0 to 5VDC
2	4 to 20mADC
3	0 to 20mADC
C Port size	
H4	Push-in fitting ø4
H6	Push-in fitting ø6
D Analog output	
AV	1 to 5V
AA	4 to 20mA
E Cable option	
Blank	None
C11	1m (axial)
C13	3m (axial)

⚠ Note on model No. selection

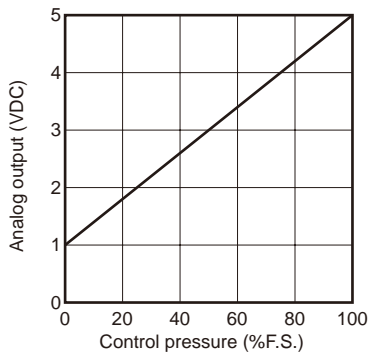
Note: The option only model number display method is the
EV2000 - cable option symbol.

Dimensions

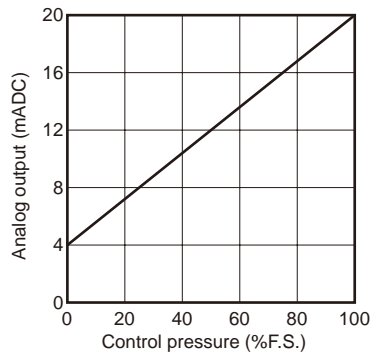


Analog output

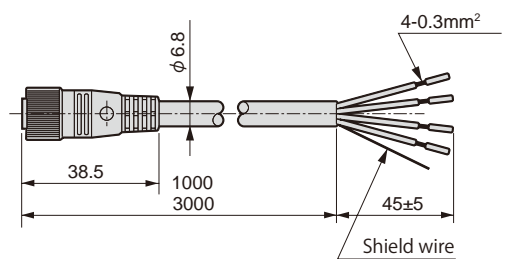
- During selection of the voltage output (AV)



- During selection of the current output (AA)



Cable option

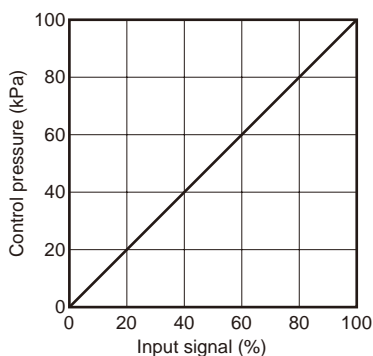


-C1* Shield Cable Connector

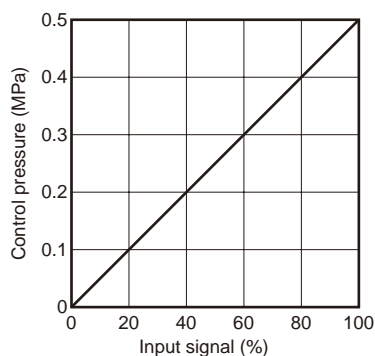
* Pin No.	Isolator color	Applications	Input signal			
			0 to 10V	0 to 5V	4 to 20mA	0 to 20mA
1	Red	Power supply ⊕	24V			
2	Green	-	Analog output			
3	Black	Common	0V			
4	White	Input signal	0 to 10V	0 to 5V	4 to 20mA	0 to 20mA

Input - output characteristics

- EVS2-100



- EVS2-500



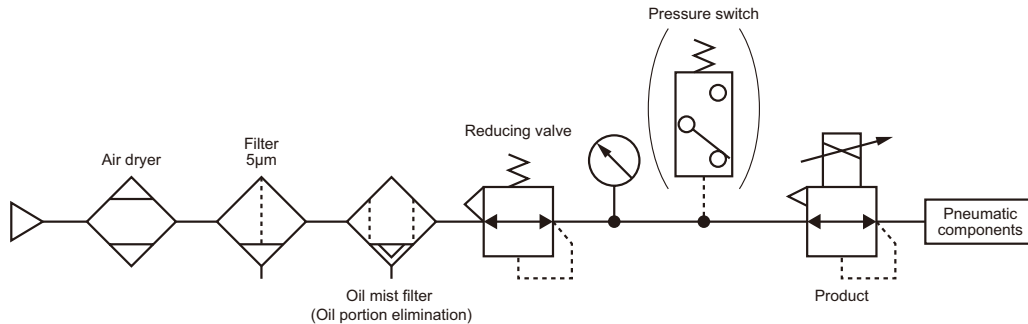
If a cable option is not used, following recommended cable sockets can be used. However, please use shielded wire with the cable.

Screw type ELW1KA4012 Correns (Hirschmann)
 Axial type (solder) form XS2C-D421 OMRON
 L type (solder) form XS2C-D422 OMRON

Safety precautions

Please also make sure to read the "Pneumatic, Vacuum, and Auxiliary Components (No. CB-024S)" caution notes.

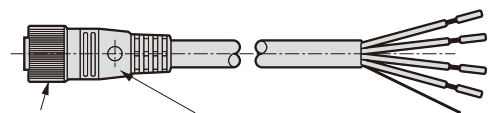
- Poor air quality will worsen the characteristics and adversely affect the durability. Use an air dryer, filter and oil mist filter to remove solid, moisture and oil sufficiently from the working fluid, and supply clean compressed air to the air pressure source. (JIS B8392-1:2012 (ISO8573-1:2010) [1:3:2])



In addition, in cases when control pressure is dropped, secondary side air goes through the inside of the product, and is exhausted through the exhaust port (R port). Therefore, when the secondary side piping and internal load side is dirty, the characteristics deteriorate in the same manner. Since this causes adverse effects, please carry out cleaning work within the piping.

- When the power is not turned on, and when the additional supply pressure is applied, there are cases where the secondary pressure rises to the level of the primary pressure. If there are hazards to safety, please take safety measures to the system such as shutting off the supply, using a valve on the primary side or dropping the primary side pressure to 0.
- If power is turned OFF with the pressure applied, control pressure is held.
 - If an exhaust state is desired, please exhaust air with shut-off valve or turn off the power after lowering the set pressure. This holding state is not guaranteed for a long time.
- Since the working pressure supplies defined pressure to the control pressure, please do not use the product out of the range of the working pressure.
 - Especially in the case that the working pressure is not supplied in a state set in a range from 0% F.S. to 12% F.S.. If it is in a state where the working pressure is close to the control pressure or if the working pressure is lower than the control pressure, the solenoid valve is operated excessively and the service life will be shortened.
- This product becomes uncontrollable with an input signal in a range up to 1% F.S..
- When this product is applied with an input signal outside the specified range, the solenoid valve is operated excessively. Since degradation of performance and a shortened service life will occur due to this, please use this product within the specified range.
- Please open the exhaust port (R port) to the atmosphere to perform exhaust.
- Min. tube length

The output port (A) side piping length should be more than 1cc of tube volume as a guide. (This leads to oscillation)

(Reference) If the tube diameter is $\phi 4$... max. length is 320mm
If the tube diameter is $\phi 6$... max. length is 80mm
- If this product is used when there is a leak from the secondary side, when there is control such as a blow, or when the secondary side is open to the atmosphere, the set pressure cannot be maintained. Please avoid this since it will cause the solenoid valve to operate excessively and shorten the service life.
- Power supply ground and common signal are common on this product wiring. When driving several EVS2 units with one PC and D/A unit, wiring could prevent the correct signal from being input depending on the D/A unit circuit. Consult with the PC maker.
- The optional shield cable connector is a 4-core shield wire. If the green line (analog output) is not used, please insulate the other lines (including shielded wires) so that it does not make contact.
- If you connect the shielded cable connector, secure the cable body and make sure to tighten the cable fixing screw tightly by hand. When this is performed without fixing the cable body, the product body side connector is rotated, and there may be damage."
 
- Regularly inspect the product at least once a year or more, and confirm that it operates correctly.
 - This product is a small solenoid valve with an actuator. The service life will vary depending on operation frequency due to pressure switching and operating condition.
- Since the warranty period is determined to shorter period of either 1 year or 3,000,000 repetitive uses, please make that a reference for the inspection.
 - * The conditions for 3,000,000 uses set in the warranty period are determined as follows. When input signal is applied stepwise repeatedly to the set pressure from 0 to max. control pressure, and the secondary side load volume is set to 15 cm³.

If the goods and their replicas, or the technology and software in this catalog are to be exported, laws require the exporter to make sure they will never be used for the development or the manufacture of weapons for mass destruction.

CKD Corporation

<Website>
<http://www.ckd.co.jp/>

Head Office • Plant 2-250, Ouji, Komaki, Aichi 485-8551
Overseas Sales Administration dpt. 2-250, Ouji, Komaki, Aichi 485-8551
Tokyo Branch Office 4F, Bunkahousou Media Plus, 1-31-1, Hamamatsu-cho, Minato-ku, Tokyo 105-0013
Nagoya Branch Office 2-250, Ouji, Komaki, Aichi 485-8551
Osaka Branch Office 1-3-20, Tosabori, Nishi-ku, Osaka 550-0001

TEL(0568)77-1111 FAX(0568)77-1123
TEL(0568)77-1338 FAX(0568)77-3461
TEL(03)5402-3620 FAX(03)5402-0120
TEL(0568)77-1356 FAX(0568)77-3317
TEL(06)6459-5770 FAX(06)6446-1945