

## IO-Link compatible Digital Electro Pneumatic Regulator EVD Series



### Responding to the IoT age!

Full communication  
control of the  
electro-pneumatic  
regulator

Operate the device and  
monitor status with  
IO-Link communication

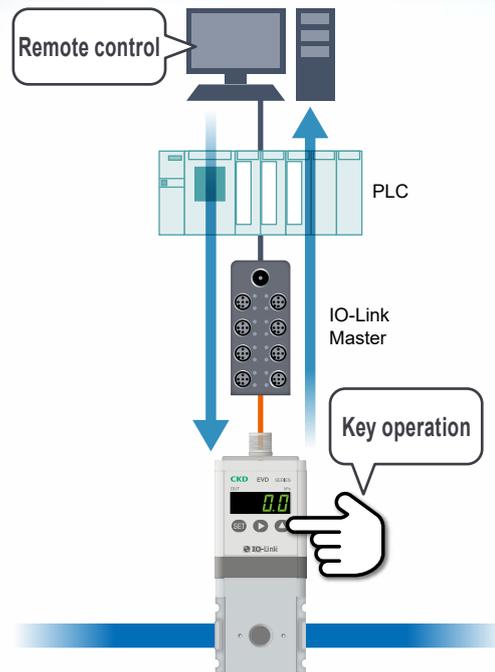


### Variation

Series	Pressure range	Input signal	Port size	Output signal unit	Max. flow rate	Flow path part material	Compatible standards
<b>EVD-1000</b> 	100 kPa 500 kPa 900 kPa	 IO-Link	Rc1/4 G1/4 NPT1/4	Domestic model <b>kPa</b> Overseas model Unit change <b>kPa</b> <b>psi</b> <b>bar</b>	60 L/min 400 L/min	Grease-free	CE
<b>EVD-3000</b> 	100 kPa 500 kPa 900 kPa	 IO-Link	Rc1/4 Rc3/8 G1/4 G3/8 NPT1/4 NPT3/8	Domestic model <b>kPa</b> Overseas model Unit change <b>kPa</b> <b>psi</b> <b>bar</b>	700 L/min 1500 L/min	Fluorine grease Vaseline (made-to-order)	CE

# Enhanced conventional functions through IO-Link

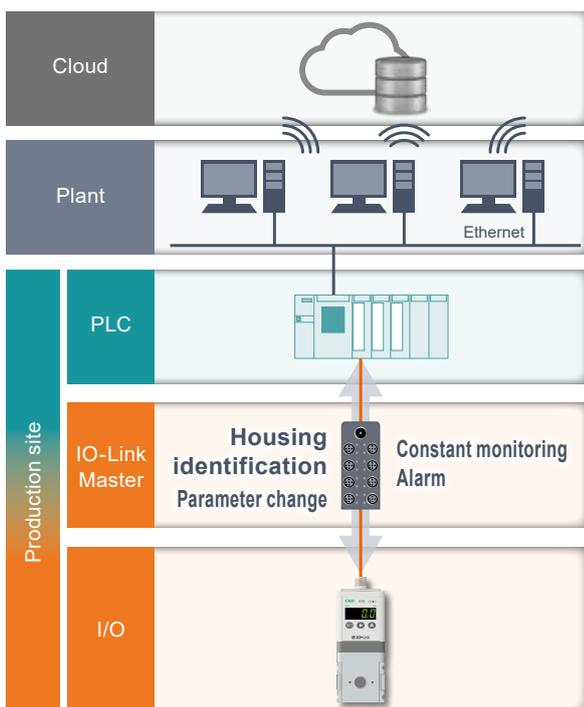
- **Settings can be set through key operations and remote operations**
  - Switching input methods
  - Preset memory value input
- **Setting and output for switch output can be performed in 2 types simultaneously**
- **Confirm error content remotely**
- **Pressure settings can be performed intuitively**
  - Set pressure values you want to control as is
- **Applied with a pressure unit switching function** (\* For overseas models)
- **Safe setting and confirmation when starting the device**
  - Since the display is available, the controlled pressure value can be confirmed
- **Monitoring of operation time possible**
- **Applied with a pressure control stop function**
  - Stops control when control is unnecessary



## Features of IO-Link



IO-Link is a digital communication specification for on-site sensors and actuators in plants. (IEC61131-9)  
This enables the transmission of parameters and event data that could not be transmitted by analog communication.



**Digital signals**  
Continuous monitoring is enabled by the use of digital data.



**Parameter remote control**  
Parameters can be set or changed via a network, allowing apparatus to be remotecontrolled.



**Housing identification**  
The model No., serial No. or other unit-unique information can be confirmed on the network.



**Data storage**  
Settings can be copied from a master (scanner) unit. This frees the operator from the trouble of having to reset parameters during maintenance.



**Abnormality detection**  
Device failures and disconnections can be confirmed.



**Connection to field bus**  
It is possible to connect by changing to an Ethernet network, enabling the creation of an IoT system.

# Applications

Pilot pressure control

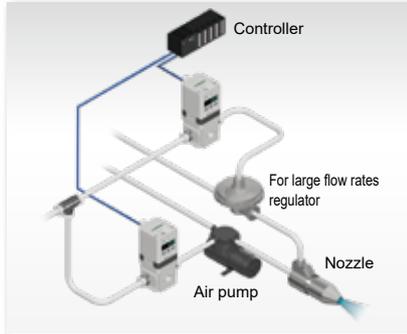
Tension

Blow

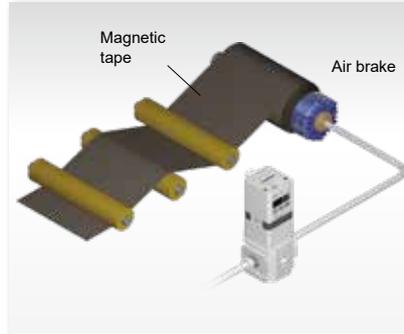
Push pressure

Others

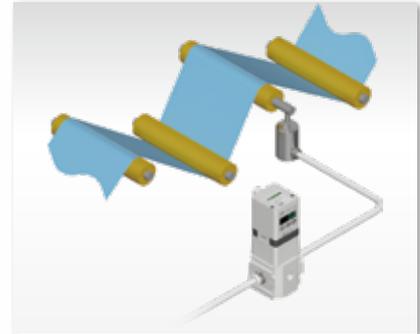
## Fluid pressure control



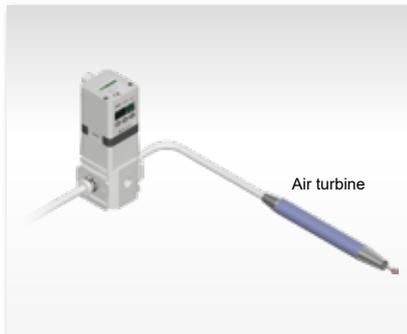
## Tension control using air brakes



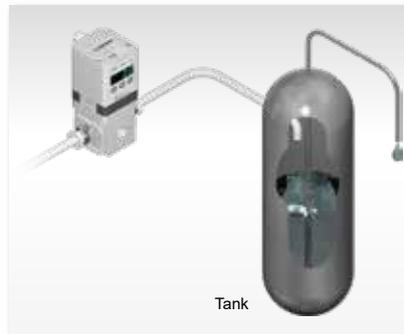
## Balancer tension control



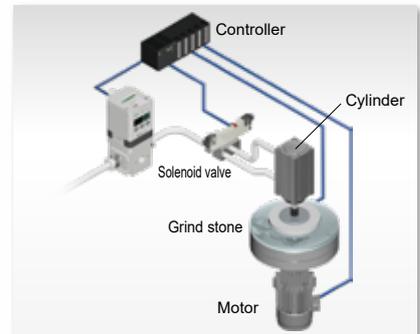
## Air turbine speed control



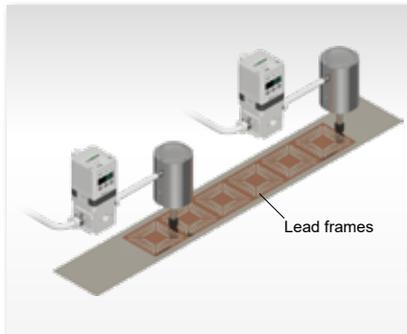
## Fluid discharge control



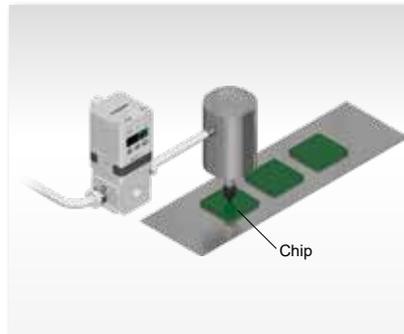
## Grinding force control



## Fixing lead frames, etc.,



## Chip component assembly



## Leakage inspection



## Specifications

Item	EVD-1100	EVD-1500	EVD-1900
	EVD-3100	EVD-3500	EVD-3900
Working fluid	Clean compressed air (ISO 1.3.2 or equiv.)		
Max. working pressure	160 kPa	700 kPa	1000 kPa
Min. working pressure	Control pressure +50 kPa	Control pressure +100 kPa	Control pressure +100 kPa
Pressure control range (*1)	0 to 100 kPa	0 to 500 kPa	0 to 900 kPa
Power supply voltage	24 VDC $\pm$ 10% (stabilized power supply with ripple rate 1% or less)		
Current consumption	0.15 A or less (0.6 A or less starting current when power is ON ) (port type A)		
Input signal	IO-Link		
Hysteresis (*2)	0.5% F.S. or less		
Linearity (*2)	$\pm$ 0.3% F.S. or less		
Resolution (*2)	0.2% F.S. or less		
Repeatability (*2)	0.3% F.S. or less		
Temperature characteristics	Zero point fluctuation	0.15% F.S./ $^{\circ}$ C or less	
	Span fluctuation	0.07% F.S./ $^{\circ}$ C or less	

\*1: There is 1% F.S. or less residual pressure when the input signal is 0%.

\*2: The above characteristics apply in the control pressure 10 to 90% range with a 24 $\pm$ 0.1 VDC power voltage and the working pressure set to maximum control pressure +100 kPa (maximum control pressure +50 kPa for EVD-1100, 3100). (No load, at an ambient temperature 25  $\pm$ 3 $^{\circ}$ C)

In addition, when the secondary side is a closed circuit, pressure fluctuations will occur if the product is used for blowing or for similar applications.

## Communication specifications

Item	Description
Communication protocol	IO-Link
Communication protocol version	V1.1
Transmission bit rate	COM3 (230.4 kbps)
Port type	A

Item	Description
Process data length (input)	6 byte
Process data length (output)	4 byte
Min. cycle time	2 ms
Data storage	1 kbyte
SIO mode support	None

## Process data IN

PD	PD0								PD1							
Bit	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32
	MSB															LSB
Data name	Set pressure															
Data range	2 byte															
Format	UInteger 16															

PD	PD2								PD3							
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
	MSB															LSB
Data name	Control pressure															
Data range	2 byte															
Format	UInteger 16															

PD	PD4								PD5							
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Data name	Error	WARNING	Normal actuation	-	-	-	Switch output		MSB			LSB	Input setting		-	Start/Stop
							2	1	Error code							
Data range	True/False								0 to 15				0 to 2		-	True/False
Format	Boolean								UInteger 4				UInteger 2		-	Boolean

## Process data OUT

PD	PD0								PD1							
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
	MSB															LSB
Data name	Set pressure															
Data range	2 byte															
Format	UInteger 16															

PD	PD2								PD3							
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Data name	-	-	-	-	-	Preset			-	-	-	-	-	-	-	Start/Stop
						3	2	1								
Data range	-	-	-	-	-	0 to 7			-	-	-	-	-	-	-	True/False
Format	-	-	-	-	-	UInteger 3			-	-	-	-	-	-	-	Boolean

\* Refer to the website for product details.

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

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