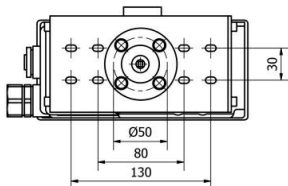
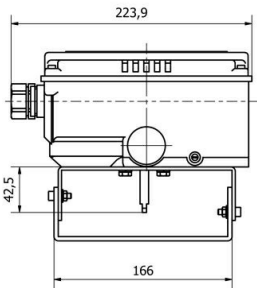
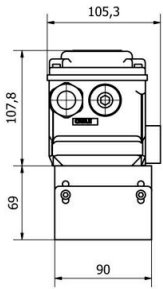


# Fig. 3304 Double-Acting Rotary Smart Positioner



## Order Information

Model No.

EC03304RDN52000S

Econ series 3300 Smart Positioner for quarter-turn actuators in double acting version. This positioner regulates and checks accurately the stroke of the valve, according to an input signal of 4-20mA, and optimizes by means of the built in microprocessor the performances of the positioner. The positioner offers unique functions such as automatic calibration, PID regulation and adaptation of the control characteristics. Optionally the positioner can be supplied with pressure gauges or extra modules, which can provide 4-20 mA feedback signal and HART protocol communication. Assembly on actuators according to (NAMUR) VDI/VDE 3845. The positioner is supplied complete with the required mounting set.

## Features

- Model: Quarter turn
- Display: Yes
- Stroke: 0 to 90 degrees
- Communication: None
- Feed pressure: 1.4 to 7 bar
- Temperature range: -30 to +85 grC
- Material housing: Aluminium
- Operation actuator: Double-acting
- Actuation: Electro/pneumatic
- Input signal: 4-20mA
- Feedback: None
- Supply voltage (reported): Via loop
- Mounting kit: Yes
- Material shackle: Steel

## Pressure and Temp Range

Specifications	
Supply pressure	20 to 100 PSI
Ambient temperature	-22 to 185°F
Ambient humidity	5 to 95% RH at 40°F
Protection class	IP66

## Additional information

The Econ® series 3300 Smart Positioner functions on the basis of an electronic flap/nozzle system. Via the local LCD display the user can simple check the status of the positioner. The auto-calibration makes a fast and simple commissioning possible. The low air consumption and low voltage requirement (8,5V) help to lower operational costs of an installation. The positioner functions with most common process controllers. The accuracy and fast reaction time of the Econ® series 3300 Smart Positioner strongly improves the control characteristics of the control valve and the valve system feedback. The positioner will function normally even during sudden changes in air supply pressure and/or an environment with strong vibrations.

## Properties/Advantages

- Fast commissioning due to auto-calibration
- Optimization by PID algorithm
- Clearly readable LCD display
- Low air- and power consumption
- Less sensitive to varying air quality
- "Tight shut" function for reliable sealing
- Sturdy aluminium enclosure
- Auto / Manual switch
- "Split range" function (4-12 mA or 12-20 mA)

Specification	
Stroke	0 to 90°
Principle	Electronic flap/nozzle system
Input signal	4 - 20 mA DC
Min. current signal	3,2 mA (standard) / 3,8 mA (HART® included)
Impedance	Max. 450 Ω / 20 mA DC

# Fig. 3304 Double-Acting Rotary Smart Positioner



Output	Linear, Equal percentage, Fast opening, User characteristics defined characteristic (16 points)
Supply air	Clean and dry instrument air (class 2 according to ISO 8573-1)
Repeatability	± 0,3% of complete range
Linearity	± 0,5% of complete range
Hysteresis	± 0,5% of complete range
Sensitivity	± 0,2% of complete range
Air consumption	< 2 litres per minute at 1,4 bar / < 3 litres per minute at 7 bar
Air capacity	70 litres per minute
Enclosure	Aluminium die-casting with epoxy polyester powder coating
Vibration	No resonance up to 100Hz at 6G
Air connection	¼" NPT
Electrical connection	½" NPT with gland for 8 mm cable
Weight	2 kg
Colour	Grey (RAL 7042)

Spare Accessories	
EC3300X0003GB00	Accessory: Gauge block including (3) gauges for series 3300 smart positioner ( <b>recommended</b> )
EC3300X000BSA00	Accessory: Bar Slide Assembly for Linear Positioner
EC3300X000ALL00	Accessory: Adaptor Lever Long No. 4 (16-60mm)
EC3300X000PCBHO	Accessory: HART PCB Card ( <b>common</b> )
EC3300X000PCBPO	Accessory: PTM PCB Card
EC3300X000PCBPH	Accessory: PTM + HART PCB Card



## General

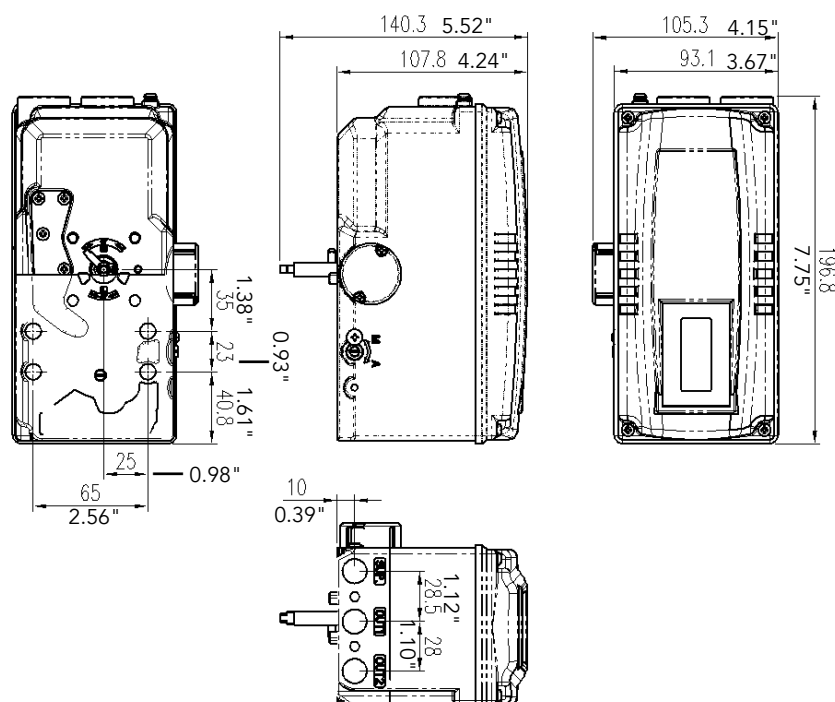
Econ<sup>®</sup> series 3300 Smart Valve Positioner accurately controls valve stroke in response to an input signal of 4-20mA from a process controller. An built-in micro-processor optimizes the positioner's performance and provides unique functions such as **Auto-Calibration, PID Controlled , Alarms, and HART<sup>®</sup> Protocol Communications.**

## Main Features and Functions

- LCD display enables users to monitor the positioner status.
- Positioner operates normally during sudden changes in supply pressure and / or high vibration environment.
- Low air consumption level and low voltage use (8.5 V) yield to lower plant operating costs. The series 3300 is compatible with most of controllers.
- Variable orifices can be used to minimize the hunting occurrence and optimize operating conditions.
- Valve system feedback is greatly improved by the accuracy and fast response of the series 3300.
- Different valve characteristics can be adjusted – Linear, Quick Open, Equal Percentage, and Custom which user can make 16 points characterizations.
- Tight Shut – Close and Shut - Open can be set.
- PID parameters can be adjusted in the field without any additional communicator.
- A/M switch can be used to direct supply air to the actuator or to manually operate the positioner or valve.
- Split range 4-12mA or 12-20mA can be set.
- Operating temperature is -22 ~ 185°F (-30 ~ 85°C).
- Manual Operation allows the user to operate the valve manually.

## Product Dimension

Figure 3303/3304

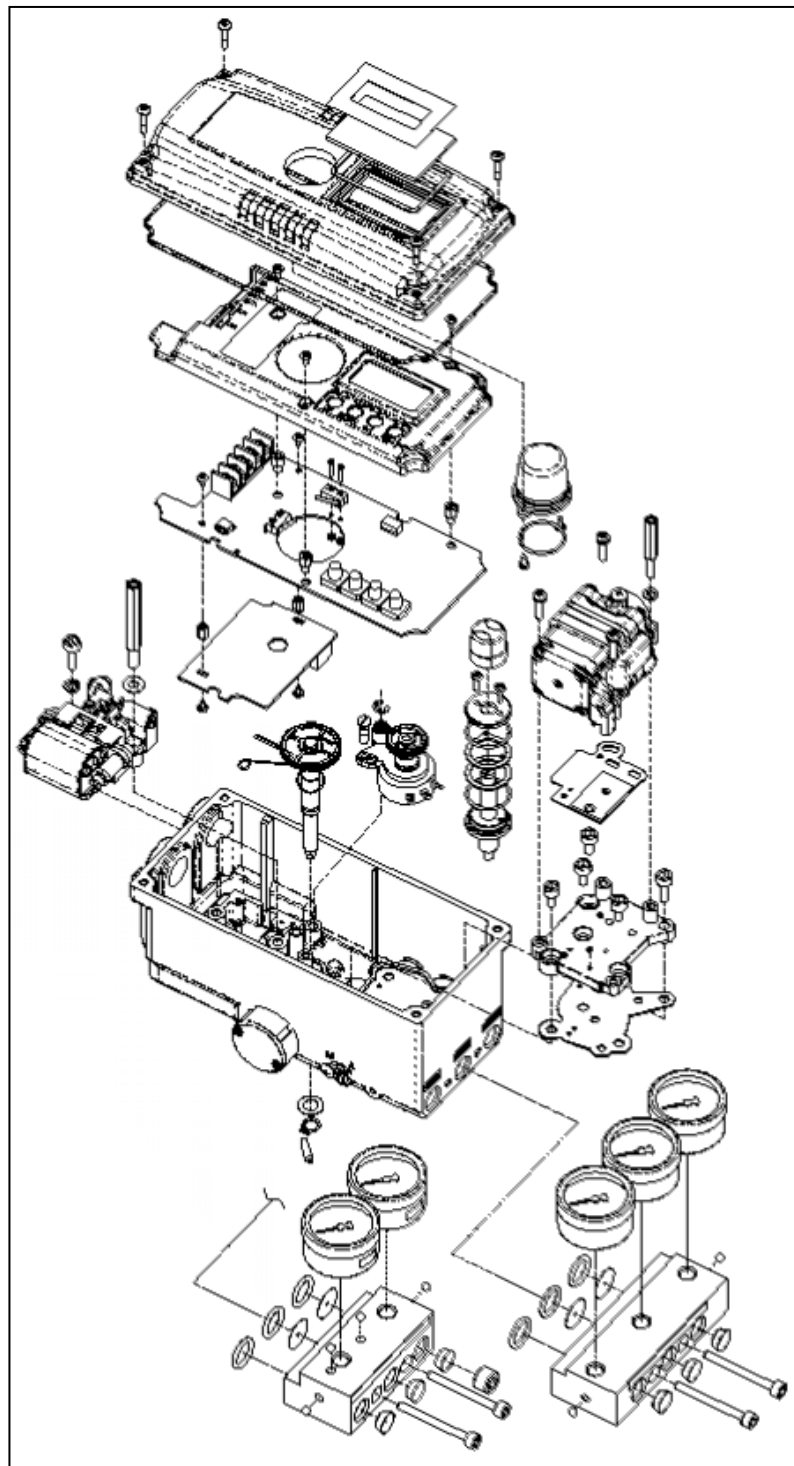


## Product Specification

<b>Figure</b>	<b>3304</b>
<b>Motion type</b>	<b>Rotary</b>
<b>Acting Type</b>	<b>Double</b>
<b>Input Signal</b>	4~20mA DC
<b>Min. Current Signal</b>	3.2mA(Standard), 3.8mA(HART® Included)
<b>Supply Pressure</b>	20~100 psi (1.4~7 bar)
<b>Stroke</b>	0~90°
<b>Impedance</b>	Max.450Ω @ 20mA DC
<b>Air Connection</b>	1/4" NPT
<b>Gauge Connection</b>	1/8" NPT
<b>Conduit Entry</b>	1/2" NPT with gland for 8 mm cable
<b>Protection Grade</b>	IP66
<b>Explosion Proof</b>	Non-Explosion Proof
<b>Ambient Temp.</b>	Operating Temp. : -22~185F (-30~85°C)
<b>Linearity</b>	±0.5% F.S.
<b>Hysteresis</b>	0.5% F.S.
<b>Sensitivity</b>	±0.2% F.S
<b>Repeatability</b>	±0.3% F.S
<b>Flow Capacity</b>	2.47 ft <sup>3</sup> PM (Sup.=20psi) / 70 LPM (Sup.=0.14 MPa)
<b>Air Consumption</b>	Below 122 in <sup>3</sup> PM (sup = 20 PSI), Below 183 in <sup>3</sup> (sup = 100 PSI)
<b>Output Characteristic</b>	Linear, Quick Open, EQ%, User Set (16 point)
<b>Vibration</b>	No Resonance up to 100Hz @ 6G
<b>Humidity</b>	5-95% RH @ 104°F
<b>Communication</b>	HART® Communication
<b>Feedback Signal</b>	4~20mA (DC 10~30V)
<b>Material</b>	Aluminum Die-casting
<b>Weight</b>	4.4 LB
<b>Painting</b>	Epoxy Powder Coating

Tested under ambient temperature of 20°C, absolute pressure of 760mmHg, and humidity of 65%.

Figure 3303/3304 exploded view



## Product Number

EC0330\_ 1 2 3 4 5 6 7 8

1	Motion Type	L	Linear
		R	Rotary

2	Acting Type	S	Single Acting
		D	Double Acting

3	Explosion Proof	N	Non-explosion
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4	Lever Type	L	1	20 ~ 100 mm
			2	90 ~ 150 mm
			3	16 ~ 30 mm (adapter)
			4	16 ~ 60 mm (adapter)
			5	16 ~ 100 mm (adapter)
		R	5	NAMUR

5	Connection Type	1	PT 1/4
		2	NPT 1/4

6	Communication	0	None
		2	HART Protocol

7	Option	0	None
		1	+ PTM

8	Ambient Temp.	S	-30 ~ 85°C (-22~185°F)
		L	-40 ~ 85°C (-40~185°F)