

# ZR1 & ZL1 Smart Positioner

Lilly Engineering's new Z Series positioner has been designed to work in the most difficult of environments, standing up to the vibration and harshness found on ocean liners to the wash downs in food processing plants, and everything in-between.

The one touch calibration feature speeds set up time while increasing accuracy. Additionally, the trouble-free, economical models ZRI (Rotary) and ZLI (Linear) are modular by design and have the capability to add a feedback board or limit switches in the field. Find out why the ZRI and ZLI are two of the most versatile positioners in the market place today...

**specify them on your next project!**

## **One Button Calibration:**

Simply supply any signal between 4 mA and 20 mA to the positioner, and then press the auto-calibration button. In approximately one minute, the positioner is fully calibrated.

## **Protocols:**

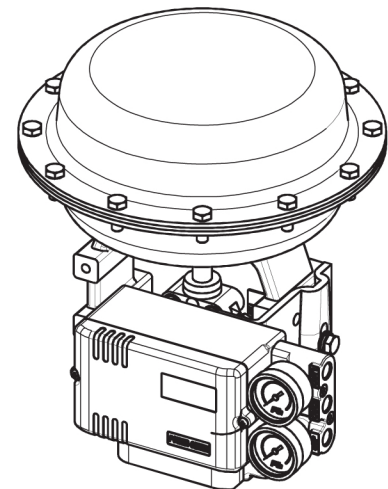
Smart, Hart, Profibus, and Foundation Fieldbus

## **Features:**

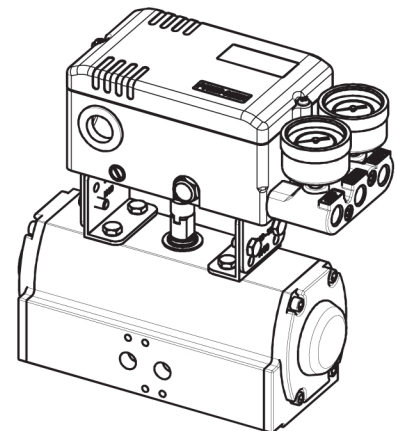
- One button auto-calibration
- Modular design - Expandable in the field
- Switches are located in enclosure
- One positioner for both DA (direct acting) or RA (reverse acting) applications.
- Positioner automatically recognizes DA or RA.  
*This includes when the positioner and actuator are tubed incorrectly.*
- Compact design allows for use with small actuators.
- Operating temperature range -20F to 165F
- Minimal air consumption
- NAMUR Mounting VDI/VDE 3845 (IEC 60534-6-2) for rotary actuators.
- IEC 60534-6-1) for linear actuators.
- Programmable

## **Options:**

Output position feedback (4-20mA)  
2 x alarm limit or micro switch (SPDT)  
Explosion proof type (IECEX / ATEX / KC Ex ia IIC T5)  
Available with stainless steel enclosure



**ZL1 (Linear Type)**

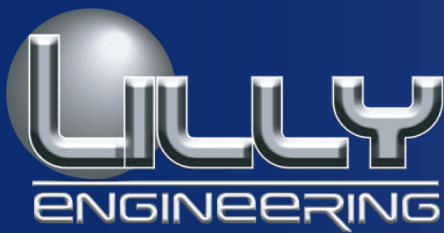


**ZR1 (Rotary Type)**

**LILLY ENGINEERING COMPANY, INC.**

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# ZR1 & ZL1 Smart Positioner

## Specifications

Input Signal	4 - 20 mA @ 24 VDC
Min. / Max. Current	3.6 mA / 50 mA
Voltage Drop (Resistance)	Without Hart : 8.7 VDC (435Ω @ 20 mA) With Hart : 9.4 VDC (470Ω @ 20 mA)
Stroke / Angle	Linear type : 5 - 130 mm * Rotary type : 25 - 120°
Air Supply Pressure	1.4 - 7.0 bar ( 20 - 100 psi ), filtered, compressed dry and non-oiled to meet Class 3 of ISO 8573-1
Output Pressure Range	0 - 100% of supply air pressure
Air Capacity	80 ℓ/min = 4.8 N <sup>m</sup> /h = 2.8 scfm (Sup = 1.4 bar) 233 ℓ/min = 14 N <sup>m</sup> /h = 8.2 scfm (Sup = 6 bar)
Air Consumption	2 ℓ/min = 0.12 N <sup>m</sup> /h = 0.07 scfm (Sup = 1.4 ~ 6 bar)
Characteristic	Linearity < ±0.3% F.S      Sensitivity < 0.2% F.S Hysteresis < 0.2% F.S      Repeatability < 0.2% F.S
Performance Characteristic	Linear, EQ %, Quick open, User set (17 points)
LCD Indication	4-digit LCD indicator
Adjustable Speed	1 - 1000 (lowest 1, highest 1000)
Scan Time	2ms
Shut-off Value	Range 0 - 10% of position signal
Valve Action	direct action (DA) / reverse action (RA)
Operating Temperature	- 30 ~ +80 °C (- 22 ~ +176 °F) **
Pneumatic Connections	PT(Rc) 1/4 or NPT 1/4
Electrical Connections	2 x PF(G) 1/2 or NPT 1/2
Protection Class	IP66, intrinsically safe (IECEX / ATEX / KC Exia IIC T5)
Body Material	Aluminum die-cast / powder-painted
Weight	3.5 pounds (1.6 kg)

\* Up to 200mm on request      \*\* -40 °C on request

## Ordering Information: ZR1 (Rotary) • ZL1 (Linear)

1) Series	2) Enclosure	3) Communication	4) Output
ZR1 - Model	W - Weatherproof - IP66	4 - 2-20mA Input Only	N - None
		H - Hart	S - 2 SPDT Limit Switches
		P - Profibus	T - 4-20 mA
		F - Foundation Fieldbus	

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