



### Features:

- Power supply 24 Vac/Vdc
- Nominal force 120N [27lbs]
- Analog control mode
- Patented Enerdrive Fail-Safe System\* (53-1987)
- Linear or equal percentage curve (configurable)
- Manual override
- Direct or reverse acting (configurable)
- Status LED
- Standard cable 1 meter (3.2 ft) long
- Easy installation, no tools required
- Small size for easy installation in limited space
- Stall-proof, maintenance free
- IP54 enclosure

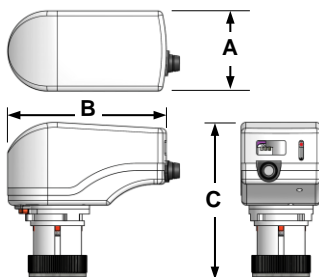
**53-1988**  
**53-1987**

Technical Data	53-1988	53-1987
Nominal Force	120N [27lbs]	
Power supply	22 to 26 Vac or 22 to 26 Vdc	
Power consumption	5VA	10VA peak, 6VA
Electrical connection	4-wire halogen free cable 0.8 mm <sup>2</sup> [18AWG], 1 m (3.2 ft) long	
Control mode & signal	Analog, 0-10Vdc or 2-10Vdc 4-20mA with externally wired 500Ω resistor	
Feedback signal	0-10Vdc or 2-10Vdc	
Running time	18.5 sec/mm - 120 sec for 6.5mm	
Failsafe Running time	No failsafe	9.2 sec/mm (60 sec for 6.5mm)
Maximum stroke	Up to 6.5 mm [¼ in], self-adjustable	
Direction	Reversible, normally up position (close) or normally down position (open)	
Ambient temperature	2°C to 50°C [36°F to 122°F]	
Storage temperature	-30°C to 50°C [-22°F to 122°F]	
Relative Humidity	5 to 95 % non-condensing	
Medium temperature (in valve)	2°C to 120°C [36°F to 248°F]	
Weight	0.4 kg [0.9 lbs.]	
Ingress protection	IP54 equivalent to NEMA type 3R	

### Dimensions

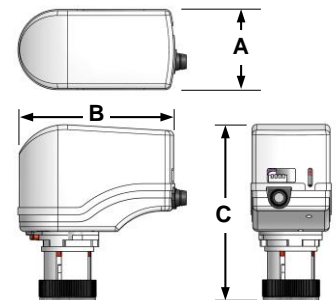
#### 53-1988

A = 2.08" | 53mm  
B = 4.09" | 104mm  
C = 3.62" | 92mm



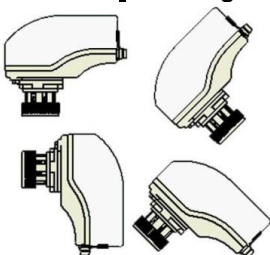
#### 53-1987

A = 2.08" | 53mm  
B = 4.09" | 104mm  
C = 4.18" | 107mm



### Mounting

#### Correct mounting



#### Incorrect mounting



1. The actuated valve installation should be easily accessible and provide sufficient clearance for service and replacement.
2. Horizontal and vertical positions are preferred orientations for the installation of actuated valve. However, this actuator can be installed at any in between angle.

#### Caution:

Do not install at more than 90° from horizontal.

**Assembly**

1. Mount the valve adaptor to the valve and finger-tighten only.  
**Warning:** Finger-tighten only. Do not use a wrench or any other tool.
2. Rotate knob clockwise to open the valve. Do not force knob in either direction!
3. Manually adjust the knob to test piping network.
4. Once satisfied that the network is working properly, engage the actuator over the valve adaptor and turn 30° clockwise (CW). You should hear an audible click.

To disengage the actuator, press the release button while turning the actuator CCW 30°.

**Caution:** Actuator specifically calibrated to its adapter. **DO NOT** exchange original adapter with a different actuator.

**WARNING!**

	<b>You must connect the actuator to its adaptor and mount it on a valve before applying power. Failure to do so will result in incorrect operation of the actuator.</b>
	<b>Improper use of mechanical tools or application of excessive force to tighten the adaptors on the valves could lead to structural damage of the adaptor, which could lead to failure over time.</b>
	<b>If you plan to add foam insulation, do not add insulation foam beyond the chrome ring and around the adaptor. Improper installation of insulation material could lead to a build-up of condensate water around the valve and the chrome ring of the adaptor, which could lead to a build-up of rust and compromise the structure of the chrome ring that holds the adaptor.</b>

**53-1988**

**DIP Switches**

**1) Rotation Direction**  
OFF: Valve Norm. Closed (up at 0Vdc)  
ON: Valve Norm. Open (down at 0Vdc)

**2) Curve Selection**  
OFF: Linear  
ON: Equal percentage

**3) Input Analog Signal & Feedback**  
OFF: 2-10 Vdc  
ON: 0-10 Vdc

**LED Status**  
Normal: Flash 0.5 sec ON / 10 sec OFF  
Error: Flash 0.2sec ON / 0.2sec OFF  
Auto stroke: Continuous ON

**Optional:** Add 500 Ohms resistor (1%/0.25W) to use 4-20mA control signal. **DIP switch 3 must be set to OFF**

500 Ohms

--- BLACK --- COMMON/GND  
--- RED --- 24 Vac / Vdc  
--- WHITE --- ANALOG SIGNAL  
--- GREEN --- FEEDBACK

**53-1987**

**DIP Switches**

**1) Rotation Direction**  
OFF: Valve Norm. Closed (up at 0Vdc)  
ON: Valve Norm. Open (down at 0Vdc)

**2) Curve Selection**  
OFF: Linear  
ON: Equal percentage

**3) Input Analog Signal & Feedback**  
OFF: 2-10 Vdc  
ON: 0-10 Vdc

**4) Failsafe Direction**  
OFF: Valve Norm. Closed (up)  
ON: Valve Norm. Open (down)

**LED Status**  
Normal: Flash 0.5 sec ON / 10 sec OFF  
Error: Flash 0.2sec ON / 0.2sec OFF  
Auto stroke: Continuous ON  
Failsafe mode: Flash 0.1s ON / 2s OFF

**Optional:** Add 500 Ohms resistor (1%/0.25W) to use 4-20mA control signal. **DIP switch 3 must be set to OFF**

500 Ohms

--- BLACK --- COMMON/GND  
--- RED --- 24 Vac / Vdc  
--- WHITE --- ANALOG SIGNAL  
--- GREEN --- FEEDBACK

**Caution**

We strongly recommend that all products be wired to a separate transformer and that transformer shall service only these products. This precaution will prevent interference with, and possible damage to incompatible equipment. When multiple actuators are wired on a single transformer, polarity must be observed. Long wiring runs create voltage drop which may affect the actuator performance.

\* Enerdrive Fail-Safe System: US Patent # 5,278,454 | European Patent # 0647366