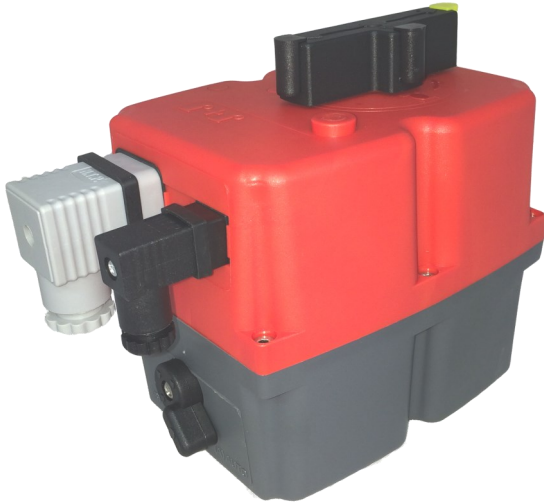


## R-20 24V AC/DC



### Overview

The R-20 is a basic power open power close electric actuator, offering a selectable manual override, 2 volt free end of travel switches for remote position confirmation, a combined manual override operating lever/ local visual position indicator, and all external connections via supplied DIN plugs.

The IP67 housing is fully weatherproof and an ISO:5211 compliant base with 3 options provides flexibility and the possibility to direct mount to suitable valves.

Each model of the R Series range accepts a specific AC voltage therefore the voltage must be specified when ordering, however the 24V version has an internal switch that allows it to be configured to work with either 24VAC or 24VDC.

For outdoor applications where temperatures may fall below the dew point we recommend the optional anti-condensation heater, which would require a separate power feed.

### R-20 24V AC/DC Basic Electric Actuator Specifications

Voltage options	24V AC or DC (Internal dip switch)
Operating time (0-90° no load)	10 seconds (varies slightly by voltage)
Maximum break torque	25 Nm (221 lb.ins)
Maximum operating torque (run/ reseal)	20 Nm (177 lb.ins)
Duty rating	75%
IP Rating (IEC 60529)	IP67
Working angle Standard (on request)	90° (180° or 270° options)
Mounting ISO:5211 x DIN 3337	F03, F04 & F05 x 14 (std)
Motor switches	2 x SPDT micro switches
End of travel confirmation (volt free)	2 x SPDT micro switches
Optional Heater	3.5 W
Ambient temperature range	-20° to +70°C (-4 to +158°F)
Electrical connecting plugs	EN175301-803
Weight	1.7 kg

### R Series Main Features

IP67 Weatherproof, UV protected, corrosion resistant plastic housing.

Very user friendly and easy to install - all the electrical connections are external.

Local visual and volt free remote end of travel confirmation

Anti-condensation heater option

Basic specification, economically priced

### How this R-20 electric 1/4 turn valve actuator works (on-off)

Electrically operated valves are driven by an electric actuator containing a motor and gearbox. On receipt of a continuous voltage signal (not pulse) the motor runs and, via a gearbox in the electric actuator, rotates the valve stem. The motor stops at the desired position (usually 0° or 90°) by an internal cam striking a micro-switch. The valve actuator remains in this position, with the voltage still applied continuously, until switched and a continuous voltage reversing signal (not pulse) is applied, which runs the motor in the opposite direction, reversing the rotation until a separate internal cam strikes a separate micro-switch and stop the motor. The R20 actuator is designed to have the external power continuously applied, and power must not be switched off when end of travel is achieved.

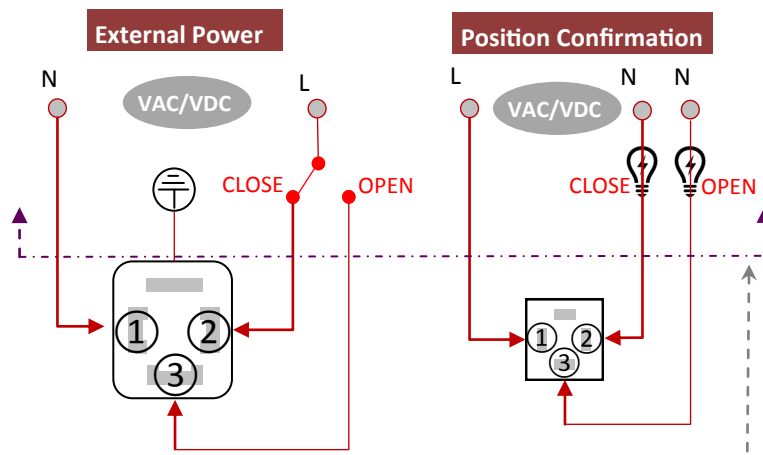
**POWER OPEN - POWER CLOSE BASIC ELECTRIC ACTUATOR**

**R-20 ON - OFF ELECTRIC ACTUATOR**

Power open, power close, stays put on loss of external power.

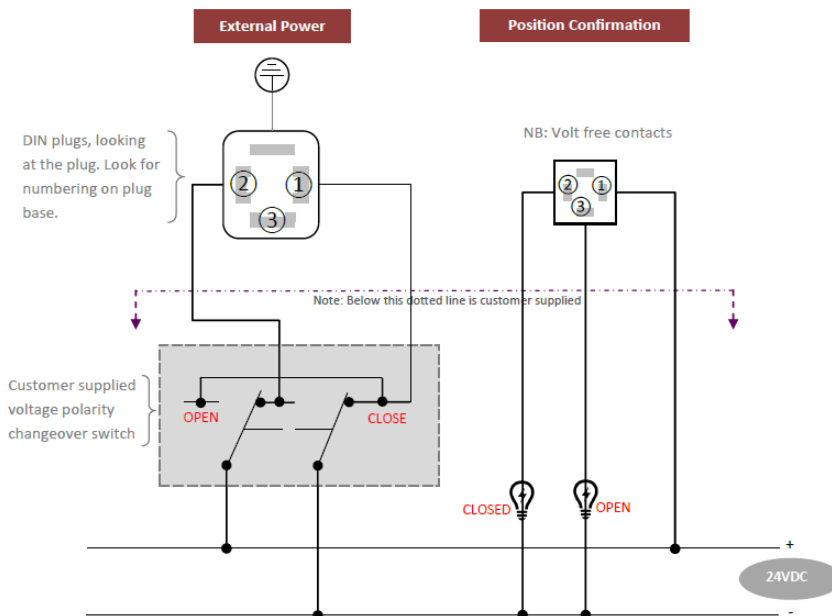
In J+J electric actuators all electrical connections are made externally using the external DIN plugs supplied with the actuator. There is no need to remove the valve actuator's cover to connect electrically. There are no terminals internally to connect to.

**R-20 AC WIRING**



Note: Above line above is customer supplied

**R-20 24VDC WIRING**

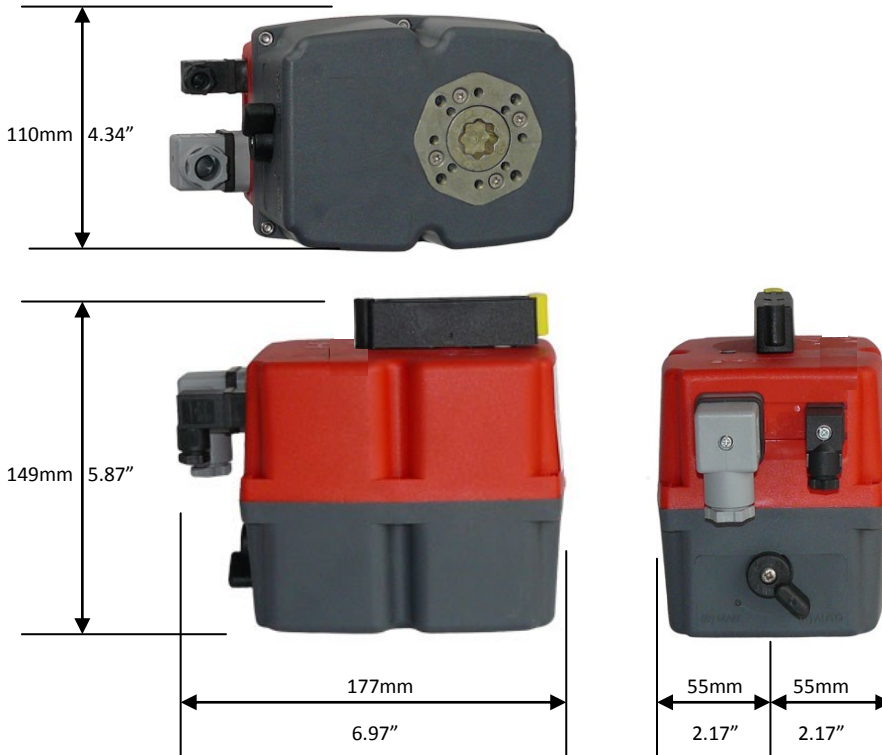


**NOTE ON POWER SUPPLIES**



It is imperative that the power supply has sufficient capacity to drive the R Series electric actuator. Ensure that safety factor of 3 is used to cover inrush on start-up, and for increased draw over time as the brushed DC motor wears.

### R-20 Dimensions



ISO5211 Mounting	F03	F04	F05
Mounting PCD (mm)	36	42	50
Star Drive (Standard)	14mm		
Star Drive (Optional)	9mm or 11mm		

R Series Materials of construction:	
Housing	Anti-corrosive Polyamide
Fasteners	Stainless steel
Gears	Polyamide (speed reducing) & steel (load bearing)
Shaft	Stainless steel
Output drive	Zamac
Position indicator	Clear Polyamide

### R-20 Consumption

Supply Voltage	No load $\pm 5\%$	At maximum operational torque 20Nm	At maximum break torque 25Nm
	Amps	Amps	Amps
24V DC	0.23	0.51	0.58
48V DC	0.13	0.29	0.31
110V DC	0.08	0.14	0.16
24V AC	0.37	0.76	0.88
48V AC	0.23	0.42	0.45
110V AC	0.14	0.21	0.24
240V AC	0.18	0.31	0.35

**Note: To allow for inrush, and motor wear, MULTIPLY maximum consumption by 3 for sizing power supplies.**