



## 2-Way Solenoid Actuator

### S-390-2W

The BERMAD S-390-2W is a compact 2-Way Normally Closed Solenoid Actuator, specially designed for reliable long life service in irrigation systems controlled by Continuous Current Controllers. The BERMAD Solenoid Actuator is applicable directly to the valve cover or with a 2-Way Base that enables combining the S-390-2W in variety of 2-way control circuits.

Model S-390-2W is compliant with all Continuous Current Controllers on the market. It excels in its low power and low sensitivity to dirt and voltage variations.



### Features and Benefits

- Advanced Construction Materials, Unique Plastic Casing
  - Proven pressure, voltage and weather resistance
  - Highly durable in corrosive environments
  - High mechanical strength
  - Protection Class- IP68; NEMA Type 6D
- Superb Internal Design and Finish
  - Reliable operation under dirt loaded water
  - Low sensitivity to voltage variations
- Low Power Consumption
  - Low coil heating and sediment damage
  - Saves wires and infrastructures costs
  - Suits all Continuous Current Controllers on the market
- Simple Installation, Operation and Maintenance
- Reliable and Durable Product that Bears the Stamp of BERMAD Quality



### Applications

- Solenoid controlled on/off valves
- Solenoid controlled pressure and flow control valves
- Multiple valve systems
- Systems distanced from control center

# BERMAD Irrigation



S-390-2W

S-Series

## Specifications

### Ports:

Base Port - 1 (1/8" NPT<sup>(1)</sup>) - Downstream

Base Port - C<sup>(2)</sup> (1/8" NPT<sup>(1)</sup>) -Pressure

<sup>(1)</sup> Brass Base Ports Size is 1/4" NPT

<sup>(2)</sup> Brass Base Common Port is marked "2"

**Solenoid to Base Connection:** 3/4"; 20 UNEF Male Threaded

**Base Ports:** Plastic - 1/8" NPT; Brass - 1/4" NPT

**Base orifice size:** 1.8 mm

**Base Flow Factor:** Kv = 0.08 m<sup>3</sup>/h @ 1 bar ΔP; Cv=0.09 GPM @1 psi ΔP

**Leads:** 2 leads x 0.32 mm<sup>2</sup> x 80 cm

**Operating Pressure Range:** 0-10 bar

**Max. Temperature:** water 80°C; 180°F

### Materials:

**Actuator Casing:** Nylon

**Seals:** NBR

**Wetted parts:** Stainless steel and polyamide

**Base:** Nylon (Optional: Brass)

## Electrical Data:

| Actuator Type   | Cable Color | Power (Watt) | Current (Amp) |       | Coil Resistance ohm@20°C; 68°F |
|-----------------|-------------|--------------|---------------|-------|--------------------------------|
|                 |             |              | Inrush        | Hold  |                                |
| S390-2W-24VAC-R | Red/Red     | 1.7          | 0.25          | 0.125 | 37.5                           |
| S390-2W-24VAC-D | Red/Orange  | 2.2          | 0.13          | 0.13  | *                              |
| S390-2W-24VDC   | Black/Black | 4.2          | 0.18          | 0.18  | 156                            |
| S390-2W-12VDC   | Blue/Blue   | 4.0          | 0.33          | 0.33  | 36                             |

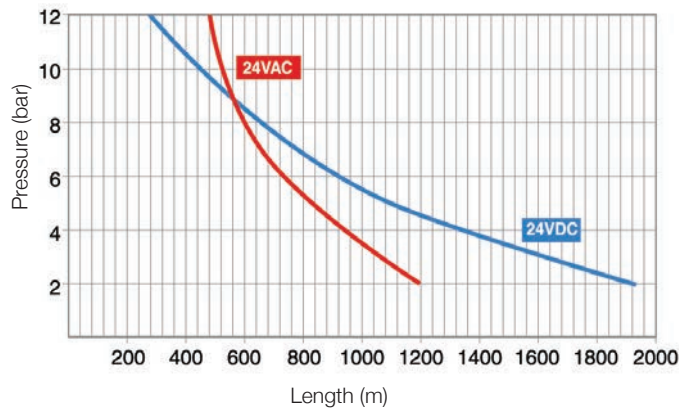
\* Coil resistance in this coil cannot be measured

## Cable Length Data:

### Maximum cable length according to coil type

Cable cross section: 0.5 mm<sup>2</sup>, orifice size:

1.8 mm, air gap: 0.7 mm



## How to Order

Please Specify the requested Solenoid as follow:

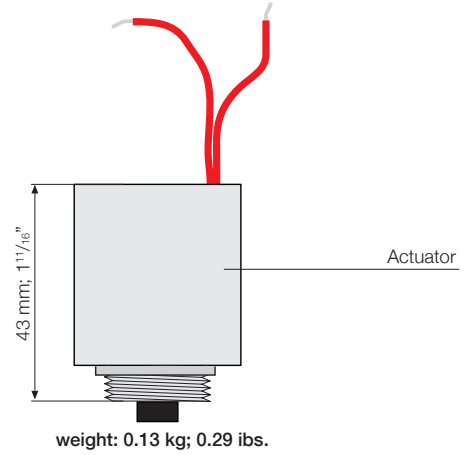
■ 2-wires Continuous Current Solenoid Actuator, BERMAD Model:

S-390-2W-\_\_\_\_<sup>(1)</sup>-\_\_\_\_<sup>(2)</sup>-NC-\_\_\_\_<sup>(3)</sup>

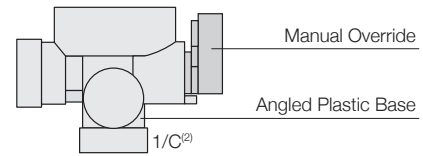
(1) Mark R or D

(2) Mark desired Voltage: 24V/AC, 24V/DC, 12V/DC

(3) Mark desired Base: 00 (No Base) BC (Plastic NC), BR (Brass NC)



weight: 0.13 kg; 0.29 lbs.



Manual Override

Angled Plastic Base

1/C<sup>(2)</sup>

### For cables longer than shown in diagram

In order to calculate the cross section of a length other than shown in the diagram, use the following equation:

$$S = \frac{L(\text{sol})}{L(\text{diagram})} \times 0.5$$

S = Minimum conductor cross-section in mm<sup>2</sup>

L (sol) = Actual Length of cable to solenoid

L (diagram) = Length of cable shown in this diagram



info@bermad.com • www.bermad.com

The information herein is subject to change without notice. BERMAD shall not be held liable for any errors. All rights reserved. © Copyright by BERMAD. PCSAE39 05