

## DC(M)-88 Series – Submittal/Technical Data

### 24 VAC - Non-Spring Return - 2-Position, Floating & Modulating

| Technical Specifications - DC(M)-88 Series Actuator |  |  |  |   |   |
|---|--|--|--|---|---|
| Type  | Actuator Models  | DC24-88-TP   | DC24-88-TAP  | DCM24-88-P                                      | DCM24-88-AP   |
|   |  | Non-Spring Return<br>Floating<br>Plenum Cable  | Non-Spring Return<br>2-Position/Floating<br>Plenum Cable<br>Auxiliary Switches   | Non-Spring Return<br>Modulating<br>Plenum Cable | Non-Spring Return<br>Modulating<br>Plenum Cable<br>Auxiliary Switches                           |
| Electrical  | Torque   | 88 lb-in. (10 Nm)  |  |   |   |
|   | Operating Voltage                                      | 24 VAC +-20%   | 24 VAC/DC +-20%  |   |   |
|   | Power Consumption                                      | 1.3 VA, 0.8W   |  | 1.5 VA, 1W                                      |   |
|   | Operational Protection                                 | N/A  | Timeout/Overload Protection  |   |   |
|   | Control Signal   | Floating   | 2-Position/Floating  | 0(2)-10V  |   |
|   | Input Impedance  | N/A  |  | >100k Ohms                                      |   |
|   | Feedback Signal  | N/A  |  | 0(2)-10V (Maximum Output<br>Current DC 1mA)     |   |
|   | Auxiliary Switch Rating                                | N/A  | 4A Resistive,<br>2A Inductive  | N/A   | 4A Resistive,<br>2A Inductive   |
|   | Switch Range<br>(Switch A)                             | N/A  | 0 to 90° with 5°<br>Intervals (Recom-<br>mended Range Usage<br>0 to 45°)<br>Factory Setting 5°   | N/A   | 0 to 90° with 5°<br>Intervals (Recom-<br>mended Range Usage<br>0 to 45°)<br>Factory Setting 5°  |
|   | Switch Range<br>(Switch B)                             | N/A  | 0 to 90° with 5°<br>Intervals (Recom-<br>mended Rang Usage<br>45 to 90°)<br>Factory Setting 85°  | N/A   | 0 to 90° with 5°<br>Intervals (Recom-<br>mended Rang Usage<br>45 to 90°)<br>Factory Setting 85° |
|   | Switching Hysteresis                                   | N/A  | 2°   | N/A   | 2°  |
|   | Equipment Rating                                       | Class 2 per UL/CSA   | Class 2 per UL/CSA,Class III per EN60730   |   |   |
| Electrical Connection                               | 3 ft. (0.9 m) Pre-cabled - AWG 18 - Plenum Rated Cable |  |  |   |   |
| Operation   | Manual Override  | Manual Operation by Selecting Override Knob when Power is off  |  |   |   |
|   | Runtime for 90°<br>of Rotation                         | 125 seconds  | 150 seconds  |   |   |
|   | Rotation Range   | Nominal Angle of Rotation 90°, mechanically limited to 95°   |  |   |   |
|   | Cycle Life   | 60,000 cycles at rated<br>load   | 100,000 full strokes/ 5 million repositions  |   |   |
|   | Mechanical<br>Connections                              | Round Shafts - 3/8 to 5/8 in. (8 to 16 mm) diameter<br>Square Shafts - 1/4 to 1/2 in. (6 to 12.7 mm)<br>Hex Shafts - 9/16 in. (15 mm)<br>Minimum Shaft Length - 3/4 in. (20 mm)  |  |   |   |
| Environmental                                       | Enclosure  | NEMA 2, IP54 according to EN60529  |  |   |   |
|   | Ambient Conditions<br>(Non-Condensing)                 | Operating — -25 to 130°F (-32 to 55°C); 0 to 95% RH, non-condensing<br>Storage — -40 to 158°F (-40 to 70°C); 0 to 95% RH, non-condensing   |  |   |   |
|   | Audible Noise Rating                                   | 35 dBA at 1 m  |  |   |   |
|   | Dimensions   | 6.6" L x 2.8" W x 2.4" D<br>(166.7mm L x 71mm W x 61mm D)  |  |   |   |
| Conditions  | Weight   | 1.35 lb (0.61 kg)  |  |   |   |
|   | Agency<br>Certifications                               | UL listed to UL873-cUL<br>certified to Canadian<br>Standard C22.2<br>No. 24-93, CE<br><br>In accordance with the<br>directive set forth by<br>the European Union for<br>Electromagnetic Com-<br>patibility (EMC)<br>2004/108/EC -<br>Emissions Standards<br>EN61000-6-3 - Immunity<br>Standards EN61000-6-<br>2 For DC24-88-TP | UL listed to UL60730-cUL certified to Canadian Standard C22.2<br>No. 24-93,<br><br>These devices were approved for installation in plenum areas by<br>Underwriters Laboratories, Inc., per UL 1995 CE listed<br>with EN60730-1, EN60730-2-14 |   |   |
|   | Warranty   | 5 Years limited from time of shipment.   |  |   |   |

Warning - These actuators are designed for use only in conjunction with operating controls. Where an operating control failure would result in personal injury and/or loss of property, it is the responsibility of the installer to add safety devices or alarm systems that protect against, and/or warn of, control failure.

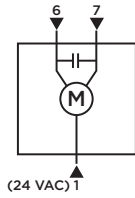
To avoid excessive wear or drive time on the motor, use a controller and/or software that provides a time-out function to remove the signal at the end of rotation (stall).

Disclaimer - The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the nearest Bray office. Bray controls shall not be liable for damages resulting from misapplication or misuse of its products.

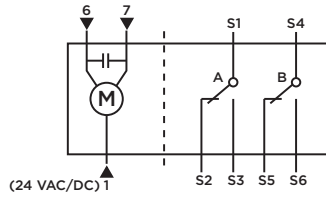
Mixed switch operation is not permitted. To the switching outputs of both auxiliary switches (A and B), only apply: UL/CSA: Class 2 voltage.

## DC(M)-88 Series - Wiring/Dimensions

| DC24-88-TP       |
|------------------|
| PLENUM CABLE     |
| Floating Control |

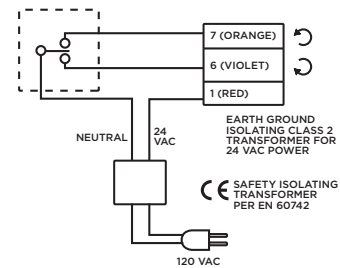
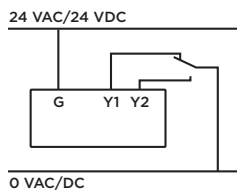
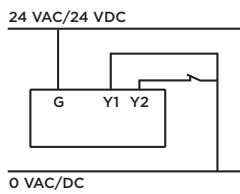


| DC24-88-TAP                 |
|-----------------------------|
| PLENUM CABLE                |
| 2-Position/Floating Control |



| 2-POSITION/FLOATING CONTROL |                                 |                      |            |
|-----------------------------|---------------------------------|----------------------|------------|
| Standard Symbol             | Function                        | Terminal Designation | Color      |
| 1                           | Supply (SP)                     | G                    | Red        |
| 6                           | Control Signal clockwise        | Y1                   | Violet     |
| 7                           | Control Signal Counterclockwise | Y2                   | Orange     |
| Factory-Installed Options   |                                 |                      |            |
| S1                          | Switch A Common                 | Q11                  | Gray/Red   |
| S2                          | Switch A N.C.                   | Q12                  | Gray/Blue  |
| S3                          | Switch A N.O.                   | Q14                  | Gray/Pink  |
| S4                          | Switch B Common                 | Q21                  | Black/Red  |
| S5                          | Switch B N.C.                   | Q22                  | Black/Blue |
| S6                          | Switch B N.O.                   | Q24                  | Black/Pink |

### CONTROL METHOD

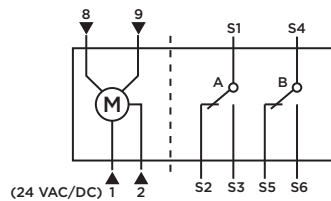


| 2-Position, SPST            |
|-----------------------------|
| (Single-Pole, Single-Throw) |

| 2-Position, SPDT            |
|-----------------------------|
| (Single-Pole, Double-Throw) |

| Floating Control |
|------------------|
| 24 VAC/DC        |

| DCM24-88-(A)P |
|---------------|
| PLENUM CABLE  |
| Modulating    |



| MODULATING CONTROL        |   |                      |            |
|---------------------------|---|----------------------|------------|
| Standard Symbol           | Function                                | Terminal Designation | Color      |
| 1                         | Supply (SP)                             | G                    | Red        |
| 2                         | Neutral (SN)                            | G0                   | Black      |
| 8                         | 0(2) to 10V input signal                | Y                    | Gray       |
| 9                         | Output for 0(2)-10V position indication | U                    | Pink       |
| Factory-Installed Options |   |                      |            |
| S1                        | Switch A - Common                       | Q11                  | Gray/Red   |
| S2                        | Switch A - N.C.                         | Q12                  | Gray/Blue  |
| S3                        | Switch A - N.O.                         | Q14                  | Gray/Pink  |
| S4                        | Switch B - Common                       | Q21                  | Black/Red  |
| S5                        | Switch B - N.C.                         | Q22                  | Black/Blue |
| S6                        | Switch B - N.O.                         | Q24                  | Black/Pink |

### Dimensions

