Direct Coupled Damper Actuators—Non-Spring Return

N10 Series: MN6110; MN7510
Non-Spring Return Direct Coupled Actuator, 88 lb-in

This non-spring return direct-coupled damper actuator provides modulating and floating/2-position control for air dampers, VAV units, air handlers, ventilation flaps, louvers, and reliable control for air damper applications with up to 20 sq ft/88 lb-in. (10 Nm) (seal-less damper blades; air friction-dependent).

- Declutch for manual adjustment
- Adjustable mechanical end limits
- Removable access cover for direct wiring
- Mountable in any orientation
- Function selection switch for selecting modulating or floating/2-position control

Dimensions in inches (millimeters)

Actuator Type: Damper; Valve
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Non-Spring Return
Torque: 88 lb-in. (10 Nm)
Maximum Stall Torque: 130 lb-in. (15 Nm)

Electrical Connections: Enclosed screw terminal strip (22 to 14 AWG)
Environmental Rating: NEMA2
Frequency: 50 Hz; 60 Hz
Manual operation: Declutch mechanism
Mounting: Direct Coupled
Maximum Noise Rating, Driving (dBA @ 1m): 35
Rotation to Open: By switch
Rotational Stroke Adjustment: Dual Integral Adj. Stops (3 degree increments)
Compatible Damper Shafts: 1/4 to 1/2 inch square; 3/8 to 5/8 inch round (6-13 mm square; 8-16 mm round)
Shaft Adapter Type: U-bolt clamp
Supply Voltage: 24 Vac +20%, -15%, 24 Vdc
Materials: Plenum rated plastic housing
Ingress Protection Rating: IP54
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: -2 F to +140 F (-20 C to +60 C)
Storage Temperature Range: -22 F to +176 F (-30 C to +80 C)
Weight: 1 lb (0.45 kg)
Approvals:
CE: 89/336/ECC, 73/23/EEC
C-Tick: N314
Underwriters Laboratories Inc. UL873, Plenum Rated
Underwriters’ Laboratories of Canada: cUL C22.2 No. 24-93
Includes: Mounting bracket, screws, shaft adapter, water-tight strain-relief cable fittings
Comments: Integral 1/2 in. NPSM conduit connection.

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Control Signal</th>
<th>Feedback</th>
<th>Timing (seconds)</th>
<th>Power Consumption</th>
<th>Nominal Driving @ 60Hz</th>
<th>Driving</th>
<th>Supply Voltage</th>
<th>Number of Internal</th>
<th>Switch Ratings</th>
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<tbody>
<tr>
<td>* MN6110A1003</td>
<td>Floating; Two position</td>
<td>—</td>
<td>95 sec</td>
<td>5 VA</td>
<td>24 Vac +20%, -15%, 24 Vdc</td>
<td>0</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>* MN6110A1201</td>
<td>Floating; Two position</td>
<td>—</td>
<td>95 sec</td>
<td>5 VA</td>
<td>24 Vac +20%, -15%, 24 Vdc</td>
<td>2</td>
<td>30 Vdc max., 3 A Class II</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>* MN7510A2001</td>
<td>(0)2-10 Vdc (4-20 mA w/500 ohm resistor); Floating; Two position</td>
<td>(0)2-10 Vdc (max. output: ±1.0 mA)</td>
<td>95 sec</td>
<td>5 VA</td>
<td>24 Vac +20%, -15%, 24 Vdc</td>
<td>0</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>* MN7510A2209</td>
<td>(0)2-10 Vdc (4-20 mA w/500 ohm resistor); Floating; Two position</td>
<td>(0)2-10 Vdc (max. output: ±1.0 mA)</td>
<td>95 sec</td>
<td>5 VA</td>
<td>24 Vac +20%, -15%, 24 Vdc</td>
<td>2</td>
<td>30 Vdc max., 3 A Class II</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

* TRADELINE models  * SUPER TRADELINE models
Wiring for Floating Control

MN6105, MN6110
FLOATING: DIR

ACTUATOR

M23107

\[\begin{align*}
\text{LINE VOLTAGE POWER SUPPLY.} \\
\text{PROVIDE DISCONNECT MEANS AND} \\
\text{OVERLOAD PROTECTION AS REQUIRED.} \\
\text{24 VDC SUPPLY ACCEPTABLE.}
\end{align*}\]

Wiring for Voltage Control

MN7505, MN7510
MODULATING: 0[2]...10 V, 10...0[2] V

ACTUATOR

M23097

\[\begin{align*}
\text{LINE VOLTAGE POWER SUPPLY.} \\
\text{PROVIDE DISCONNECT MEANS AND} \\
\text{OVERLOAD PROTECTION AS REQUIRED.} \\
\text{24 VDC SUPPLY ACCEPTABLE.}
\end{align*}\]

Wiring for Auxiliary Switches

END SWITCHES (CLASS II-ONLY)

S1 S2 S3 S4 S5 S6

M23110

\[\begin{align*}
5^\circ & 5^\circ \\
85^\circ & 85^\circ
\end{align*}\]