5 Nm, 10 Nm Series
NON-SPRING RETURN DIRECT-COUPLED DAMPER ACTUATORS FOR FLOATING AND TWO-POSITION CONTROL

FEATURES
• Declutch for manual adjustment.
• Adjustable mechanical end limits.
• Removable access cover for direct wiring.
• Mountable in any orientation.
• Rotation direction and service/OFF switch.
• Available with cable on select models.

SPECIFICATIONS
Supply voltage:
MN6105/MN6110: 24 Vac/Vdc -15%/+20%, 50/60 Hz.

Nominal voltage:
MN6105/MN6110: 24 Vac/Vdc, 50/60 Hz.
All values stated herein after apply to operation under nominal voltage conditions.

Power consumption:
MN6105/MN6110: 5 VA / 2 W.

Ambient limits:
Ambient operating limits: -5...+140° F (20...+60° C).
Ambient storage limits: -22...+176° F (-30...+80° C).
Relative humidity: 5...95%, non-condensing.

Safety:
Protection standard: IP54.
Protection class: II as per EN 60730-1.
Overvoltage category: II.

Lifetime:
Full strokes: 60000.
Repositions: 1.5 million.

Contents
General ................................................................. 1
Features ............................................................... 1
Specifications ..................................................... 1
Ordering Information ........................................... 2
Installation ........................................................ 3
Wiring.................................................................... 4
Mounting:
Round damper shaft: 3/8…5/8 in. (9.5…15.9 mm).
Square damper shaft: 1/4…1/2 in. (6.4…12.7 mm);
45° steps.
Shaft length: min. 1-5/8 in. (41.3 mm).

End switches (when included):
Rating: Class II.
Triggering points: 5° / 85°.

Torque rating: 44 lb-in. (5 Nm) / 88 lb-in. (10 Nm).

Runtime for 90°:
MN6105: 0 sec (dc / 60 Hz ac).
MN6110: 90 sec (dc / 50 Hz ac).

Rotation stroke: 95° ± 3°.

Dimensions: See Dimensions (see Fig. 10).

Weight (without cables): 1 lbs (0.45 kg).

Noise rating: 35 dB(A) max. at 1 m (39 in.).

Cable Specification:
300 V, 75° C, Plenum Rated, 3 ft length from end of access cover, 18 AWG

### PRODUCT IDENTIFICATION SYSTEM

<table>
<thead>
<tr>
<th>M</th>
<th>Electrical Motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Fail Safe Function (Non-Spring Return)</td>
</tr>
<tr>
<td>61</td>
<td>24 Vac Floating, Two-Position Control; Reversible Mount</td>
</tr>
<tr>
<td>75</td>
<td>24 Vac Modulating</td>
</tr>
<tr>
<td>05</td>
<td>44 lb-in. (5 Nm)</td>
</tr>
<tr>
<td>A</td>
<td>Standard U.S. Model</td>
</tr>
<tr>
<td>W</td>
<td>Standard U.S. Model with Cable*</td>
</tr>
<tr>
<td>1</td>
<td>No Feedback</td>
</tr>
<tr>
<td>2</td>
<td>Voltage Feedback Signal</td>
</tr>
<tr>
<td>0</td>
<td>No End Switches</td>
</tr>
<tr>
<td>2</td>
<td>Two End Switches</td>
</tr>
<tr>
<td>XX</td>
<td>System Controlled Numbers</td>
</tr>
</tbody>
</table>

*Cables available on MN7505W2001 or MN6105W1011 only.

### ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:
1. Your local Honeywell Automation and Control Products Sales Office (check white pages of your phone directory).
2. Honeywell Customer Care
   1885 Douglas Drive North
   Minneapolis, Minnesota 55422-4386
In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Toronto, Ontario M1V 4Z9.
International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.
RUN MODES

The function selection switch (see Fig. 2) can be used to place the actuator into any one of two different modes:

- Service/Off; or
- The floating/2-position run mode ("Dir" for CCW-closing dampers or "Rev" for CW-closing dampers).

Power-Off Behavior

If power is removed, the shaft adapter remains in position.

Service/Off

If the function selection switch is set to the “Service/Off” position, then all rotary movement is cancelled, and all control signals are ignored, thus allowing the actuator to be manually operated safely.

Floating/2-Position Run Mode

If the function selection switch has been set to one of the two floating/2-position control settings—and if the actuator is wired correspondingly (see Figures 7 through 9)—then as soon as operating power is applied, the shaft adapter will run according to the control signals applied.

Table 1 describes the behavior ("stops," rotates "CCW," or rotates "CW") of the MN6105/MN6110 in dependence upon the control signals (switch “open” or “24 Vac/dc”) applied to terminals 3 and 4, the function selection switch setting, and the manner in which the actuator is wired (either for floating mode: see Fig. 7; or for 2-position mode: See Fig. 8).

Interrnal End Switches

The internal end switches "A" and "B" are changeover switches which are activated when the shaft adapter moves past a position of 5° and 85°, respectively (See Table 3).

INSTALLATION

To avoid personal injury (electrical shock) and to prevent equipment damage, before installation, you must remove power.

These actuators are designed for single-point mounting.
Mounting Instructions

All information and steps are included in the Installation Instructions (See form no. 62-0224) supplied with each actuator.

Mounting Position

The actuators can be mounted in any position (IP54 is dependent upon orientation; see Fig. 8). Choose a mounting position permitting easy access to cables and controls.

![Fig. 5. Mounting for IP54.](image)

**NOTE:** Further, in order to guarantee IP54, only original Honeywell grommets may be used.

Anti-Rotation Bracket and Screws

If the actuator is to be mounted directly on a damper shaft, use the anti-rotation bracket and screws included in the delivery package. The minimum distance between the center of the damper shaft and the middle of the anti-rotation bracket is 3.35 in. (85 mm); a maximum of 4.25 in. (108 mm) is allowed (See Fig. 10).

Depending upon the specifics of your mounting site, the actuator may shift in position slightly while tightening the screws at the top of the shaft adapter. The anti-rotation bracket features a T-piece with a 3/16 in. (5 mm) long shank to accommodate for this movement. It is important to ensure that this play is not impeded.

Universal Shaft Adapter

The universal shaft adapter can be used for shafts of various diameters and shapes (round: 3/8...5/8 in. (9.5...15.9 mm) and square: 1/4...1/2 in. (6.4...12.7 mm)).

Typical Wiring Without Cables

**CAUTION**

To avoid personal injury (electrical shock) and to prevent equipment damage, before wiring, you must remove power.

Access Cover

**IMPORTANT**

Once the access cover has been removed, please take care to avoid damaging any of the parts now accessible.
Fig. 9. End Switches.

NOTE: Both internal end switches must be connected to the same power source.

Tables 2 and 3 summarize the information presented in the preceding wiring diagrams.

Typical Wiring With Cables

![Typical Wiring With Cables Diagram]

**Fig. 10. MN6105W1011 Two Position/Floating.**

### Table 2. Signals at Terminals from MN6105/MN6110.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Signal in Floating</th>
<th>Signal in 2-Pos. Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Common <del>/</del></td>
<td>Common <del>/</del></td>
</tr>
<tr>
<td>3</td>
<td>24 V <del>/</del> (control signal)</td>
<td>24 V <del>/</del> (control/power signal)</td>
</tr>
<tr>
<td>4</td>
<td>24 V <del>/</del> (control signal)</td>
<td>24 V <del>/</del> (control/power signal)</td>
</tr>
</tbody>
</table>

**NOTE:** All cables connected to these terminals must be equipped with spark suppression.

### Table 3. Internal End Switches.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Type of Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>Common lead for switches A and B.</td>
</tr>
<tr>
<td>S2/S3</td>
<td>Change-over switch A (S1/S2 opens and S1/S3 closes when shaft adapter moves CC past 5°; reverts to original state when shaft adapter moves CCW past 5°).</td>
</tr>
<tr>
<td>S5/S6</td>
<td>Change-over switch B (S1/S6 closes when shaft adapter moves CW past 85°; reverts to original state when shaft adapter moves CCW past 85°).</td>
</tr>
</tbody>
</table>
DIMENSIONS

Fig. 11. Dimensions in inches (mm).

⚠️ CABLE AND STRAIN RELIEF ON SELECT MODELS ONLY.
By using this Honeywell literature, you agree that Honeywell will have no liability for any damages arising out of your use or modification to, the literature. You will defend and indemnify Honeywell, its affiliates and subsidiaries, from and against any liability, cost, or damages, including attorneys' fees, arising out of, or resulting from, any modification to the literature by you.