

# MT4000 Series

## SERVO MOTORS FOR AIR DAMPERS AND BUTTERFLY VALVES



### FEATURES

- Synchronous reduction gear unit motor.
- Camshaft with maximum 5 cams and maximum 5 micro switches.
- Fail safe pre-purge timer (MT4003C only)
- Low fire adjustment switch to allow independent movement of the motor (optional, except for MT4000A/B).
- Cam adjustment in steps of 2 degrees.
- Actuator shaft, round with flat surface.
- Position indicator of the motor.
- Available in left and right handed rotation.
- Cam adjustment tool included in the housing.

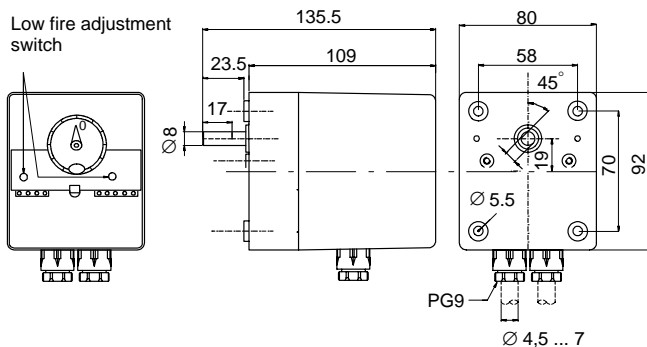


Fig. 23. Dimensional drawing MT4000 Series

### APPLICATION

The MT4000, MT4001, MT4002 and MT4003 are servo motors to control and govern air lock of gaseous and liquid fuel burners.

The servo motors are suitable for burners with small to medium capacity.

### SPECIFICATION

#### Models

MT4000A series for combustion air dampers and VF5000 butterfly valves. External signals for modulation required.

MT4000B series for combustion air dampers and VF5000 butterfly valves. Including relay for one external modulation input.

MT4001A series for air dampers in gas burners. To be used with full featured ignition controllers and 3 wire thermostats.

MT4001B series for air dampers in gas burners. To be used with full featured ignition controllers and 2 wire thermostats.

MT4002B series for air dampers in oil burners. Including relay for 2 wire thermostat connection.

MT4003C series can be used with standard low featured ON/OFF ignition controllers, where the pre-purge is provided by the servomotor. Including relays for 2 wire thermostat connection, low fire adjustment switch and fail safe pre-purge timer.

#### Dimensions

See figure below.

#### Supply voltage

Line voltage: 220 ... 240 Vac, 50/60 Hz  
110 Vac, 50/60 Hz

#### Ambient temperature range

-15 ... 60 °C

Relative humidity: 0 – 90% at 40 °C (non-condensing)

#### Rated torque value

Maximum 3 Nm (depending on stroke timing)

#### Stroke timing over 90 degrees

6, 12, 24 and 30 s at 50 Hz

At 60 Hz, the timing is reduced with approximately 20%

#### Maximum adjustable stroke

0 to 160 degrees

#### Enclosure

IP40

#### Minimum camshaft step

2 degrees (including mechanical tolerances)

#### Electrical connection

Two PG9 wiring conduits are provided in the housing.

#### Pre-purge timer (MT4003C only)

T<sub>prep.</sub>: 20s., tolerance -0 s, +10 s.

#### Standards and Approvals

The MT4000 Series conform with the following EC directives:

- Low Voltage Directive (73/23/EEC)
- Electro Magnetic Compatibility Directive (89/336/EEC)
- EN298 for MT4003C with pre-purge timer  
PIN: 0063AR1582

**Table 28. MT4000 Series servo motors for combustion air dampers and on VF5000 Series butterfly valves**

<b>MT4000 Series</b>	<b>O.S Number</b>	<b>Rated Voltage (Vac)</b>	<b>Stroke Timing over 90 degrees (s)</b>	<b>Rotation Direction</b>	<b>Remarks</b>
<b>MT4000A series</b> External signals for modulation required	MT4000A2001	220 ... 240	6	right rotation	-
	MT4000A2019	220 ... 240	12	right rotation	-
	MT4000A2027	220 ... 240	24	right rotation	-
	MT4000A2035	110	6	right rotation	-
	MT4000A2043	110	12	right rotation	-
	MT4000A2050	110	24	right rotation	-
<b>MT4000B series</b> Including relay for 1 external modulation input	MT4000B2000	220 ... 240	6	right rotation	-
	MT4000B2018	220 ... 240	12	right rotation	-
	MT4000B2026	220 ... 240	24	right rotation	-
	MT4000B2034	110	6	right rotation	-
	MT4000B2042	110	12	right rotation	-
	MT4000B2059	110	24	right rotation	-
<b>MT4001 Series</b>	<b>O.S Number</b>	<b>Rated Voltage (Vac)</b>	<b>Stroke Timing over 90 degrees (s)</b>	<b>Rotation Direction</b>	<b>Remarks</b>
<b>MT4001A series</b> Unit for 3 wire thermostat connection	MT4001A1001	220 ... 240	6	left rotation	-
	MT4001A1019	220 ... 240	24	left rotation	-
	MT4001A2009	220 ... 240	6	right rotation	-
	MT4001A2017	220 ... 240	24	right rotation	-
<b>MT4001B series</b> Unit for 2 wire thermostat connection	MT4001B1000	220 ... 240	6	left rotation	-
	MT4001B1026	220 ... 240	24	left rotation	-
	MT4001B1034	220 ... 240	6	left rotation	low fire adj. switch
	MT4001B1042	220 ... 240	30	left rotation	low fire adj. switch
	MT4001B2008	220 ... 240	6	right rotation	-
	MT4001B2016	220 ... 240	24	right rotation	-
	MT4001B2024	220 ... 240	6	right rotation	low fire adj. switch
	MT4001B2032	220 ... 240	30	right rotation	low fire adj. switch
<b>MT4001C series</b>	MT4001C1009	220 ... 240	6	left rotation	For Satronic TMG740
<b>MT4002 Series</b>	<b>O.S Number</b>	<b>Rated Voltage (Vac)</b>	<b>Stroke Timing over 90 degrees (s)</b>	<b>Rotation Direction</b>	<b>Remarks</b>
<b>MT4002B series</b> Including relay for 2 wire thermostat connection.	MT4002B1008	220 ... 240	6	left rotation	-
	MT4002B1016	220 ... 240	6	left rotation	low fire adj. switch
	MT4002B2009	220 ... 240	6	right rotation	-
	MT4002B2024	220 ... 240	6	right rotation	low fire adj. switch
<b>MT4003 Series</b>	<b>O.S Number</b>	<b>Rated Voltage (Vac)</b>	<b>Stroke Timing over 90 degrees (s)</b>	<b>Rotation Direction</b>	<b>Remarks</b>
<b>MT4003C series</b> Includes relay for 2 wire thermostat connection	MT4003C1005	220 ... 240	6	left rotation	low fire adj. switch & fail safe pre-purge timer
	MT4003C1013	220 ... 240	6	left rotation	
	MT4003C1021	220 ... 240	24	left rotation	
	MT4003C2003	220 ... 240	6	right rotation	
	MT4003C2011	220 ... 240	6	right rotation	