Climate
Control

IMI TA

TA-MC100

Actuators

High performance proportional actuator –
225 lbf (1000 N)

Breakthrough
engineering for
a better world

TA-MC100

High performance proportional actuators with automatic stroke adaptation which provide accurate modulating or 3-point control when used together with 2-way and 3-way control valves from IMI.

Key features

Easy commissioning
Automatic measurement and adaptation to the valve lift as well as load-dependent end position switch-off which helps to reduce commissioning time and protect the valve and actuator from overloading.

Easy troubleshooting
Protected hand drive for a safe manual operation which enables easy troubleshooting.

Ease of service
The actuator housing cover is easy to remove (without screws). Parameters can be easily changed on site.

Technical description

Functions:
Modulating or 3-point control.

Supply voltage:
24 VAC/VDC* ±10%
115 VAC +6%/-10%
Frequency 50-60 Hz ±5%
*) DC – Direct current flat voltage.

Power consumption:
24 V: 6 VA
115 V: 12 VA

Input signal:
0(2)-10 VDC, R_i ~77 kΩ
0(4)-20 mA, R_i ~510 Ω.
Signal direction and starting point adjustable by micro switches.
3-point control.

Output signal:
0-10 VDC, max. 8 mA, min. 1,2 kΩ.

Hysteresis:
0,15 or 0,5 V

Resolution:
Electric: 0.04 VDC
Mechanical: 0.0037 in

Control speed:
0.2, 0.26, 0.59 or 1.24 in/min

Adjusting force:
225 lbf

Operation mode:
S3-50% ED c/h 1200, EN 60034-1

End position switch-off:
Load-dependent

Temperature:
Max. ambient temperature: 140°F
Min. ambient temperature: 32°F

Ingress protection:
IP54

Protection class:
(according to EN 60730)
24 V: III
115 V: II

Stroke:
Max. 0.79 in
Automatic detection of the valve lift (stroke detection).

Electrical connection:
Actuator with screwed terminals.

Connection to valve:
Simple attachment to the valve by means of M8 screws.
For some valve types an adapter may be needed. Information on adapters included in valve datasheets.

Color:
Black body and red cover.

Marking:
IMI TA, CE, Article No, product name and technical specification.

Weight:
5.51 lb

Actuator variants:
- Position switch unit [1]:
  2 switches (WE1/WE2), potential free, infinitely adjustable.
  Rated load: 8 A / 250 VAC, 8 A / 30 VDC.
  Switching voltage: max. 400 VAC, max. 125 VDC
- Ingress protection: IP65
- Output signal [1]: X=0(4)...20 mA
- Adapter with coupling for external product

For variants and accessories please contact your local sales office.

1) Position switch unit and output signal 0(4)...20 mA not in combination.

Function

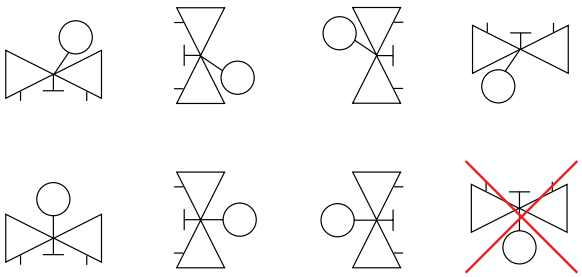
Manual operation
Handwheel with automatic switch-off of the actuator.

Position indication
Indicators on the mounting rig.

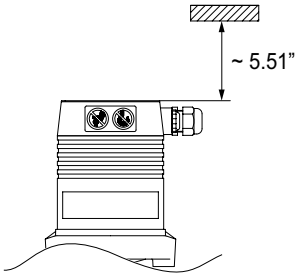
Error detection
Automatic detection of broken control wire (for 2-10 V / 4-20 mA only).
Automatic detection of blocked valve.

Installation

Note: Carefully read the installation instruction of the actuator. Intended for indoor installation applications.
For outdoor installation applications please contact IMI. In cooling systems, the pipe and valve must be insulated.



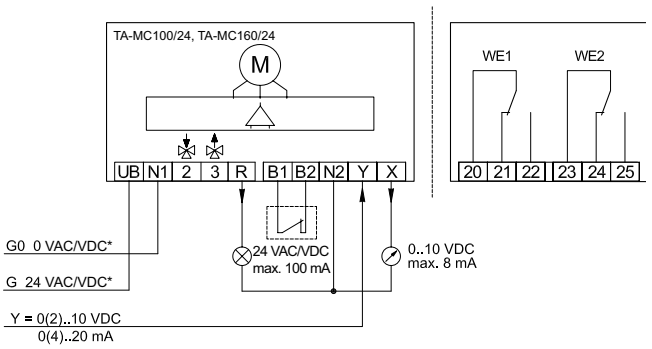
Note!
Space above actuator >5.5 in.



Connection diagram

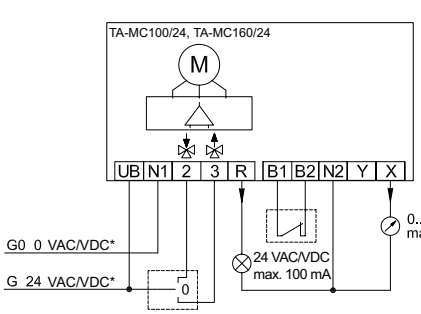
24 VAC/VDC*

Modulating 0(2)-10V, 0(4)-20 mA
Standard design

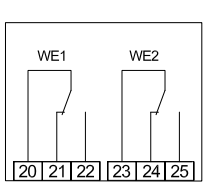


Special accessories

3-point
Standard design



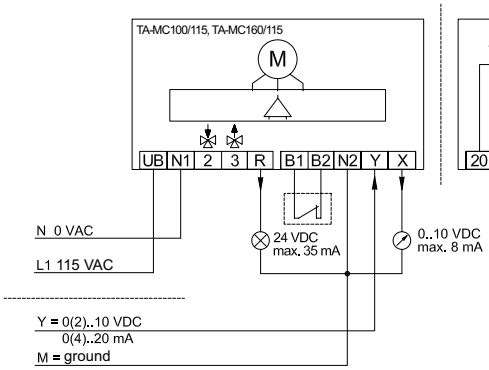
Special accessories



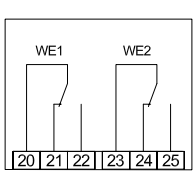
*) DC – Direct current flat voltage.

115 VAC

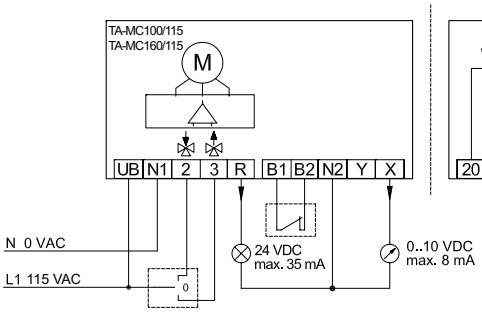
Modulating 0(2)-10V, 0(4)-20 mA
Standard design



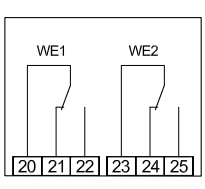
Special accessories



3-point
Standard design



Special accessories

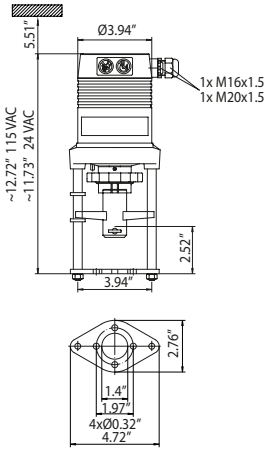


*) M = ground

Terminal	Description
UB, N1	Supply voltage
2	Control signal for extenting the actuator spindle
3	Control signal for retracting the actuator spindle
R	Response signal during “manual” mode depending on the supply voltage: supply 24VAC: R = 24VAC max. 100mA supply 24VDC: R = 24VDC max. 100mA supply 115VAC: R = 24VDC max. 35mA
B1, B2	Connection of a potential free contact (e.g. for frost protection) - bridged if not used
Y	Input signal continuous mode
X	Output signal continuous mode
N2	Zero potential of signals X, Y and R - When the zero potentials of signals X, Y and R are identical to the zero potential of the supply voltage it is possible to bridge terminals N1 and N2. - If you run the actuator in continuous mode at 115 V you will have to connect N2. - If you run the actuator in three-point mode at 115 V you will have to connect N2 if you wish to use X or R at the same time.
WE1, WE2	Position switch units - see “Actuator variants”
20, 21, 22	Terminals of switching unit PS1
23, 24, 25	Terminals of switching unit PS2

For 24V/115V 3-point control, the actuation direction can be changed by changing the supply lines of terminals 2 and 3 on the actuator.

Articles



TA-MC100

Supply voltage	Input signal	Article No
24 VAC	0(2)-10 VDC, 0(4)-20 mA, 3-point	61 100-001
24 VDC*	0(2)-10 VDC, 0(4)-20 mA, 3-point	61 100-003
115 VAC	0(2)-10 VDC, 0(4)-20 mA, 3-point	61 100-302

*) DC – Direct current flat voltage.

For some valve types an adapter may be needed. Information about adapters are included in the valve datasheets.

For IP65 version: Add “IP” after the Article No., example 61 100-001**IP**

Accessories

General actuator accessories

Type	Description	Article No
ACA 71	Position Switch Unit (2 switches)	67 071-100
ACA 76	Output signal: 0(4)-20mA	67 076-100

Note: Position switch unit and output signal 0(4)-20 mA not in combination.

Stem heaters
TA-MC55, TA-MC55Y, TA-MC100, TA-MC160

	Supply voltage	Article No
ACV 13	24 VAC	68 013-015

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