**Climate
Control**

IMI TA

TA-Slider 500

Actuators
Digitally configurable proportional push-pull actuator –
112/67 lbf (500/300 N)

**Breakthrough
engineering for
a better world**

TA-Slider 500

Digitally configurable actuators with a wide range of setup options provide extensive flexibility for on-site parameter adaptation. Fully programmable binary input, relay and adjustable maximum stroke of the valve bring new opportunities for advanced hydronic control and balancing.

Key features

Convenient, reliable setup
Fully customisable by smartphone via Bluetooth using a TA-Dongle.

Fully configurable
More than 200 setup options allow input and output signals, binary input, relay, characteristics and many other parameters to be configured.

Easy diagnostics
Tracks the last 10 errors to allow system faults to be found quickly.

Quick copy of settings
Identical settings can be quickly copied from TA-Dongle to several TA-Slider actuators.

Technical description

Functions:
Proportional control
Manual override (TA-Dongle)
Stroke detection
Mode, status and position indication
Stroke limitation setting
Minimum stroke setting
Valve blockage protection
Valve clogging detection
Error safe position
Diagnostic/Logging
Delayed start-up

I/O version:
+ 1 binary input, max. 100 Ω, cable max. 32.8 ft or shielded.
+ Output signal

Plus version:
+ 1 binary input, max. 100 Ω, cable max. 32.8 ft or shielded.
+ 1 relay, max. 5A, 30 VDC/250 VAC on resistive load
+ Output signal

Supply voltage:
24 VAC/VDC ±15%.
Frequency 50/60 Hz ±3 Hz.

Power consumption:
Operation: < 3.2 VA (VAC); < 1.6 W (VDC)
Standby: < 1.3 VA (VAC); < 0.6 W (VDC)
I/O version:
Operation: < 3.6 VA (VAC); < 1.7 W (VDC)
Standby: < 1.3 VA (VAC); < 0.6 W (VDC)
Plus version:
Operation: < 4.0 VA (VAC); < 1.9 W (VDC)
Standby: < 1.3 VA (VAC); < 0.6 W (VDC)

Input signal:
0(2)-10 VDC, R_i 47 kΩ.
Adjustable hysteresis sensitivity 0.1-0.5 VDC.
0.33 Hz low pass filter.
Proportional:
0-10, 10-0, 2-10 or 10-2 VDC.
Proportional split-range:
0-5, 5-0, 5-10 or 10-5 VDC.
0-4.5, 4.5-0, 5.5-10 or 10-5.5 VDC.
2-6, 6-2, 6-10 or 10-6 VDC.
Proportional dual-range (for change-over):
0-3.3 / 6.7-10 VDC,
10-6.7 / 3.3-0 VDC,
2-4.7 / 7.3-10 VDC or
10-7.3 / 4.7-2 VDC.
Default setting: Proportional 0-10 VDC.

Output signal:
I/O, Plus versions:
0(2)-10 VDC, max. 8 mA, min. 1.25 kΩ.
Ranges: See "Input signal".
Default setting: Proportional 0-10 VDC.

Characteristics:
Linear, EQM 0.25 and inverted EQM 0.25.
Default setting: Linear.

Control speed:
101.6 or 154 s/in (4 or 6 s/mm).
Default setting: 101.6 s/in (4 s/mm).

Adjusting force:
Push 112 lbf (500 N)
Pull 67 lbf (300 N)

Temperature:
Media temperature: max. 248°F
Operating environment: 32°F to 122°F (5-95%RH, non-condensing)
Storage environment: -4°F to 158°F (5-95%RH, non-condensing)

Ingress protection:
IP54 (all directions)
(according to EN 60529)

Protection class:
(according to EN 61140)
III TA-Slider 500, 500 I/O (SELV)
II TA-Slider 500 Plus (protective insulation)

Cable:
3.28 ft, 6.56 ft or 16.4 ft. With wire end sleeves.
Halogen free as option, fire class
B2$_{ca}$ – s1a, d1, a1 according to EN 50575.
TA-Slider 500: type LiYY, 3x23 AWG
(3x0.25 mm^2).
TA-Slider 500 I/O: type LiYY, 5x23 AWG
(5x0.25 mm^2).
TA-Slider 500 Plus: type LiYY, 5x23 AWG
(5x0.25 mm^2) and relay cable type
H03VV-F, 3x18 AWG (3x0.75 mm^2).

Stroke:
0.64 in (16.2 mm)
Automatic detection of the valve lift
(stroke detection).

Noise level:
Max. 30 dBA

Weight:
TA-Slider 500, I/O:
0.51 lb, 3.28 ft relay cable
0.60 lb, 6.56 ft relay cable
0.88 lb, 16.4 ft relay cable
TA-Slider 500 Plus:
0.73 lb, 3.28 ft relay cable
0.97 lb, 6.56 ft relay cable
1.81 lb, 16.4 ft relay cable

Connection to valve:
Retainer nut M30x1.5.

Material:
Cover: PC/ABS GF8
Housing: PA GF40.
Swivelling nut: Nickel-plated brass.

Color:
White RAL 9016, grey RAL 7047.

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

Certification CE:
LV-D. 2014/35/EU: EN 60730-1, -2-14.
EMC-D. 2014/30/EU: EN 60730-1, -2-14.
RoHS-D. 2011/65/EU: EN 50581.

Product standard:
EN 60730.

Function

Setting

The actuator can be set by the HyTune app (iOS version 8 or later on iPhone 4S or later, Android version 4.3 or later) + the TA-Dongle device, with or without the actuator power supplied. The setting configuration can be stored in the TA-Dongle for setting of one or several actuators. Press the configuration button on the TA-Dongle, after connecting to the actuator. HyTune can be downloaded from the Apple App Store or Google Play.
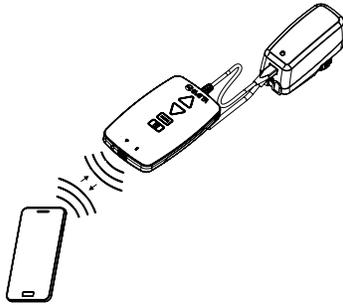
Manual override

By using the TA-Dongle device. No power supply needed.

Calibration/Stroke detection

According to selected settings in the table.

Type of calibration	At power on	After manual override
Both end positions (full)	√ *	√
Fully extended position (fast)	√	√ *
None	√	

*) Default

Note: A calibration refresh can be automatically repeated monthly or weekly.
Default setting: Off.

Stroke limitation setting

A maximum stroke smaller than or equal to the detected valve lift can be set to the actuator.
For some IMI TA/IMI Heimeier valves it can also be set to a Cv_{max}/q_{max}.
Default setting: No stroke limitation (100%).

Minimum stroke setting

The actuator can be set with a minimum stroke below which it will not go (except for calibration).
For some IMI TA/IMI Heimeier valves, it can also be set to a q_{min}.
Default setting: No minimum stroke (0%).

Valve blockage protection

If no actuation is performed for one week or one month, the actuator will perform one full stroke cycle.
Default setting: Off.

Valve clogging detection

If actuation stops before the desired value is reached, the actuator moves back ready to make a new attempt. The actuator will move to the configured error safe position after three attempts.
Default setting: On.

Error safe position

Fully extended or retracted position when following errors occur; low power, line break, valve clogging or stroke detection failure.
Default setting: Fully extended position.

Diagnostics/logging

The last 10 errors (low power, line break, valve clogging, stroke detection failure) with time-stamps are readable by the HyTune app + TA-Dongle device. Time-stamps of past errors will be cleared if the power is disconnected.

Delayed start-up

The actuator can be specified a delay (0 to 1275 sec.) before starting up after a power supply cut. This is useful when used with a control system that has itself a long start-up time.
Default setting: 0 seconds.

I/O and Plus versions:

Binary input

If the binary input circuit is open, the actuator will go to a set stroke, switch to a second stroke limitation setting or drive to its full stroke regardless of any limitations for flushing purpose. See also Change-over system detection.
Default setting: Off

Change-over system detection

Switching between two different stroke limitation settings by toggling the binary input or using the dual-range input signal.

LED indication

			Status	Red (heating) / Blue (cooling)
		▬▬ ▬ ▬▬ ▬	Fully retracted (actuator stem)	Long pulse - Short pulse
		▬ ▬▬ ▬ ▬▬	Fully extended (actuator stem)	Short pulse - Long pulse
		▬▬ ▬▬	Intermediate position	Long pulses
		▬▬▬▬▬▬▬▬	Moving	Short pulses
		▬▬ ▬▬ ▬▬	Calibrating	2 short pulses
			Manual mode or no power supply	Off

|			Error code	Violet
		▬ ▬ ▬	Power supply too low	1 pulse
		▬▬ ▬▬	Line broken (2-10 V)	2 pulses
		▬▬▬ ▬▬▬	Valve clogging or foreign object	3 pulses
		▬▬▬▬ ▬▬▬▬	Stroke detection failure	4 pulses

If an error is detected, violet pulses are displayed as the red or blue status lights flash alternately.
More detailed information, please see the HyTune app + TA-Dongle.

LED

Installation

IP54

Note!

~0.79"

Ø0.886"

X

X = 0.303" - 0.941"

IMI
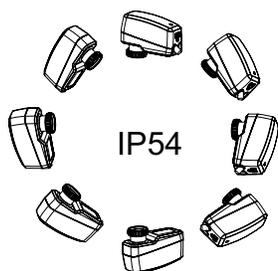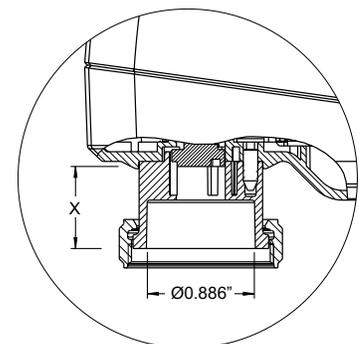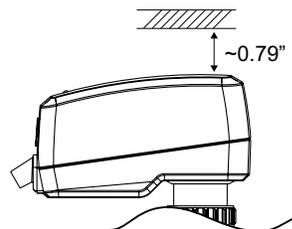
Connection diagram

TA-Slider 500
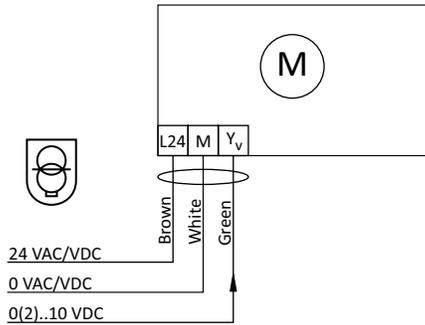
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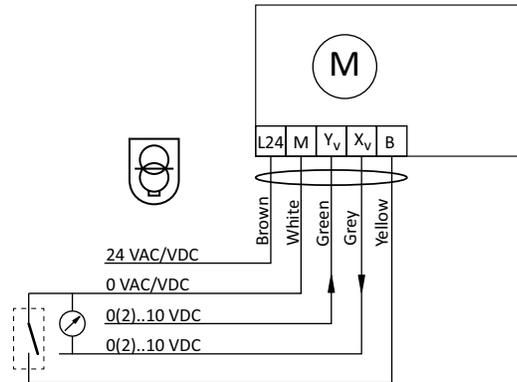
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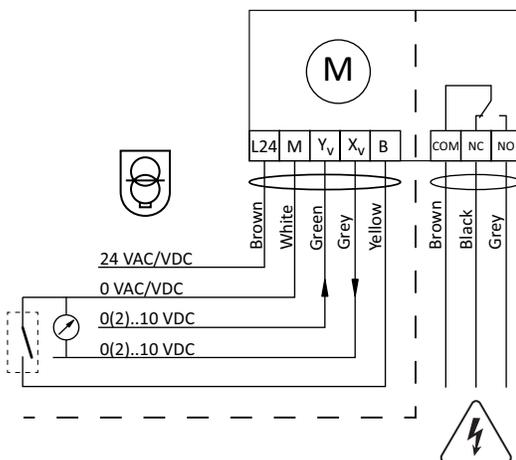
| Terminal	Description
L24	Power supply 24 VAC/VDC
M	Neutral for power supply 24 VAC/VDC and signals.
Y_v	Input signal for proportional control 0(2)-10 VDC, 47 kΩ
X_v	Output signal 0(2)-10 VDC, max. 8 mA or min. load resistance 1.25 kΩ
B	Connection for potential free contact (e.g. open window detection), max. 100 Ω, max. 32.8 ft (10 m) cable or shielded
COM	Common relay contact, max. 250 VAC, max. 5A @ 250 VAC on resistive load, max. 5A @ 30 VDC on resistive load
NC	Normally closed contact for relay
NO	Normally open contact for relay

24 VAC/VDC operating only with safety transformer according to EN 61558-2-6.

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Articles – TA-Slider 500
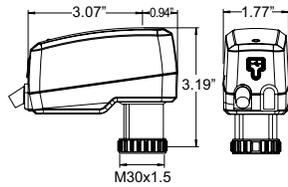
TA-Slider 500
Input signal: 0(2)-10 VDC

Cable length	Supply voltage	Article No
3.28 ft. (1 m)	24 VAC/VDC	322225-10111
6.56 ft. (2 m)	24 VAC/VDC	322225-10112
16.4 ft. (5 m)	24 VAC/VDC	322225-10113
With halogen free cable		
3.28 ft. (1 m)	24 VAC/VDC	322225-10114
6.56 ft. (2 m)	24 VAC/VDC	322225-10115
16.4 ft. (5 m)	24 VAC/VDC	322225-10116

Articles – TA-Slider 500 I/O
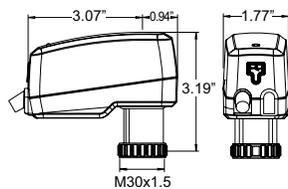
TA-Slider 500 I/O
Input signal: 0(2)-10 VDC

With binary input, VDC output

Cable length	Supply voltage	Article No
3.28 ft. (1 m)	24 VAC/VDC	322225-10411
6.56 ft. (2 m)	24 VAC/VDC	322225-10412
16.4 ft. (5 m)	24 VAC/VDC	322225-10413
With halogen free cable		
3.28 ft. (1 m)	24 VAC/VDC	322225-10414
6.56 ft. (2 m)	24 VAC/VDC	322225-10415
16.4 ft. (5 m)	24 VAC/VDC	322225-10416

Articles – TA-Slider 500 Plus
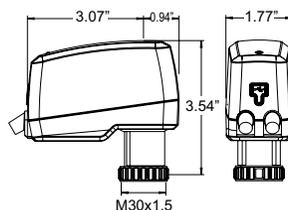
TA-Slider 500 Plus
Input signal: 0(2)-10 VDC

With binary input, relay, VDC output

Cable length	Supply voltage	Article No
3.28 ft. (1 m)	24 VAC/VDC	322225-10211
6.56 ft. (2 m)	24 VAC/VDC	322225-10212
16.4 ft. (5 m)	24 VAC/VDC	322225-10213
With halogen free cable		
3.28 ft. (1 m)	24 VAC/VDC	322225-10214
6.56 ft. (2 m)	24 VAC/VDC	322225-10215
16.4 ft. (5 m)	24 VAC/VDC	322225-10216

Additional equipment
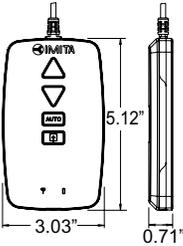
TA-Dongle
For Bluetooth communication with the HyTune app, transfer configuration settings and manual override.

	Article No
	322228-00001

5.12"

3.03"

0.71"