

# TA-Slider 500



## Actuators

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

# 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.
- > **Easy diagnostics**  
Tracks the last 10 errors to allow system faults to be found quickly.
- > **Fully configurable**  
More than 200 setup options allow input and output signals, binary input, relay, characteristics and many other parameters to be configured.
- > **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

### Supply voltage:

24 VAC/VDC  $\pm 15\%$ .  
Frequency 50/60 Hz  $\pm 3$  Hz.

### Impulse voltage:

330 V

### Power consumption:

Operation: < 3.2 VA (VAC); < 1.6 W (VDC)  
Standby: < 1.3 VA (VAC); < 0.6 W (VDC)

### Input signal:

0(2)-10 VDC,  $R_i$  47 k $\Omega$ .  
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.  
Default setting: Proportional 0-10 VDC.

### Characteristics:

Linear, EQM 0.25 and inverted EQM 0.25.  
Default setting: Linear.  
Action: Type 1

### Stroke:

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

### Control speed:

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

### Actuating time:

Full stroke extend/retract time: 65 s

### 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

### Cable:

3.28 ft, 6.56 ft or 16.4 ft. With wire end sleeves.  
TA-Slider 500: type LiYY, 3x23 AWG  
(3x0.25 mm<sup>2</sup>).

### Noise level:

Max. 30 dBA

### Weight:

TA-Slider 500:  
0.51 lb, 3.28 ft relay cable  
0.60 lb, 6.56 ft relay cable  
0.88 lb, 16.4 ft relay cable

### Connection to valve:

Retainer nut M30x1.5.  
Independently mounted.

**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, UL, product name, article No. and technical specification.

**Certification CE:**

UL. E520892.  
 EMC-D. 2014/30/EU: EN 60730-1, -2-14.  
 RoHS-D. 2011/65/EU: EN 63000.

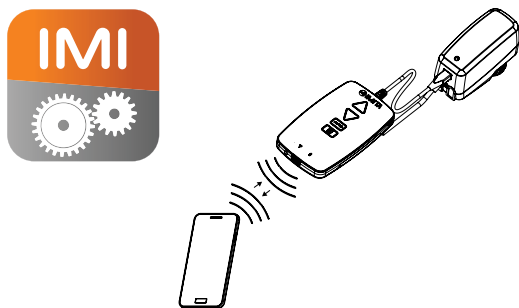
**Product standard:**

EN 60730.  
 Pollution: Degree 2.

## 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 TA/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 TA/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.

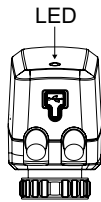
Default setting: 0 seconds.

## LED indication

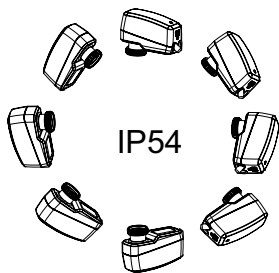
		<b>Status</b>	<b>Red (heating) / Blue (cooling)</b>
		Fully retracted (actuator stem)	Long pulse - Short pulse
		Fully extended (actuator stem)	Short pulse - Long pulse
		Intermediate position	Long pulses
		Moving	Short pulses
		Calibrating	2 short pulses
		Manual mode or no power supply	Off

		<b>Error code</b>	<b>Violet</b>
		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

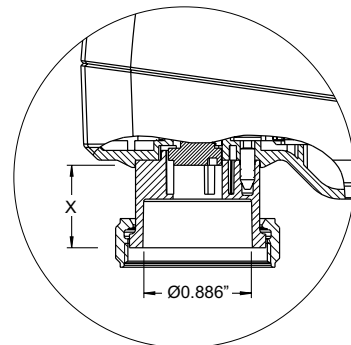
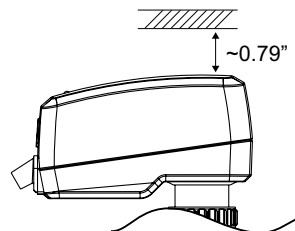
If an error is detected, violet pulses are displayed as the red or blue status lights flash alternately. More detailed information, please see the HyTune app + TA-Dongle.



## Installation



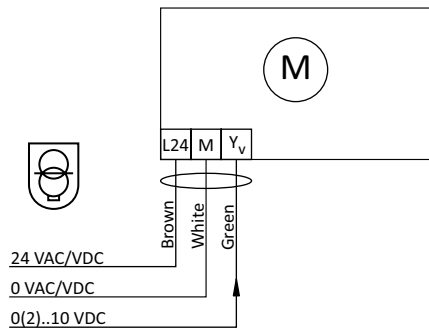
**Note!**



X = 0.303" - 0.941"

## Connection diagram

### TA-Slider 500

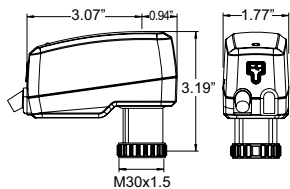


Terminal	Description
L24	Power supply 24 VAC/VDC
M	Neutral for power supply 24 VAC/VDC and signals.
Y <sub>v</sub>	Input signal for proportional control 0(2)-10 VDC, 47 kΩ



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

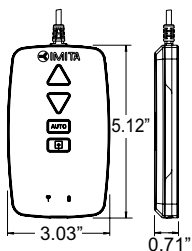
## Articles – TA-Slider 500



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

Cable length	Supply voltage	Article No
3.28 ft. (1 m)	24 VAC/VDC	322042-50009
6.56 ft. (2 m)	24 VAC/VDC	322042-50010
16.4 ft. (5 m)	24 VAC/VDC	322042-50011

## Additional equipment



### TA-Dongle

For Bluetooth communication with the HyTune app, transfer configuration settings and manual override.

Article No
322228-00001

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