Climate
Control

IMI TA

TA-Slider 500

Actuators

Digitally configurable proportional push-pull actuator – 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 max. 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 copying of settings
Setup configuration can be copied quickly from the TA-Dongle to identical 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. 10 m or shielded.
+ Output signal

Plus version:
+ 1 binary input, max. 100 Ω, cable max. 10 m 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,
2-4.7 / 7.3-10 VDC,
0-4.5 / 5.5-10 VDC or
2-5.5 / 6.5-10 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:
4 or 6 s/mm.
Default setting: 4 s/mm.

Adjusting force:
Push 500 N
Pull 300 N

Temperature:
Media temperature: max. 120°C
Operating environment: 0°C – +50°C (5-95%RH, non-condensing)
Storage environment: -20°C – +70°C (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:
1, 2 or 5 m. With wire end sleeves.
Halogen free as option, fire class $B2_{ca}$ – s1a, d1, a1 according to EN 50575.
TA-Slider 500: type LiYY, 3x0.25 mm^2.
TA-Slider 500 I/O: type LiYY, 5x0.25 mm^2.
TA-Slider 500 Plus: type LiYY, 5x0.25 mm^2 and relay cable type H03VV-F, 3x0.75 mm^2.

Stroke:
16,2 mm
Automatic detection of the valve lift (stroke detection).

Noise level:
Max. 30 dBA

Weight:
TA-Slider 500, I/O:
0.23 kg, 1 m cable
0.27 kg, 2 m cable
0.40 kg, 5 m cable
TA-Slider 500 Plus:
0.33 kg, 1 m cable
0.44 kg, 2 m cable
0.82 kg, 5 m cable

Connection to valve:
Swivelling nut M30x1,5.

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

Colour:
White RAL 9016, grey RAL 7047.

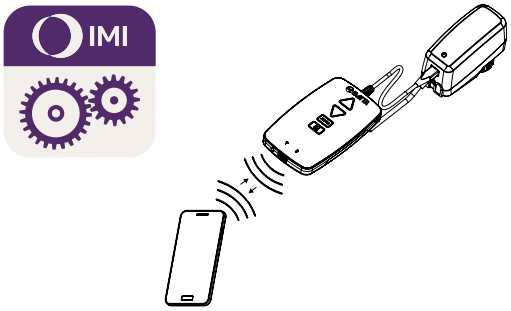
Marking:
Label: IMI TA, CE, product name, article No. and technical specification.

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 63000.

Product standard:
EN 60730.

Function

Setting
The actuator can be set by the HyTune app (iOS version 16 or later, Android version 9 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. Connect the TA-Dongle to the actuator and press the configuration button.
HyTune can be downloaded from the 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 Kv_{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
The actuator will perform a quarter of a full stroke and then back to desired value if no actuation takes place for one week or one month.
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 can be read using the HyTune app + TA-Dongle device. Logged errors will be cleared if the power is disconnected.

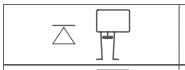
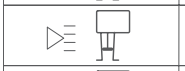
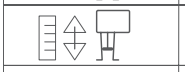
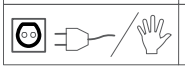
Delayed start-up
The actuator can be specified a delay (0 to 1275 sec.) before starting up after a power supply cut. This is useful when used with a control system that has itself a long start-up time.
Default setting: 0 seconds.

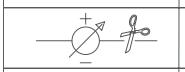
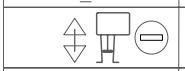
I/O and Plus versions:

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

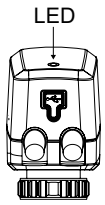
Change-over system detection
Switching between two different stroke limitation settings by toggling the binary input or using the dual-range input signal.

LED indication

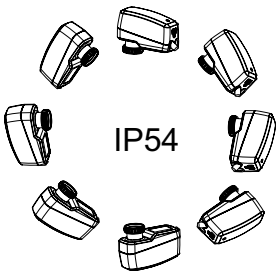
	Status	Red (heating) / Blue (cooling)
	Fully retracted (actuator stem)	Long pulse - Short pulse
	Fully extended (actuator stem)	Short pulse - Long pulse
	Intermediate position	Long pulses
	Moving	Short pulses
	Calibrating	2 short pulses
	Manual mode or no power supply	Off

	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

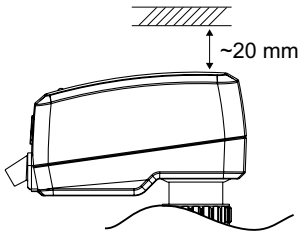
If an error is detected, violet pulses are displayed as the red or blue status lights flash alternately.
More detailed information, please see the HyTune app + TA-Dongle.

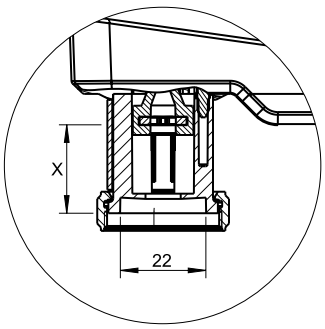


Installation



Note!

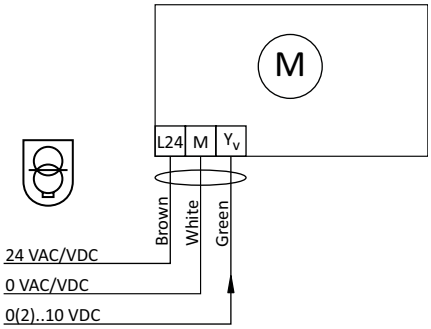




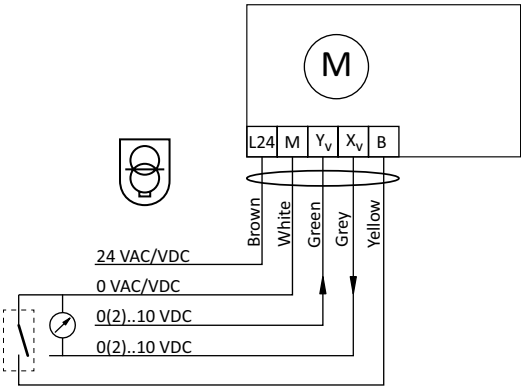
X = 7.7 - 23.9 mm

Connection diagram

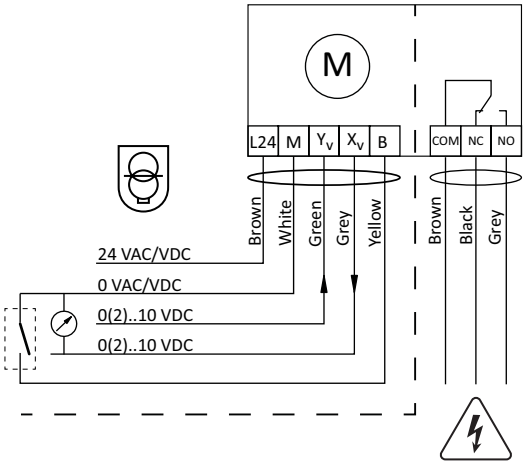
TA-Slider 500



TA-Slider 500 I/O



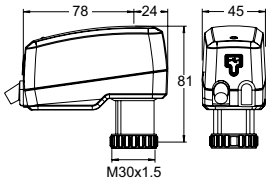
TA-Slider 500 Plus



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. 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.

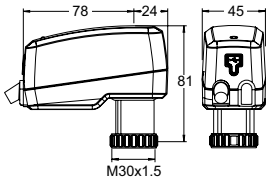
Articles – TA-Slider 500



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

Cable length [m]	Supply voltage	EAN	Article No
1	24 VAC/VDC	5901688828441	322225-10111
2	24 VAC/VDC	5902276883453	322225-10112
5	24 VAC/VDC	5902276883460	322225-10113
With halogen free cable			
1	24 VAC/VDC	5902276883477	322225-10114
2	24 VAC/VDC	5902276883484	322225-10115
5	24 VAC/VDC	5902276883491	322225-10116

Articles – TA-Slider 500 I/O

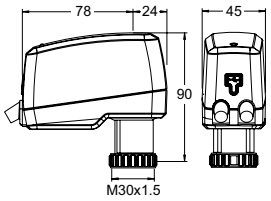


TA-Slider 500 I/O
Input signal: 0(2)-10 VDC

With binary input, VDC output signal

Cable length [m]	Supply voltage	EAN	Article No
1	24 VAC/VDC	5902276896071	322225-10411
2	24 VAC/VDC	5902276896088	322225-10412
5	24 VAC/VDC	5902276896095	322225-10413
With halogen free cable			
1	24 VAC/VDC	5902276896101	322225-10414
2	24 VAC/VDC	5902276896118	322225-10415
5	24 VAC/VDC	5902276896125	322225-10416

Articles – TA-Slider 500 Plus

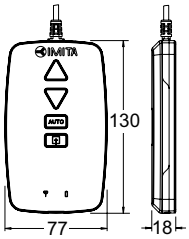


TA-Slider 500 Plus
Input signal: 0(2)-10 VDC

With binary input, relay, VDC output signal

Cable length [m]	Supply voltage	EAN	Article No
1	24 VAC/VDC	5902276883507	322225-10211
2	24 VAC/VDC	5902276883514	322225-10212
5	24 VAC/VDC	5902276883521	322225-10213
With halogen free cable			
1	24 VAC/VDC	5902276883538	322225-10214
2	24 VAC/VDC	5902276883545	322225-10215
5	24 VAC/VDC	5902276883552	322225-10216

Additional equipment



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

	EAN	Article No
	5901688828632	322228-00001