

TA-Slider 500



Actuators

Digitally configurable proportional push-pull actuator – 500/300 N



Engineering
GREAT Solutions

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.
- > **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 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
Stroke detection
Mode, status and position indication
Stroke limitation setting
Valve blockage protection
Valve clogging detection
Error safe position
Diagnostic/Logging

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 $\pm 15\%$.
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 k Ω .
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 k Ω .
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.
TA-Slider 500: type LiYY, 3x0.25 mm².
TA-Slider 500 I/O: type LiYY, 5x0.25 mm².
TA-Slider 500 Plus: type LiYY, 5x0.25 mm² and relay cable type H03VV-F, 3x0.75 mm².

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 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. 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

The stroke can be set to a percentage (20-100%) of detected valve lift.

For some TA/HEIMEIER valves it can also be set to a Kv_{max}/q_{max} .
 Default setting: No stroke limitation (100%).

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.

I/O and Plus versions:
Binary input

If the binary input circuit is open, the actuator will go to a set stroke or switch to a second stroke limitation setting. See also Change-over system detection.

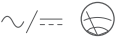
Default setting: Off

Change-over system detection

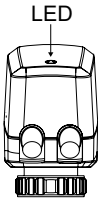
Switching between two different stroke limitation settings by toggling the binary input or using the dual-range input signal.

LED indication

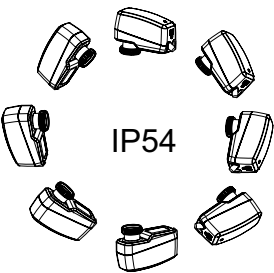
		Status	Red (heating) / Blue (cooling)
		Fully retracted (actuator stem)	Long pulse - Short pulse
		Fully extended (actuator stem)	Short pulse - Long pulse
		Intermediate position	Long pulses
		Moving	Short pulses
		Calibrating	2 short pulses
		Manual mode or no power supply	Off

		Error code	Violet
		Power supply too low	1 pulse
		Line broken (2-10 V or 4-20 mA)	2 pulses
		Valve clogging or foreign object	3 pulses
		Stroke detection failure	4 pulses

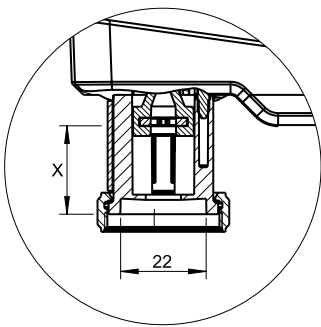
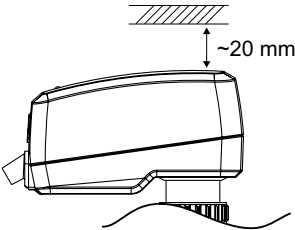
If an error is detected, violet pulses are displayed as the red or blue status lights flash alternately.
More detailed information, please see the HyTune app + TA-Dongle.



Installation



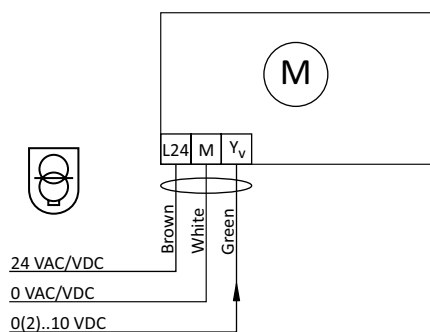
Note!



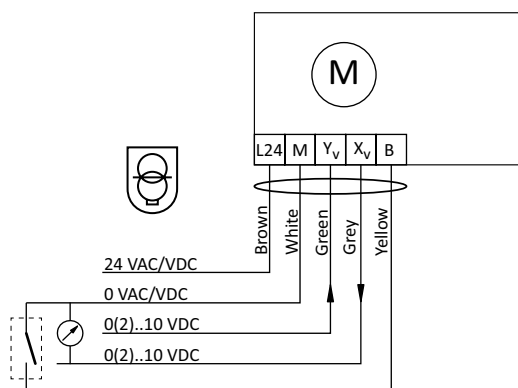
$X = 7.7 - 23.9 \text{ mm}$

Connection diagram

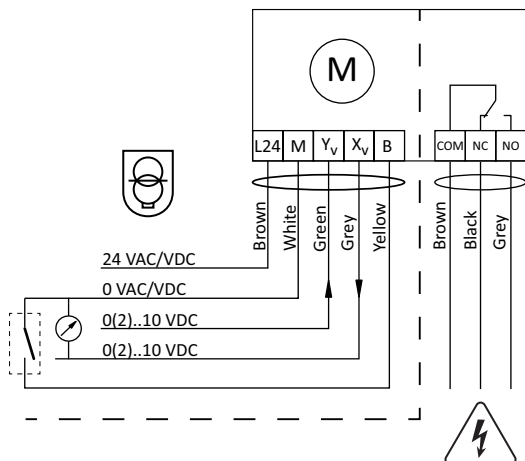
TA-Slider 500



TA-Slider 500 I/O



TA-Slider 500 Plus

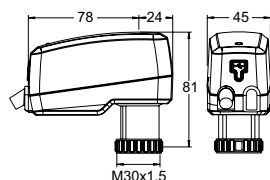


Terminal	Description
L24	Power supply 24 VAC/VDC
M	Neutral for power supply 24 VAC/VDC and signals.
Y _v	Input signal for proportional control 0(2)-10 VDC, 47 kΩ
X _v	Output signal 0(2)-10 VDC, max. 8 mA or min. load resistance 1.25 kΩ
B	Connection for potential free contact (e.g. open window detection), 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/DC operating only with safety transformer according to EN 61558-2-6.

Articles – TA-Slider 500

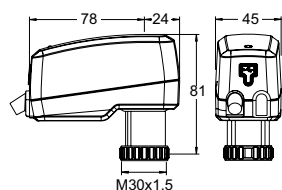


TA-Slider 500

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



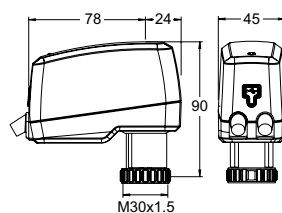
TA-Slider 500 I/O

Input signal: 0(2)-10 VDC

With binary input, VDC output

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



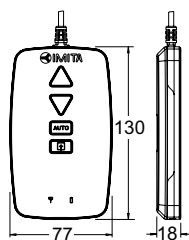
TA-Slider 500 Plus

Input signal: 0(2)-10 VDC

With binary input, relay, VDC output

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