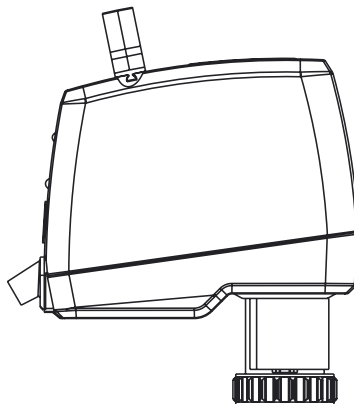
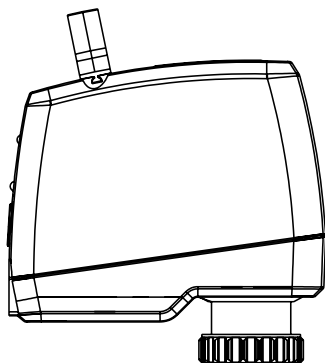


TA-Slider 160/500 Modbus RTU Protocol Implementation



General information

Date: 30/11/2018
 Protocol: Modbus RTU
 Product Name: TA-Slider 160 Modbus,
 TA-Slider 160 Modbus CO,
 TA-Slider 500 Modbus,
 TA-Slider 500 Modbus R24
 Product Model Number: 322224 12011, 322224 1251X,
 322225 12011, 322225 1231X
 Product Description: Digitally configurable proportional push actuator – 160/200 N,
 Digitally configurable proportional push-pull actuator – 500 N
 Firmware Revision (Modbus RTU): 2.1.1
 Address: 1* to 247
 Baud rates: AutoDetect, 1200, 2400, 4800, 9600*,
 19200, 38400, 56200, 76800, 115200
 Parity: Odd, Even*, None
 Databits: 8
 Stopbit: 1

*) Default value

Modbus holding registers

Register	Address	Size (Word)	Access	Value range	Description
InPos	0	1	R/W	[0-10000]	Input position
Relay	1	1	R/W	[0-1]	Activate/Deactivate relay, need relay function set to Bus control (see App) ¹⁾
ForceCalib	3	1	R/W	[0-1]	Request forced calibration
BusBinaryInput	4	1	R/W	[0-1]	Bus binary input, use to change stroke limitation, need App configuration
FlowUnit	5	1	R/W	[0-1]	Flow unit (0 = l/h, 1 = USGPM)
TemperatureUnit	6	1	R/W	[0-1]	Temperatures unit (0 = °C, 1 = °F)
Flow	8	2	R	Float	Flow (l/h or USGPM, depending on FlowUnit)
MBSN	10	2	R	[0-2 ³²]	S/N of actuator
CurrentPos	12	1	R	[0-10000]	Actual actuator position
CalibStroke	13	1	R	[250-8500] (TA-Slider 160) [1000-20000] (TA-Slider 500)	Measured stroke in µm
MotorStatus	14	1	R	[0-6]	Motor status (0 = Stop, 1 = Retract, 2 = Extend, 3 = Calibration, 4 = Manual-override, 5 = Clogging, 6 = Error)
CurrentTime	15	2	R	[0-2 ³²]	Number of seconds elapsed since last restart
Motor_OnTime	17	2	R	[0-2 ³²]	Total of seconds of running motor
Actuator_OnTime	19	2	R	[0-2 ³²]	Total of seconds of running actuator

1) Only with relay option.

Modbus holding registers – continuation

Register	Address	Size (Word)	Access	Value range	Description
Actuator_Distance	21	2	R	[0-2 ³²]	Distance traveled by the actuator spindle
BinaryInput	23	1	R	[0-1]	Status of binary input
Relay1	24	1	R	[0-1]	Status of relay 1 ¹⁾
PowerType	26	1	R	1	Should always be "1" (AC/DC low voltage)
Characteristic	27	1	R	[0-2]	Characteristic (0 = Linear, 1= EQM, 2 = AntiEQM)
Speed	28	1	R	10 (TA-Slider 160) [4, 6] (TA-Slider 500)	Speed in s/mm
SignalSource	29	1	R	[1, 5]	Signal source (1 = Volt, 5 = BusCom)
ValveName	30	13	R	String	Valve name (Set by App, free text)
ObjectName	43	13	R	String	Object Name (Set by App, free text)
Localisation	56	13	R	String	Localisation (Set by App, free text)
Temperature1	70	2	R	[-20.0 - 120.0] for °C ²⁾ , [-4.0 - 248.0] for °F ²⁾	[Float] Temperature from sensor 1 (°C or °F, depending on TemperatureUnit)
Temperature2	72	2	R	[-20.0 - 120.0] for °C ²⁾ , [-4.0 - 248.0] for °F ²⁾	[Float] Temperature from sensor 2 (°C or °F, depending on TemperatureUnit) ¹⁾
CurErr	74	2	R		Actual error status (None = 0x00, PowerFailure = 0x01, Clogging = 0x02, StrokeDetectionFailure = 0x04, CyclicTime = 0x08, SignalOutOfRange = 0x10, OutputLineBreak = 0x20, InputLineBreak = 0x40, ResetToFactoryDefault = 0x80, SoftwareDBAccess = 0x2000, SoftwareError = 0x4000, MotorControllerError = 0x8000, ClearError = 0x80000000)
Errors[10]	76	2	R	[0-2 ³²]	Time in second (see current Time) reset to 0 when actuator restart
	78	2	R		Error see actual error description above, cleared when Clear error flag is set
	80	2	R	[0-2 ³²]	Value (if exist data for error)
	...	96	R		keep up to 10 errors
	178	2	R	[0-2 ³²]	Time in second (see current Time) reset to 0 when actuator restart
	180	2	R		Error see actual error description above, cleared when Clear error flag is set
	182	2	R	[0-2 ³²]	Value (if exist data for error)

1) Only with relay option.

2) There are additionally some error codes: "10000" means that temperature is too high (or that a probe is not connected); "10001" means that the temperature is too low; "10003" indicates that there is no sensor for this model of actuator.

Actuator configuration

The actuator can be configured 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. HyTune can be downloaded from Apple App Store or Google Play.

Once connected to a TA-Slider, HyTune allows to set, from one screen, all following bus parameters:

- baud rate,
- parity,
- slave id,
- terminal resistance,
- automatic device name and
- the choice to control TA-Slider via the bus or via the 0-10 VDC analogue line (hybrid mode).

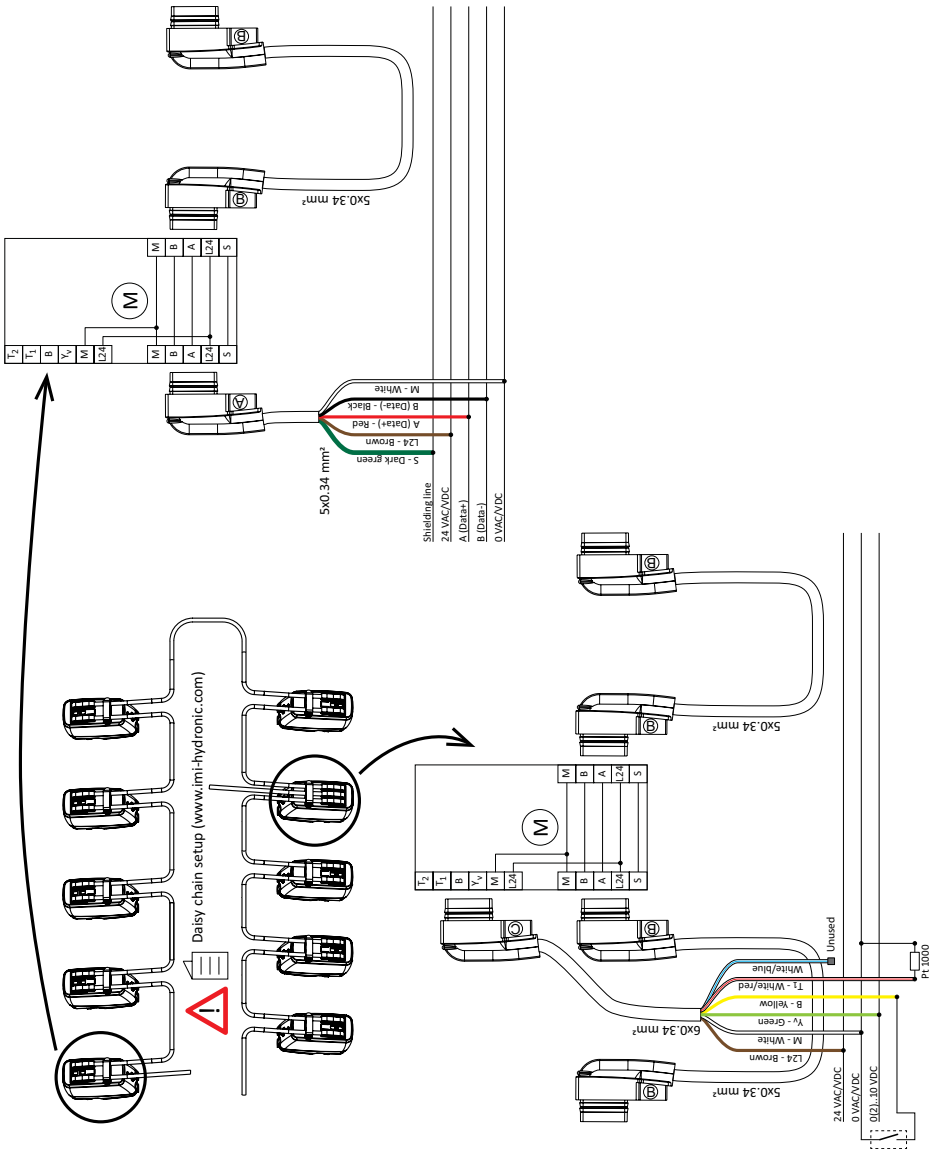
In addition, over 100 other functional parameters can be set as for any other TA-Slider.

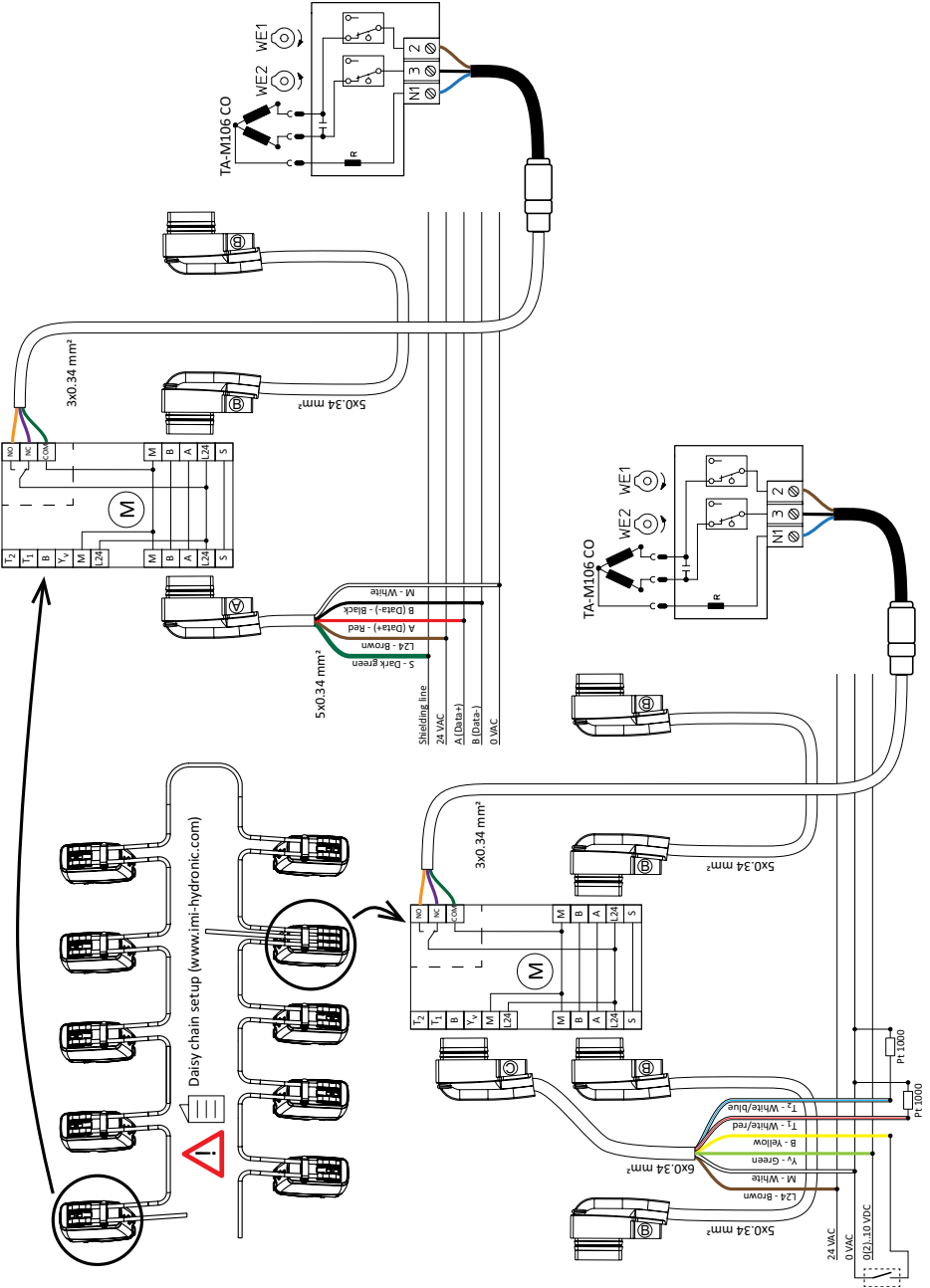
RS-485 termination resistance

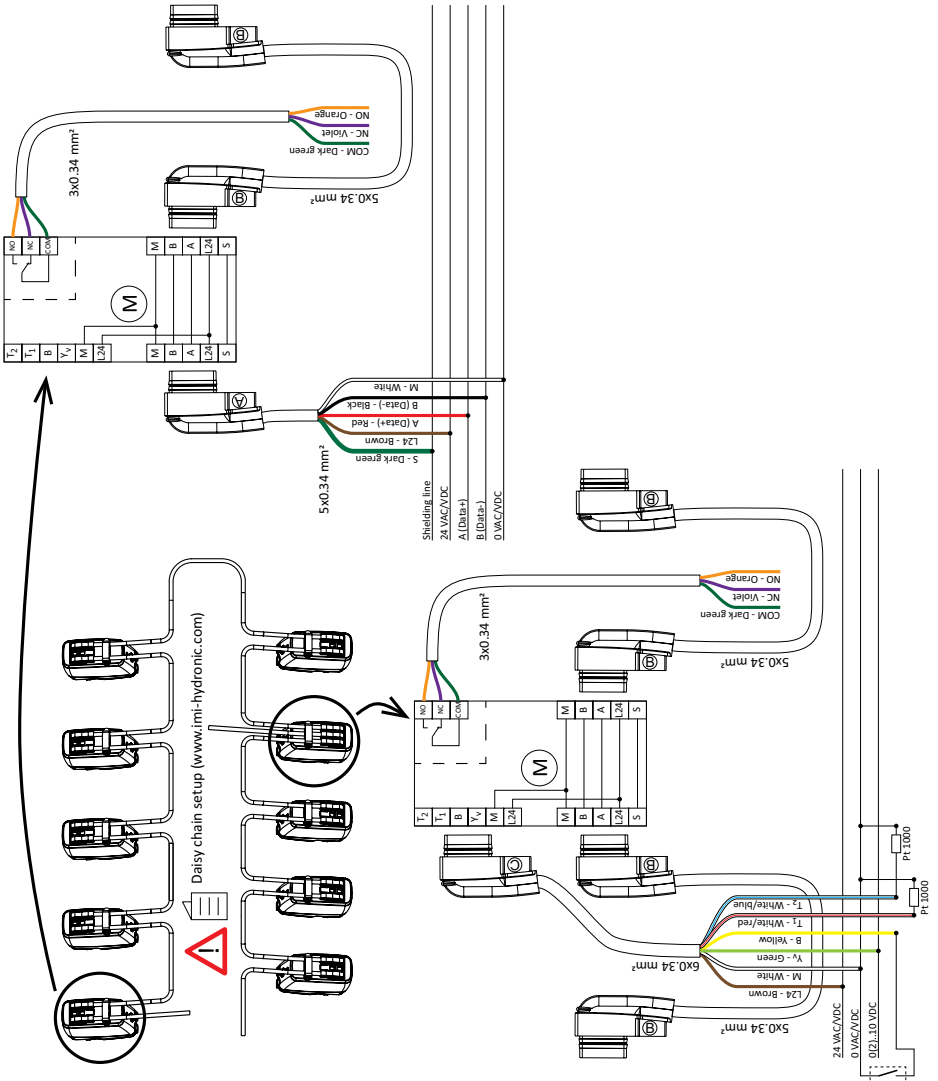
As indicated above, the terminal resistance can be activated by using the HyTune app with the TA-Dongle device connected to TA-Slider.

Wiring diagrams

TA-Slider 160/500 BACnet/Modbus







We reserve the right to introduce technical alterations without prior notice.