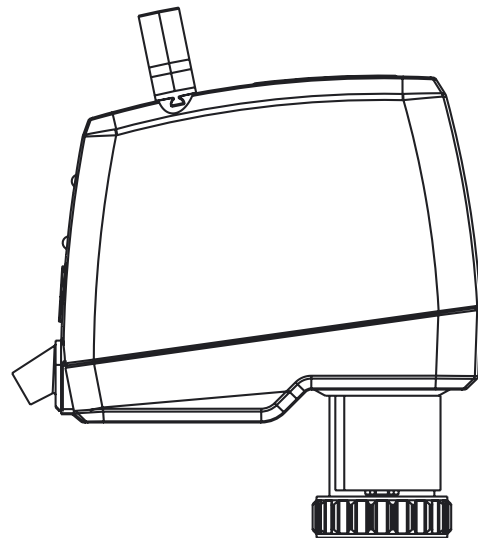
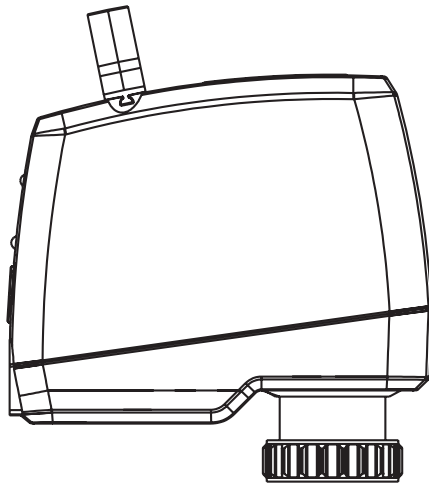


IMI TA

TA-Slider 160/500 BACnet MS/TP


Protocol Implementation



General information

Date	29/01/2024
Vendor Name	IMI Climate Control
Vendor ID	926
Product Name	TA-Slider 160 BACnet MS/TP, TA-Slider 160 BACnet MS/TP CO, TA-Slider 500 BACnet MS/TP, TA-Slider 500 BACnet MS/TP R24
Product Model Number	322224 13011, 322224 1351X, 322225 13011, 322225 1331X
Application Software	1.2
Firmware Revision	2.5.0
BACnet Protocol Revision	16
Product Description	Digitally configurable proportional push actuator – 160/200 N, Digitally configurable proportional push-pull actuator – 500 N BACnet Application Specific Controller (B-ASC)
BACnet	
BACnet interoperability Building Blocks (BIBBS) supported:	<ul style="list-style-type: none">• Data Sharing - ReadProperty-B (DS-RP-B)• Data Sharing - Read Property Multiple - B (DS-RPM-B)• Data Sharing - WriteProperty-B (DS-WP-B)• Data Sharing - Write Property Multiple - B (DS-WPM-B)• Device Management - DynamicDeviceBinding-B (DM-DDB-B)• Device Management - DynamicObjectBinding-B (DM-DOB-B)• Device Management - DeviceCommunicationControl-B (DM-DCC-B) *• Device Management - TimeSynchronization (DM-TS-B) **
Segmentation capability	No
Data Link Layer Options:	MS/TP master
Baud Rates:	Auto, 9600, 19200, 38400, 56700, 76800, 115200
Device Address Binding:	No static device binding supported
Networking Options:	None
Character Sets Supported:	ISO 10646 (UTF-8)

*) No password required
**) Valid range for years is 2000 – 2099

 Follow the RS485 wiring guidelines from the documentation on our website. The necessary information regarding cable type, length, section, number of units, and baud rate can be found there. Order cables A, B, and C as specified in the TA-Slider technical documentation.

Main use cases on how to configure a TA-Slider for Change-Over applications are displayed in the bottom of the documentation.

BACnet object description

Device Objects

Object type / address	Object name	Access	Value range	Description
Device	Object ID	RW	0 ... 4194303	Value computed from the SN by default
Device	Object Name	RW	1 to 25 char	"TA-Slider 160-XXXXXXXX" or "TA-Slider 500-XXXXXXXX" by default
Device	Serial-number	R	XXXXXXX	8 characters
Device	Max-Master	RW	1 ... 127	Maximum value for the "poll for master"
Device	Location	RW	25 char max	Empty by default
Device	Object description	R	25 char max	Valve name ("Unknown" by default)

Standard Objects

Object type / address	Object name	Access	Unit	Value range	Default	Resolution	Description
AI:0	Actuator position Feedback	R	%	[0.0,100.00]	n.a.	0.01	Current actuator position in %.
AI:1	Calibrated stroke SI	R	µm	[250 ... 8500] (TA-Slider 160) [1000 ... 20000] (TA-Slider 500)	n.a.	1	Stroke detected by the calibration process in µm. This value is influenced by the Valve (AV: 31) the actuator is mounted on and the valve mechanical setting.
AI:2	Calibrated stroke US	R	in	[0.0098 ... 0.3347] (TA-Slider 160) [0.0394 ... 0.7874] (TA-Slider 500)	n.a.	0.0001	Stroke detected by the calibration process in inches. This value is influenced by the Valve (AV: 31) the actuator is mounted on and the valve mechanical setting.
AI:3	Motor ontime	R	s	0 ... Max uint32	n.a.	1	Number of seconds the motor has been running since the actuator was first powered. This helps to set up routines on preventative maintenance actions or identify unstable control loops.
AI:4	Actuator ontime	R	s	0 ... Max uint32	n.a.	1	Number of seconds the actuator has been in service since it was first powered. It helps to set up routines on preventative maintenance actions or identify unstable control loops.
AI:5	Actuator distance SI	R	mm	0 ... Max uint32	n.a.	1	Total distance run by the actuator in mm since it was first powered. It helps to set up routines on preventative maintenance actions or identify unstable control loops.
AI:6	Actuator distance US	R	in	0 ... Max uint32	n.a.	0.1	Total distance run by the actuator in inches since it was first powered. It helps to set up routines on preventative maintenance actions or identify unstable control loops.
AI:7	FlowFeedback SI	R	l/h	[0 ... 4e9]	n.a.	0.1	Interpolated flow value in l/h. <i>/Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve section/</i>
AI:8	FlowFeedback US	R	USGPM	[0 ... 4e9]	n.a.	0.0001	Interpolated flow value in USGPM. <i>/Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve section/</i>
AI:9	Temperature 1 S ⁽⁵⁾	R	°C	[-20...120]	n.a.	0.1	Temperature from sensor 1 in °C. If no sensor is connected the sensor shows 10003 (disabled). If T° is above 130°C (or if probe is disconnected), the sensor shows 10000 and triggers an Error. If T° is below -40°C, the sensor shows 10001 and triggers an Error.
AI:10	Temperature 1 US ⁽⁵⁾	R	°F	[-4...248]	n.a.	0.1	Temperature from sensor 1 in °F. If no sensor is connected the sensor shows 10003 (disabled). If T° is above 266°F (or if probe is disconnected), the sensor shows 10000 and triggers an Error. If T° is below -40°F, the sensor shows 10001 and triggers an Error.
AI:11	Temperature 2 S ⁽⁵⁾	R	°C	[-20...120]	n.a.	0.1	Temperature from sensor 2 in °C. If no sensor is connected the sensor shows 10003 (disabled). If T° is above 130°C (or if probe is disconnected), the sensor shows 10000 and triggers an Error. If T° is below -40°C, the sensor shows 10001 and triggers an Error.
AI:12	Temperature 2 US ⁽⁵⁾	R	°F	[-4...248]	n.a.	0.1	Temperature from sensor 2 in °F. If no sensor is connected the sensor shows 10003 (disabled). If T° is above 266°F (or if probe is disconnected), the sensor shows 10000 and triggers an Error. If T° is below -40°F, the sensor shows 10001 and triggers an Error.
AV:0	ControlSetpoint	RW	%	[0.0,100.00]	0	0.01	Relative setpoint in percentage of currently applicable max value. <i>! Required configuration via HyTune App: SignalSource (MSI: 11) needs to be set to BusCom. i</i>
AV:1	Communication address	RW	-	[0...127]	127	1	Communication address allocated to the TA-Slider.
AV:2	Cyclic control timeout	RW	min	[0...60] (default:0; meaning "no timeout")	0	1	Raise an error CyclicTime if no control signal sent before timeout

AV:3	Max Stroke Limitation R1 SI ⁴⁾	RW	µm	0: deactivated (only for reading) [250 ... 6900] (TA-Slider 160) [1000 ... 16200] (TA-Slider 500)	0	1	Max stroke in µm assigned to TA-Slider when the actuator is in regime 1
AV:4	Max Stroke Limitation R1 US ⁴⁾	RW	in	0: deactivated (only for reading) [0.0098 ... 0.2716] (TA-Slider 160) [0.0394 ... 0.6378] (TA-Slider 500)	0	0.0001	Max stroke in inches assigned to TA-Slider when the actuator is in regime 1
AV:5	Max Stroke Limitation R2 SI ⁴⁾	RW	µm	0: deactivated (only for reading) [250 ... 6900] (TA-Slider 160) [1000 ... 16200] (TA-Slider 500)	0	1	Max position in µm assigned to TA-Slider when the actuator is in regime 2. <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i>
AV:6	Max Stroke Limitation R2 US ⁴⁾	RW	in	0: deactivated (only for reading) [0.0098 ... 0.2716] (TA-Slider 160) [0.0394 ... 0.6378] (TA-Slider 500)	0	0.0001	Max position in inches assigned to TA-Slider when the actuator is in regime 2. <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i>
AV:7	Min stroke limitation R1 SI	RW	µm	[0...MaxStrokeR1_SI]	0	1	Min stroke assigned to TA-Slider in µm when the actuator is in Regime 1.
AV:8	Min stroke limitation R1 US	RW	in	[0...MaxStrokeR1_US]	0	0.0001	Min stroke assigned to TA-Slider in inches when the actuator is in Regime 1.
AV:10	Errors code	R	n.a.	[0...127]	0	1	Errors code (0 means "No error")
AV:11	Error 1	R	n.a.	[-7..8]	0	1	Oldest error log ³⁾
AV:12	Error 2	R	n.a.	[-7..8]	0	1	Error log ³⁾
AV:13	Error 3	R	n.a.	[-7..8]	0	1	Error log ³⁾
AV:14	Error 4	R	n.a.	[-7..8]	0	1	Error log ³⁾
AV:15	Error 5	R	n.a.	[-7..8]	0	1	Error log ³⁾
AV:16	Error 6	R	n.a.	[-7..8]	0	1	Error log ³⁾
AV:17	Error 7	R	n.a.	[-7..8]	0	1	Error log ³⁾
AV:18	Error 8	R	n.a.	[-7..8]	0	1	Error log ³⁾
AV:19	Error 9	R	n.a.	[-7..8]	0	1	Error log ³⁾
AV:20	Error 10	R	n.a.	[-7..8]	0	1	Newest error log ³⁾
AV:21	Min stroke limitation R2 SI ⁵⁾	RW	µm	[0...MaxStrokeR2_SI]	0	1	Min stroke assigned to TA-Slider in µm when the actuator is in Regime 2. <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i>
AV:22	Min stroke limitation R2 US ⁵⁾	RW	in	[0...MaxStrokeR2_US]	0	0.0001	Min stroke assigned to TA-Slider in inches when the actuator is in Regime 2. <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i>
AV:23	Max Flow limitation R1 SI ⁵⁾	RW	l/h	[ValveMinAccFlow...ValveNominalFlow]	n.a.	0.1	Max flow in l/h assigned to TA-Slider when the actuator is in regime 1. <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:24	Max Flow limitation R1 US ⁵⁾	RW	USGPM	[ValveMinAccFlow_US...ValveNominalFlow_US]	n.a.	0.0001	Max flow in USGPM assigned to TA-Slider when the actuator is in regime 1. <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:25	Max Flow limitation R2 SI ⁵⁾	RW	l/h	[ValveMinAccFlow...ValveNominalFlow]	n.a.	0.1	Max flow in l/h assigned to TA-Slider when the actuator is in regime 2. <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i> <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:26	Max Flow limitation R2 US ⁵⁾	RW	USGPM	[ValveMinAccFlow_US...ValveNominalFlow_US]	n.a.	0.0001	Max flow in USGPM assigned to TA-Slider when the actuator is in regime 2. <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i> <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:27	Min Flow limitation R1 SI ⁵⁾	RW	l/h	[0...MaxFlowR1_SI]	n.a.	0.1	Min flow assigned in l/h to TA-Slider when the actuator is in regime 1. <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:28	Min Flow limitation R1 US ⁵⁾	RW	USGPM	[0...MaxFlowR1_US]	n.a.	0.0001	Min flow assigned in USGPM to TA-Slider when the actuator is in regime 1. <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:29	Min Flow limitation R2 SI ⁵⁾	RW	l/h	[0...MaxFlowR2_SI]	n.a.	0.1	Min flow assigned in l/h to TA-Slider when the actuator is in regime 2. <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i> <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:30	Min Flow limitation R2 US ⁵⁾	RW	USGPM	[0...MaxFlowR2_US]	n.a.	0.0001	Min flow assigned in USGPM to TA-Slider when the actuator is in regime 2. <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i> <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:31	Valve ⁵⁾	RW	n.a.	See Valve table below	n.a.	n.a.	This is the valve type that the TA-Slider is set-up to control. Refer to the valve section in the bottom of the documentation or change it using HyTune App.
AV:32	DeltaT Setpoint R1 ⁵⁾	RW	K	[2.0 ... 50.0]	6	0.1	Delta temperature setpoint assigned to the actuator when the actuator is in regime 1. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is DT Limitation.j</i>
AV:33	DeltaT Setpoint R2 ⁵⁾	RW	K	[2.0 ... 50.0]	20	0.1	Delta temperature setpoint assigned to the actuator when the actuator is in regime 2. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is DT Limitation.j</i> <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i>
AV:34	Return T Setpoint R1 SI ⁵⁾	RW	°C	[-9.0 ... 119.0]	12	0.1	Return temperature setpoint in °C assigned to the actuator when the actuator is in regime 1 <i>!Only applicable when TemperatureLimitationType (MSI: 9) is T Return Limitation.j</i>
AV:35	Return T Setpoint R1 US ⁵⁾	RW	°F	[15.8 ... 246.2]	53.6	0.1	Return temperature setpoint in °F assigned to the actuator when the actuator is in regime 1 <i>!Only applicable when TemperatureLimitationType (MSI: 9) is T Return Limitation.j</i>
AV:36	Return T Setpoint R2 SI ⁵⁾	RW	°C	[-9.0 ... 119.0]	50	0.1	Return temperature setpoint in °C assigned to the actuator when the actuator is in regime 2 <i>!Only applicable when TemperatureLimitationType (MSI: 9) is T Return Limitation.j</i> <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i>
AV:37	Return T Setpoint R2 US ⁵⁾	RW	°F	[15.8 ... 246.2]	122	0.1	Return temperature setpoint in °F assigned to the actuator when the actuator is in regime 2 <i>!Only applicable when TemperatureLimitationType (MSI: 9) is T Return Limitation.j</i> <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i>

AV:38	Min Flow threshold R1 SI ⁽⁵⁾	RW	l/h	[0.05*ValveNominalFlow_SI, 0.9*MaxFlowR1_SI]	0.25*MaxFlowR1_SI	0.1	Temperature limitation stops to operate when the interpolated flow goes below the min flow threshold in regime 1. Setting the minimum flow requires specifying the valve on which the TA-Slider is mounted. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is different than None.i</i> <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:39	Min Flow threshold R1 US ⁽⁵⁾	RW	USGPM	[0.05*ValveNominalFlow_US, 0.9*MaxFlowR1_US]	0.25*MaxFlowR1_US	0.0001	Temperature limitation stops to operate when the interpolated flow goes below the min flow threshold in regime 1. Setting the minimum flow requires specifying the valve on which the TA-Slider is mounted. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is different than None.i</i> <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:40	Min Flow threshold R2 SI ⁽⁵⁾	RW	l/h	[0.05*ValveNominalFlow_SI, 0.9*MaxFlowR2_SI]	0.25*MaxFlowR2_SI	0.1	Temperature limitation stops to operate when the interpolated flow goes below the min flow threshold in regime 2. Setting the minimum flow requires specifying the valve on which the TA-Slider is mounted. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is different than None.i</i> <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i> <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:41	Min Flow threshold R2 US ⁽⁵⁾	RW	USGPM	[0.05*ValveNominalFlow_US, 0.9*MaxFlowR2_US]	0.25*MaxFlowR2_US	0.0001	Temperature limitation stops to operate when the interpolated flow goes below the min flow threshold in regime 2. Setting the minimum flow requires specifying the valve on which the TA-Slider is mounted. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is different than None.i</i> <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i> <i>!Requires valve type to be defined via Valve (AV: 31) or configuration via HyTune app. within Valve sectionj</i>
AV:42	Min stroke threshold R1 SI ⁽⁵⁾	RW	µm	if Linear valve: [0.1*ValveNominalPos; 0.95*MaxStrokeR1_SI] if EQM valve: [0.12*ValveNominalPos; 0.90*MaxStrokeR1_SI]	if Linear valve: 0.25*MaxStrokeR1_SI if EQM valve: 0.55*MaxStrokeR1_SI	1	Temperature limitation stops to operate when the actuator goes below the min position threshold (in µm) in regime 1. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is different than None.i</i>
AV:43	Min stroke threshold R1 US ⁽⁵⁾	RW	in	if Linear valve: [0.1*ValveNominalPos; 0.95*MaxStrokeR2_SI] if EQM valve: [0.12*ValveNominalPos; 0.90*MaxStrokeR2_SI]	if Linear valve: 0.25*MaxStrokeR2_SI if EQM valve: 0.55*MaxStrokeR2_SI	0.0001	Temperature limitation stops to operate when the actuator goes below the min position threshold (in inches) in regime 1. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is different than None.i</i>
AV:44	Min stroke threshold R2 SI ⁽⁵⁾	RW	µm	if Linear valve: [0.1*ValveNominalPos; 0.95*MaxStrokeR2_SI] if EQM valve: [0.12*ValveNominalPos; 0.90*MaxStrokeR2_SI]	if Linear valve: 0.25*MaxStrokeR2_SI if EQM valve: 0.55*MaxStrokeR2_SI	1	Temperature limitation stops to operate when the actuator goes below the min position threshold (in µm) in regime 2. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is different than None.i</i> <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i>
AV:45	Min stroke threshold R2 US ⁽⁵⁾	RW	in	if Linear valve: [0.1*ValveNominalPos; 0.95*MaxStrokeR2_US] if EQM valve: [0.12*ValveNominalPos; 0.90*MaxStrokeR2_US]	if Linear valve: 0.25*MaxStrokeR2_US if EQM valve: 0.55*MaxStrokeR2_US	0.0001	Temperature limitation stops to operate when the actuator goes below the min position threshold (in inches) in regime 1. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is different than None.i</i> <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i>
AV:46	Heating reference Supply DT ⁽⁵⁾	RW	K	[3.0 ... 40.0]	20	0.1	For heating systems with return temperature limitation enabled, a reference of the system delta of temperature must be specified. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is T Return Limitation.i</i>
AV:47	Cooling reference Supply DT ⁽⁵⁾	RW	K	[2.0 ... 15.0]	6	0.1	For cooling systems with return temperature limitation enabled, a reference of the system delta of temperature must be specified. <i>!Only applicable when TemperatureLimitationType (MSI: 9) is T Return Limitation.i</i>
AV:48	ChangeOver Temp Switch R1 SI ⁽⁵⁾	RW	°C	[0 ... 20.0]	19	0.1	This first switching temperature is the temperature of supply water in °C below which the TA-Slider will switch to the cooling regime. <i>!Only applicable when CoRegimeSwitching (MSI: 6) is Temperature detection.j</i>
AV:49	ChangeOver Temp Switch R1 US ⁽⁵⁾	RW	°F	[32.0 ... 68.0]	66	0.1	This first switching temperature is the temperature of supply water in °F below which the TA-Slider will switch to the cooling regime. <i>!Only applicable when CoRegimeSwitching (MSI: 6) is Temperature detection.j</i>
AV:50	ChangeOver Temp Switch R2 SI ⁽⁵⁾	RW	°C	[22.0 ... 90.0]	25	0.1	This second switching temperature is the temperature of supply water in °C above which the TA-Slider will switch to the heating regime. <i>!Only applicable when CoRegimeSwitching (MSI: 6) is Temperature detection.j</i> <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i>
AV:51	ChangeOver Temp Switch R2 US ⁽⁵⁾	RW	°F	[71.6 ... 194.0]	77	0.1	This second switching temperature is the temperature of supply water in °F above which the TA-Slider will switch to the heating regime. <i>!Only applicable when CoRegimeSwitching (MSI: 6) is Temperature detection.j</i> <i>!Only applicable if CORegimeSwitching (MSI: 6) different than Nonej</i>
AV:52	CoRegime switching DT ⁽⁵⁾	RW	K	[0.5, 5.0]	0.5	0.1	TA-Slider will switch between heating and cooling regimes provided that the difference between supply and return temperatures reverts its sign by more than the specified DT hysteresis. <i>!Requires CoRegimeSwitching (MSI: 6) to be set to Delta Temperature detection.j</i>
BI:0	Override Status	R	n.a.	0: No 1: Yes	No	n.a.	Indicate if mechanical or electrical override
BI:1	Physical Binary Input ¹⁾	R	n.a.	0: Off 1: On	Off	n.a.	Status of physical binary input.
BI:2	Temp Limitation Status ⁽⁵⁾	R	n.a.	0: Inactive 1: Active	0	n.a.	Current status of the temperature limitation. There are conditions under which an enabled temp limitation is inactive (e.g. when the setpoint of the control source is below the temperature limitation target).
BI:3	Temp 1 Used ⁽⁵⁾	R	n.a.	0: Not used 1: Used	0	n.a.	Defines whether the Temperature sensor 1 is used or not.
BI:4	Temp 2 Used ⁽⁵⁾	R	n.a.	0: Not used 1: Used	0	n.a.	Defines whether the Temperature sensor 2 is used or not.
BV:0	Valve opening type	R	n.a.	0: Push-to-close/ 1: Push-to-open	Push-to-close	n.a.	Valve direction of the input signal.
BV:1	Force calibration ⁽²⁾	RW	n.a.	0: Off 1: On	Off	n.a.	Request forced calibration
BV:2	Bus Binary input ⁽⁵⁾	RW	n.a.	0: Regime1 / No flushing 1: Regime2 / Flushing	Off	n.a.	Used to change Regimes if BusBinaryAction (MSI:10) is 1. OR Used to trigger Flushing if BusBinaryAction (MSI: 10) is 2.

BV:3	Relay ¹⁾	[RW]	n.a.	0: Deactivated 1: Activated	Deactivated	n.a.	If the relay trigger is set to BusCom, it will control the relay, such as when operating a 3-point motor. If it's not used, a binary value provides feedback on the relay's current status. <i>Only available for TA-Slider Change-Over versions j</i>
BV:5	Enable Limited Stroke	[RW]	n.a.	0: Deactivated 1: Activated	Deactivated	n.a.	This value is read-only if the change-over switching type has been defined with physical binary input or dual -range in the HyTune app.
MSI:0	Motor status	R	n.a.	1: Stopped 2: Retracting 3: Extending 4: Calibration 5: Manual-override 6: Clogging 7: Error	1	n.a.	Motor status
MSI:1	Power type	R	n.a.	1: Low 2: (reserved) 3: USB	n.a.	n.a.	Power type. For Modbus/BACnet, it should always be "AC/DC low voltage"
MSI:2	Actuator Control Characteristics	R	n.a.	1: Linear, 2: Equal Percentage Modified (EQM), 3: Inverted EQM	n.a.	n.a.	Characteristic of the actuator. On an EQM valve it is recommended to keep a linear actuator characteristic. <i>!Required configuration via HyTune App: Change Control Characteristics within Control Settings sectionj</i>
MSI:3	Actuator Speed	R	s/mm	10 (TA-SLD 160) [4, 6] (TA-SLD 500)	10(TA-SLD 160) 4(TA-SLD 500)	n.a.	Speed of the actuator, it is parametrisable for TA-Slider 500. <i>!Required configuration via HyTune App: Change Speed within Speed sectionj</i>
MSI:4	Operating Mode ⁵⁾	R	n.a.	1: Heating 2: Cooling	1	n.a.	The operating mode is used for setting default and limit parameters when applying DT and return temperature limitation. When heating/cooling change-over is configured, the operating mode is determined automatically by the change-over switching and cannot be changed manually.
MSI:5	Current CoRegime ⁵⁾	R	n.a.	1: Regime1 2: Regime2	1	n.a.	Current change-over regime status. To change the regime use BusBinaryInput (BV: 2).
MSI:6	CoRegime switching ⁵⁾	R	n.a.	1: None 2: Dual-Range input Signal 3: BusCom 4: Temperature detection 6: Delta Temperature Detection 7: Binary input	1	n.a.	Switching mode between regimes 1 and 2. <i>!Required configuration via HyTune App: change Change-over switching within Change-Over Sectionj</i>
MSI:7	Temp 1 location ⁵⁾	R	n.a.	1: Supply side 2: Return side	1	n.a.	Location on which the Temperature sensor 1 is installed.
MSI:8	Temp 2 location ⁵⁾	R	n.a.	1: Supply side 2: Return side	2	n.a.	Location on which the Temperature sensor 2 is installed.
MSI:9	Temp Limitation Type ⁵⁾	R	n.a.	1: None 2: DT limitation 3: T return limitation	1	n.a.	Temperature limitation type to be chosen between DT or return temperature. It applies on top of the position control provided that the flow/position is above a defined threshold. <i>!Requires TA-Slider to be equipped with temperature sensors (2 for the DT limitation, and 1 mounted on the return pipe for the T return limitation). Required configuration via HyTune App: Activate Temp limitation within Limit section.j</i>
MSI:10	Bus Binary Action ⁵⁾	R	n.a.	1: None 2: Change-Over 3: Flushing	1	n.a.	If CoRegimeSwitching (MSI: 6) is set to 3: BusCom then BusBinaryAction is 2. <i>!Required configuration via HyTune App: Change Binary Input Action within Control Settings sectionj</i>
MSI:11	Signal Source ⁵⁾	R	n.a.	1: Analog (V) 5: BusCom	1	0	SignalSource used to control the TA-Slider. Possible to work in hybrid mode, i.e control source analog and data acquisition bus. <i>!Required configuration via HyTune App: Change Control Source within Control Settings sectionj</i>
MSV:0	RS-485 Baud rate	RW	n.a.	Auto, 9600, 19200, 38400, 56700, 76800, 115200	n.a.	n.a.	Baud rate for the BACnet MS/TP communication.
MSV:1	Valve Control Char ⁵⁾	RW	n.a.	1: Linear 2: EQM	n.a.	n.a.	This specifies the valve type that the TA-Slider is configured to control. If the valve type has been defined either via Valve (AV: 31) or configured through the HyTune app within the Valve section, the Valve Control Characteristic is fixed and cannot be modified. However, if the TA-Slider is mounted on a valve not manufactured by IMI, this setting can be adjusted. For more information, refer to the Valve section at the end of the documentation.

- 1) Only with relay option.
2) Force calibration object value is only raised to "On" while a forced calibration is taking place. Object goes back to value "Off" upon completion of the forced calibration.
3) Timestamp of the error and short error description.
4) Available from firmware version 2.4.5
5) Available from firmware version 2.5.0

Object processing

Object Type	Optional properties	Writable properties
Analog Input	Min Pre Value Max Pres Value	Present Value Out of Service
Analog Value	Description Min Pres Value	Present Value Out of Service
Binary Input	Inactive Text Active Text	Present Value Out of Service
Binary Value	Inactive Text Active Text	Present Value Out of Service
Device	Location Description Local Time Locat Date Serial Number	Object Identifier Object Name Location Max Master
Multi-State Input	State Text	Present Value Out of Service
Multi-State Value	State Text	Present Value Out of Service

The properties Object name and Location of the Device Object support up to 25 characters (all other character strings are read-only).
The device does not support the CreateObject and DeleteObject service.

Valve Type Selection

Input valve id into AV: 31 to enable flow setting.

Valve id	Valve Family	DN	CHAR	TA-Slider Family	Nominal Flow [l/h]	Position for nominal flow [mm]	ValveMinAccFlow [l/h]	Nominal Flow [USGPM]	Position for nominal flow [inch]	ValveMinAccFlow [USGPM]
101	TA-COMPACT	DN10	LIN	TA-SLIDER 160	120	4	13.4	0.53	0.16	0.06
102	TA-COMPACT	DN15 LF	LIN	TA-SLIDER 160	245	4	31.1	1.08	0.16	0.14
103	TA-COMPACT	DN15	LIN	TA-SLIDER 160	470	4	81.5	2.07	0.16	0.36
104	TA-COMPACT	DN20	LIN	TA-SLIDER 160	1150	4	171.9	5.06	0.16	0.76
105	TA-COMPACT	DN25	LIN	TA-SLIDER 160	2150	4	249.5	9.47	0.16	1.10
106	TA-COMPACT	DN32	LIN	TA-SLIDER 160	3700	4	380.7	16.29	0.16	1.68
201	TA-MODULATOR	DN10	EQM	TA-SLIDER 160	120	4	11.6	0.53	0.16	0.05
202	TA-MODULATOR	DN15 LF	EQM	TA-SLIDER 160	230	4	25.0	1.01	0.16	0.11
203	TA-MODULATOR	DN15	EQM	TA-SLIDER 160	480	4	75.1	2.11	0.16	0.33
204	TA-MODULATOR	DN20	EQM	TA-SLIDER 160	975	4	86.2	4.29	0.16	0.38
205	TA-MODULATOR	DN25	EQM	TA-SLIDER 160	1750	6.5	64.0	7.71	0.26	0.28
206	TA-MODULATOR	DN32	EQM	TA-SLIDER 160	3600	6.5	114.6	15.85	0.26	0.50
207	TA-MODULATOR	DN40	EQM	TA-SLIDER 500	6500	15	85.0	28.62	0.59	0.37
208	TA-MODULATOR	DN50	EQM	TA-SLIDER 500	11200	15	210.0	49.31	0.59	0.92
209	TA-MODULATOR	DN65	EQM	TA-SLIDER 750	24100	20	235.0	106.11	0.79	1.03
210	TA-MODULATOR	DN65 HF	LIN	TA-SLIDER 750	36500	20	765.2	160.70	0.79	3.37
211	TA-MODULATOR	DN80	EQM	TA-SLIDER 750	37300	20	348.3	164.23	0.79	1.53
212	TA-MODULATOR	DN80 HF	LIN	TA-SLIDER 750	49000	20	642.9	215.74	0.79	2.83
213	TA-MODULATOR	DN100	EQM	TA-SLIDER 1600	51700	20	898.2	227.63	0.79	3.95
214	TA-MODULATOR	DN100 HF	LIN	TA-SLIDER 1600	75900	20	2195.2	334.18	0.79	9.67
215	TA-MODULATOR	DN125	EQM	TA-SLIDER 1600	77300	20	1230.5	340.34	0.79	5.42
216	TA-MODULATOR	DN125 HF	LIN	TA-SLIDER 1600	127000	20	3423.5	559.16	0.79	15.07
217	TA-MODULATOR	DN150	EQM	TA-SLIDER 1600	126000	30	1619.5	554.76	1.18	7.13
218	TA-MODULATOR	DN150 HF	LIN	TA-SLIDER 1600	190000	30	9487.6	836.54	1.18	41.77
219	TA-MODULATOR	DN200	EQM	TA-SLIDER 1600	209000	32.5	1348.8	920.20	1.28	5.94
220	TA-MODULATOR	DN200 HF	LIN	TA-SLIDER 1600	329000	32.5	7536.6	1448.54	1.28	33.18

Error Log

BACNET MESSAGE	DESCRIPTION
PowerFail	Error 1: Low Power Supply
InLnBreak	Error 2: Input Line Break
Clogging	Error 3: Valve Clogging
Stroke Fail	Error 4: Stroke Detection Failure
OutLbBreak	Error 5: Output Line Break
SignalOOR	Error 6: Input Out-Of-Range
CyclicTime	Error 7: Cyclic Time
SoftwareDBAccess	Error 8: Internal Data Access
SoftwareError	Error 9: Firmware
MotorControllerError	Error 10: Motor Controller
FactoryRst	Event 11: Reset To Factory Settings
DegradedOperation	Error 12: Degraded Operation
FailSafeHardCheck	Event 13: Fail-Safe Hard-Check Initiated
FailSafePositionReached	Event 14: Fail-Safe Position Reached
FailSafeCapsWorn	Error 15: Fail-Safe Capacitors Worn
FailSafeHwFailure	Error 16: Fail-Safe Hardware Failure
Temp1SensorDisconnected	Error 17: Temperature Sensor T1 Disconnected
Temp2SensorDisconnected	Error 18: Temperature Sensor T2 Disconnected
Temp1SensorShortCircuit	Error 19: Temperature Sensor T1 Short-Circuit
Temp2SensorShortCircuit	Error 20: Temperature Sensor T2 Short-Circuit
Temp1SensorBelowMin	Error 21: Temperature Sensor T1 Below Minimum Temperature
Temp2SensorBelowMin	Error 22: Temperature Sensor T2 Below Minimum Temperature
Temp1SensorAboveMax	Error 23: Temperature Sensor T1 Above Maximum Temperature
Temp2SensorAboveMax	Error 24: Temperature Sensor T2 Above Maximum Temperature

How To: Change-Over system

This methodology is only applicable from FW 2.5.0.

If you want to use your bus to control your change-over setup. You must first pre-configure your TA-Slider via the HyTune app and the TA-Dongle.

- 1- Connect your TA-Dongle to the TA-Slider and define the Change-Over Type to Bus in the Control Settings section.
- 2- Define your Device ID, baud-rate (default: Auto Detect) and Parity (Default: Even).
- 3- Activate Relay in Control Settings section and set the Trigger to Bus.

From now all parameters can be set via the bus.

- 4- Define the valve the TA-Slider is mounted on (AV: 31).
- 5- Define the Maximum flows for each of the regimes (AV:23 and AV: 25).
- 6- Switch in between regimes using BV (BV: 2).

You will need to use at least 3 objects to be able to control a Change-Over system via bus (AV: 0 to control relative setpoint BV:2 to change regime on the TA-Slider and BV: 3 to change relay position for controlling the 6-way valve)

Actuator configuration

The actuator can be configured by the HyTune app + 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,
- device 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).

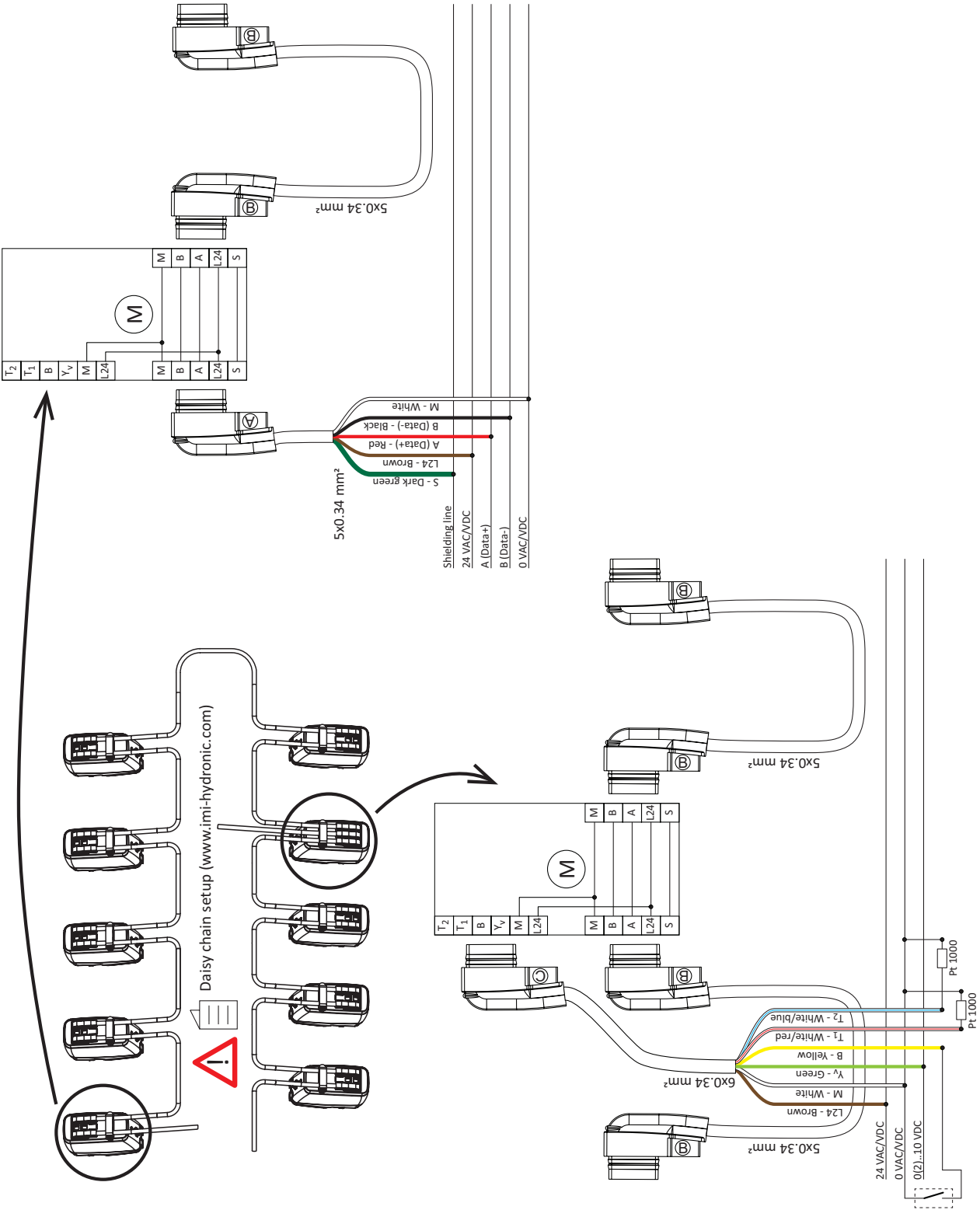
In addition, over 100 other functional parameters can be set as for any other TA-Slider.

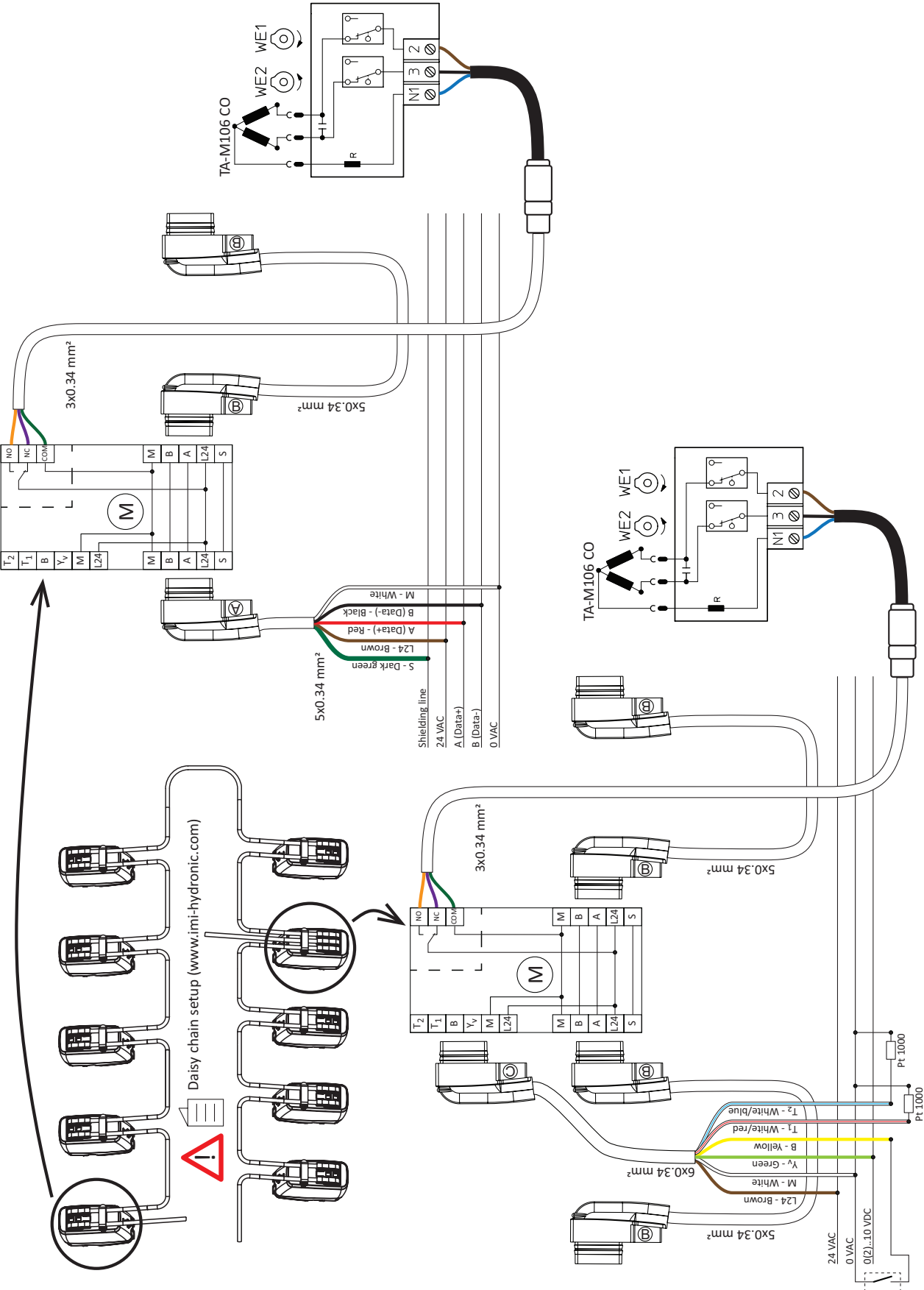
RS-485 termination resistance

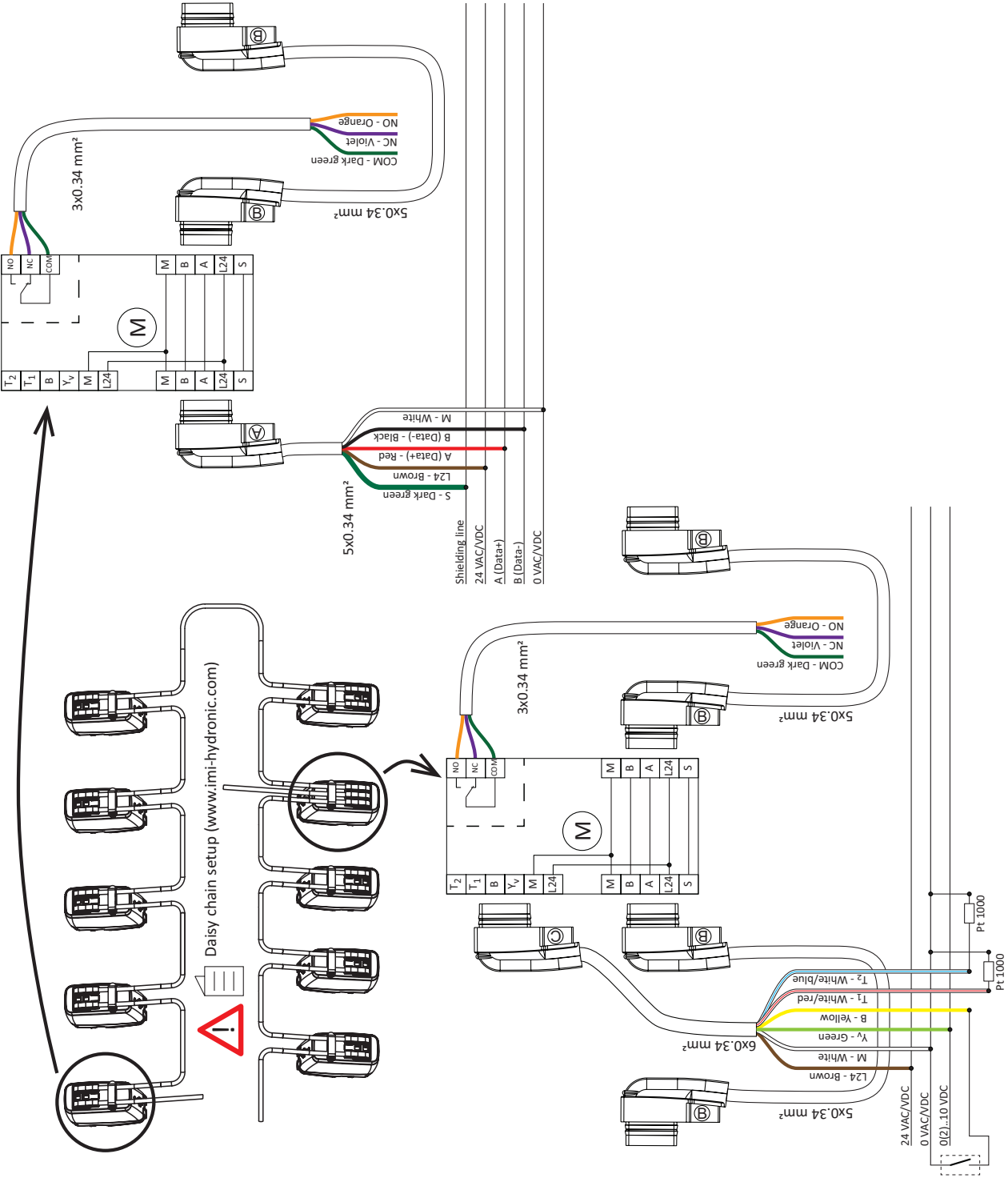
As indicated above, the terminal resistance can be activated by using the HyTune app with the TA-Dongle device connected to TA-Slider.

Wiring diagrams

TA-Slider 160/500 BACnet/Modbus







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

