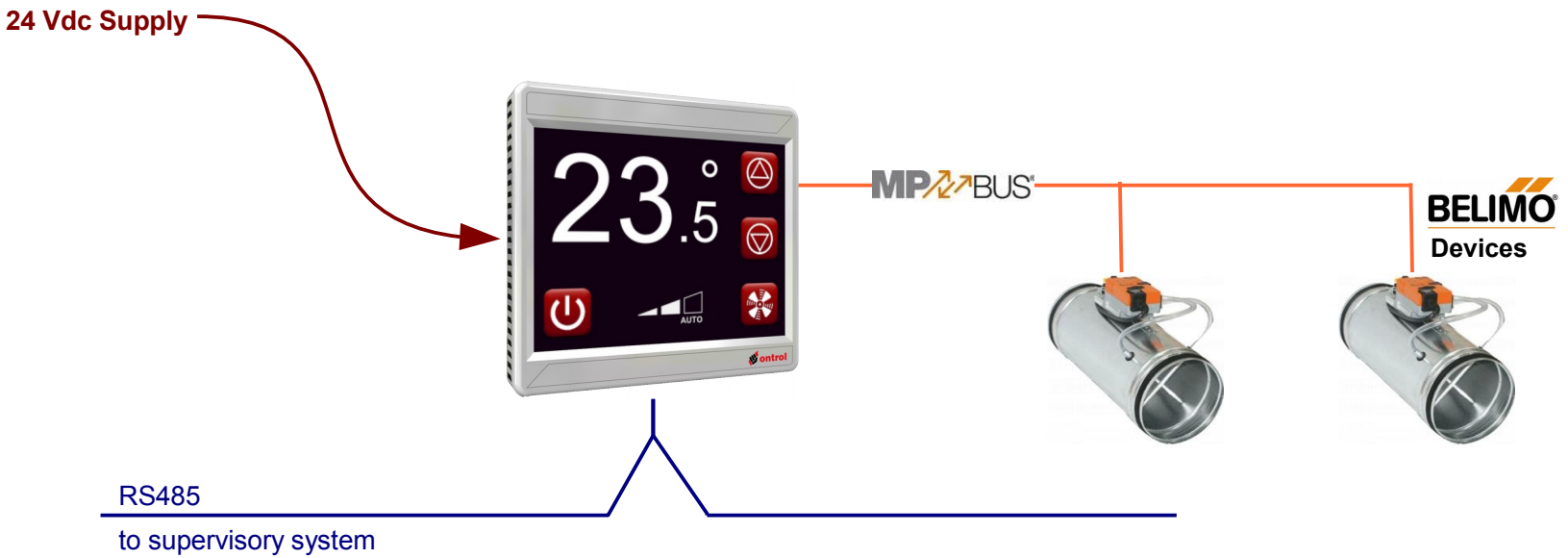
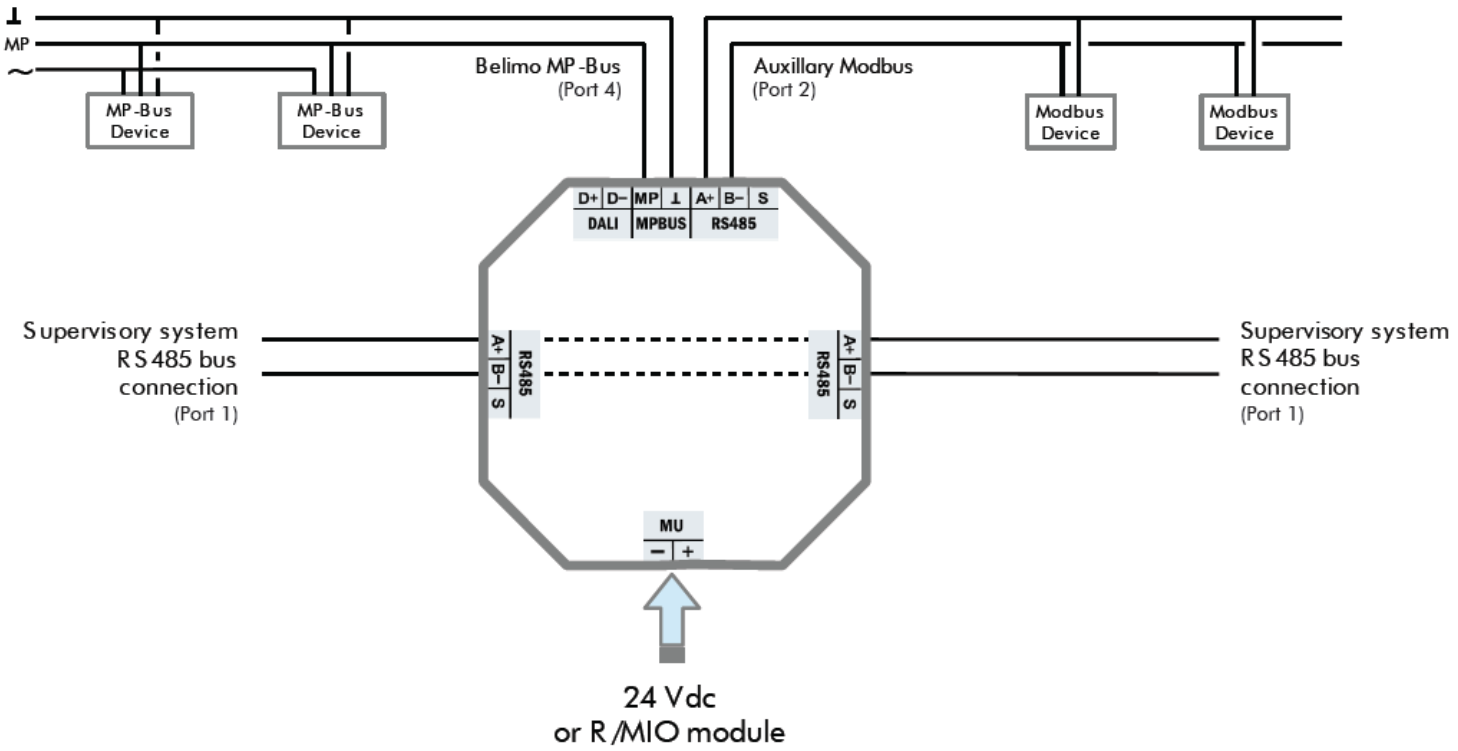
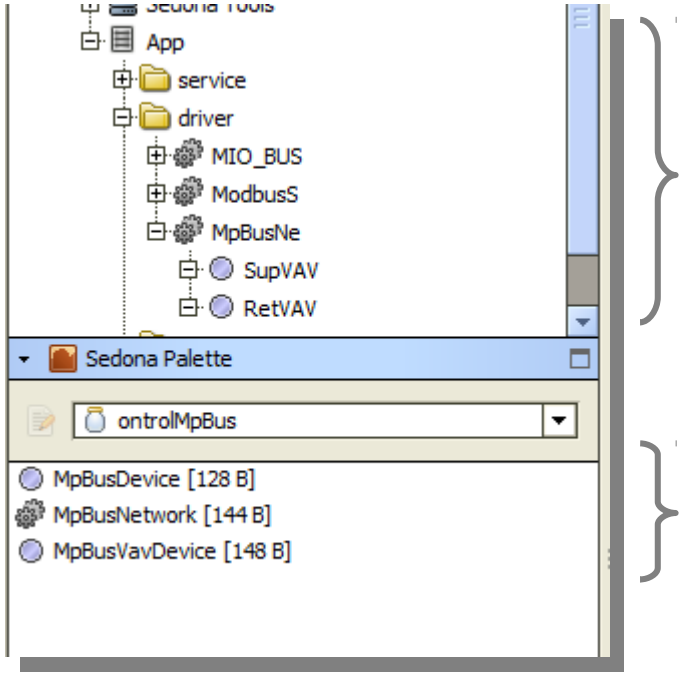
Using Ontrol MpBus Driver for Sedona on R-ION



R-ION MPBus Connection



ontrolMpBus



BASICS

- Add one MpBusNetwork to your App
- Add one or more MpBusDevices under the MpBusNetwork
- Set MP Addresses of devices

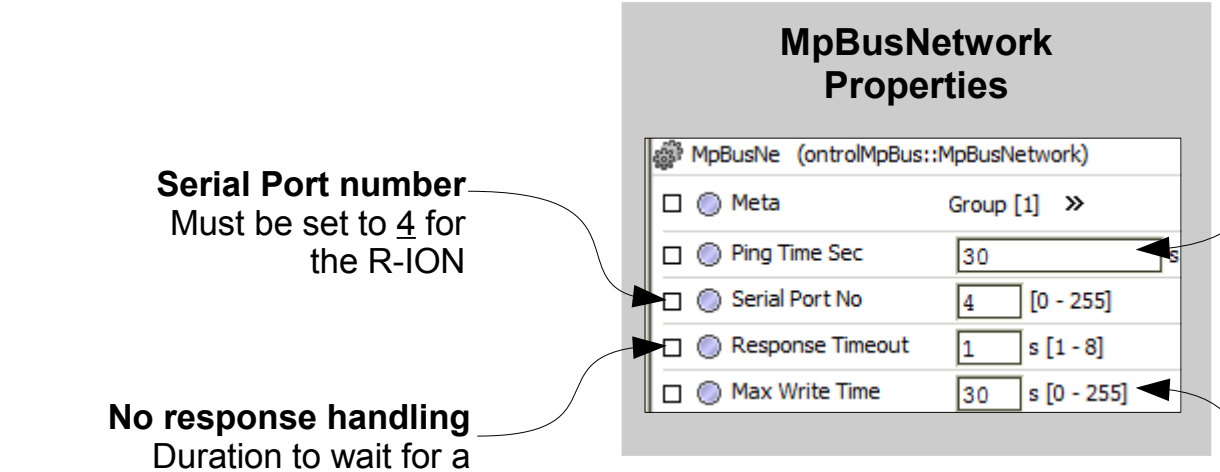
OBSERVE HIERARCHY

MPBusNetwork can reside anywhere but, any MpBusDevice must go under MpBusNetwork

NO CLIENT POINTS

In this driver, devices are modeled as components that contain live data slots. Hence, there is no need to add client points. All data available from the device is on the device component.

OntrolMpBus
Network Properties



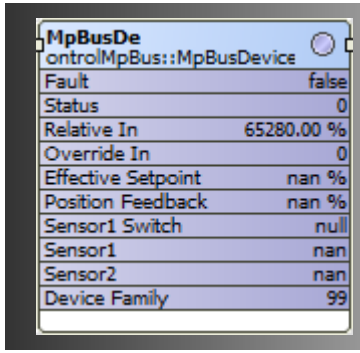
Serial Port number
Must be set to 4 for the R-ION

No response handling
Duration to wait for a response from slave device

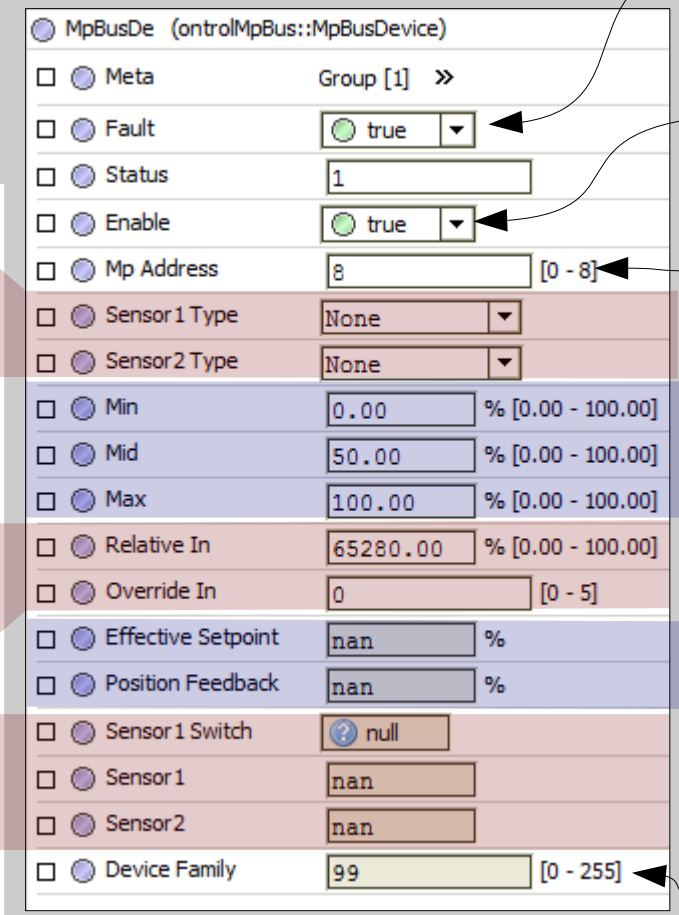
pingTime
Not used

maxWriteTime
Driver will repeat writes to control points with this frequency even if the value has not changed.
(see note about watchdog safety function on page 6)

OntrolMpBus
Basic Device Properties



Basic **MpBusDevice**
(use for general actuators)



These basic properties/slots are present in all MpBus device types.

Comms Status
Indicates whether device is present and communicating

Enabled
Device is polled only when this property is true

MP Address
MP Bus device address

Sensor Types
If connecting sensors to the actuator; select types here.

min / mid / max
Values set on actuator. Changes are pushed to and saved on the actuator

Relative in / Override in
Link or enter values here to position or override the actuator

Feedback values
Present operational values at the actuator

Sensor Values
Present readings for sensors connected to the actuator

Device Family
As read from the device

OntrolMpBus
VAV Device Properties

MpBusVa ontrolMpBus::MpBusVavDevice	
Fault	false
Status	0
Relative In	65280.00 %
Override In	0
Effective Setpoint	nan %
Position Feedback	nan %
Sensor1 Switch	null
Sensor1	nan
Sensor2	nan
Device Family	99
Actual Air Flow	nan m³/hr
Nominal Volume	nan m³/hr
Vmin	nan m³/hr
Vmid	nan m³/hr
Vmax	nan m³/hr

Differences specific to
MpBusVavDevice

SupVAV	ontrolMpBus::MpBusVavDevice [SupVAV
Meta	Group [1] »
Fault	true
Status	1
Enable	true
Mp Address	1 [0 - 8]
Sensor1 Type	Switch
Sensor2 Type	None
Min	0.00 % [0.00 - 100.00]
Mid	50.00 % [0.00 - 100.00]
Max	100.00 % [0.00 - 100.00]
Relative In	100.00 % [0.00 - 100.00]
Override In	0 [0 - 5]
Effective Setpoint	nan %
Position Feedback	nan %
Sensor1 Switch	null
Sensor1	nan
Sensor2	nan
Device Family	99 [0 - 255]
Actual Air Flow	nan m³/hr
Nominal Volume	nan m³/hr
Vmin	nan m³/hr
Vmid	nan m³/hr
Vmax	nan m³/hr

min / mid / max
In VAV devices, these settings effect volume, not position (Vmin, Vmid, Vmax)

Actual Air Flow
Present value feedback from the device

Nominal Volume (Vnom)
Present value set at the device

Vmin / Vmid / Vmax
Values calculated by the driver

OntrolMpBus
Controlling the device

RELATIVE IN

Depending on actuator type / control mode, this input controls position (angle/stroke), airflow or speed.

- 0% means minimum position or flow
- 100% means maximum position or flow

If the value is “nan”, the actuator is controlled by its analog input.

OVERRIDE IN

The actuator can be forced to an override function using this input as follows:

0 : No Override

1 : Fully Open

2 : Fully Closed

3 : Max position/volume

4 : Min positon/volume

5 : Mid position/volume

BUS WATCHDOG

As long as no setpoint has been sent to the actuator after power-up, the analogue control signal is used to define the desired position. With the first reception of an MP-setpoint, analogue control is disabled, the actuator is following the MP-setpoint.

However, if the actuator doesn't receive a command for a while, the internal watchdog function will switch it to a preselected mode. The maxWriteTime property under MpBusNetwork settings ensures that the setpoint or override values are periodically sent to the device, thus resetting the watchdog.