WIRELESS ZONE VALVE ACTUATORS
DATA SHEET

enocean alliance MEMBER SINCE 2009

North American and European EnOcean enabled
ME83x0V2 WIRELESS ACTUATORS

The ME8300 family of wireless control valve actuators is designed for 2 way communication with other devices based on the EnOcean protocol.

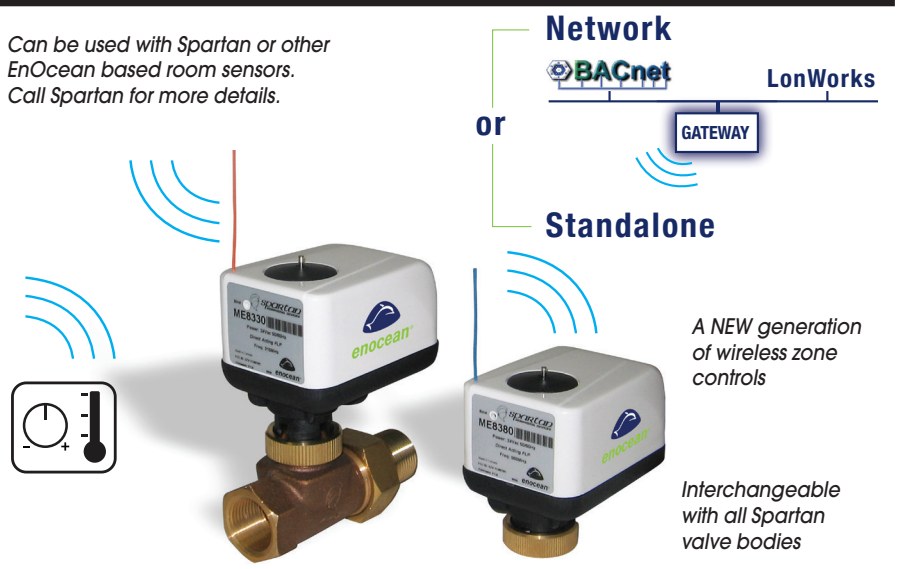
Now based on the new TCM320 Dolphin module from EnOcean has allowed Spartan Peripheral Devices to introduce a standardized 2 way communicating actuator. Two way communication and integration into a BACnet/LON gateway, supporting multiple devices wireless and wired, is now possible. Being a modulating unit it can be precisely positioned to flow requirement. This 2 way communication allows carrying extra information to a controller (feedback). Position feedback of the actuator confirms the functionality of the actuator, dual temperature feedback is also available. Temperature sensor can be used to monitor room or media temperature all in the same single actuator, without using an extra point on your controller. Feedback returned to the BAS system gives you extra control without extra cost.

The actuator is based on a proven mechanical gearbox, designed for more than 500,000 cycles. Utilizing a brushless synchronous AC motor with constant torque and speed, it allows precise positioning over the full span of the valve travel. The positioning is paired with an electro-optical rotation counter allowing for absolute positioning without drifting.

Application:

This actuator can be integrated in an autonomous zone system (per room) or part of a large network system. Each zone can combine different components, from a simple point-to-point Thermostat/Actuator combo, to a combination of different components* based on the EnOcean protocol to allow different energy saving scenarios. On a larger scale all autonomous systems can be integrated into a network that can be controlled through different gateways.

Can be used with Spartan or other EnOcean based room sensors. Call Spartan for more details.



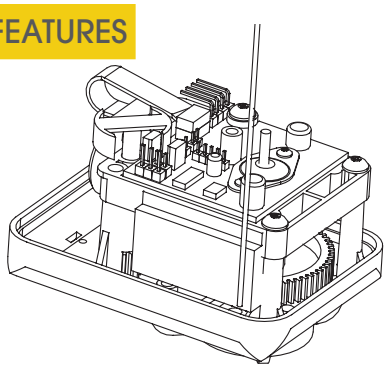
GENERAL SPECIFICATIONS

Supply Voltage: 24Vac, ± 10% 50/60Hz
Motor type: Synchronous Brushless Motor
Consumption: Positioning: 3 VA, Standby: 1 VA
Connection: 36" (1m) cable for 24Vac power
Cover: White
Output force: 64lbf (285N)
Stroke: 4.5 mm
Travel Time: From fully open to fully closed 110 seconds
Direct/Reverse acting by jumper or by external controller signal

Antenna integrated, whip (902MHz or 868MHz)
Input: 1 learn button for binding
Distance: 100 ft (30m) Open Field
Bi-Directional: Dolphin TCM320(c) module
Compatible with: Stand-Alone: EEP: [07-10-03], [07-10-05]
Network: Gateway specific
Approvals: CE, ROHS, FCC, EEP 2.1
ISO/IEC 14543-3-10
Patent No: 6, 471, 182B1
Remote Management Enabled

Model #:	
ME8390 (902Mhz) for North America	ME8380 (865Mhz) for Europe

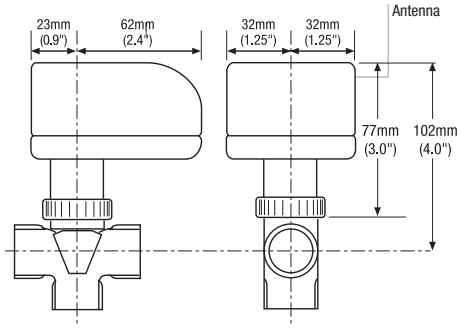
FEATURES



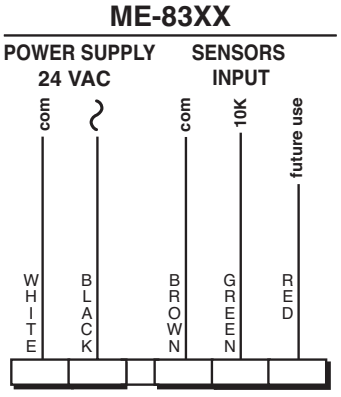
Diagnostic LED
Red = Power On
Blue = Received Telegram
Green = Drive Up
Yellow = Drive Down

Wiring 24VAC
White = Common
Black = Line

DIMENSIONS



WIRING DIAGRAM



ACCESSORIES

Available components from different manufacturers: switch, presence sensor, light sensor, window open sensor, temperature sensor, key card reader, gateways (LON, BACnet).

1187-1-1-02

Spartan Peripheral Devices

WIRELESS ZONE VALVE ACTUATORS INSTRUCTION SHEET

enocean alliance MEMBER SINCE 2009

North American & European EnOcean enabled Wireless Actuators

ME83x0V2 INSTRUCTION SHEET

Applies to 315MHz or 902MHz (North America) and 868MHz units (Europe) Based on profile A5-20-03 from EEP

The ME83xx series actuator is designed to function under the EnOcean Protocol. It supports bidirectional communication and multiple functionality modes.

Master Mode - for standalone applications: The unit uses its own internal PI loop. Its position will be based on room temperature and set point received from an EnOcean based sensor.

Slave Mode - for networking applications: The unit will be listening to a controller and adjusts to a direct command for positioning to an absolute position from 0% to 100%.

The unit will not listen to a new telegram until it reaches its position.
It always broadcasts its position once it reaches it, in master and slave mode.

At Power up

1- ME83xx starts with a self-test. It causes the valve to assume a fully-closed position and then moves the valve to 50% open position.
2- If the unit is bound to a sensor it will start responding to any valid telegram.
3- If the unit is bound to a controller it will start responding to any valid telegram
4- If the unit is bound with a controller AND sensor it will start responding to any valid telegram
5- If the unit was never bound to any devices please see BINDING PROCESS

Binding Process:

First Time Binding:

1- The RED LED is continuously flashing.
2- The unit is ready to receive a teaching telegram from a Controller or Sensor (see Supported Profile).
3- When the actuator receives a valid telegram the RED LED will acknowledge reception by stopping flashing for 4 seconds - from a sensor or controller.
4- After 4 seconds the RED LED will start flashing for another 30 seconds, waiting for another device.
5- After 30 seconds the unit falls into running mode.
6- If the binding button is pressed while in learning mode the learning process is stopped.

Adding a Device:

1- The RED LED is ON
2- Press the binding button on the actuator.
3- The RED LED will start flashing, it is ready to receive a teach in telegram
4- When the actuator receives a valid telegram the RED LED will acknowledge reception by stopping flashing for 4 seconds - from a sensor or controller.
NOTE:
If the unit was already bound to a sensor it will bind with the new one and remove the previous one.

If the unit was already bound to a controller it will bind with the new one and remove the previous one.

5- After 4 seconds the RED LED will start flashing for another 30 seconds, waiting for another device.
6- After 30 seconds the unit falls into running mode.
7- If the binding button is pressed while in learning mode the learn process is stopped.

Mode Switching:

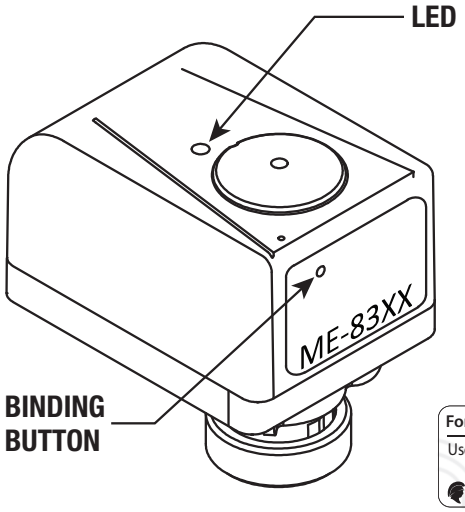
The mode switching can only be done if the actuator was bound to a controller.

See EnOCean Equipment Profile (EEP) for profile definition.

Default mode is Master Mode

In Master Mode DB_1.BIT 2 = 1

In Slave Mode DB_1.BIT 2 = 0



LED Status

COLOR	STATUS	DESCRIPTION
RED	On-Continous	Unit is Powered
	Flashing 0.5 Second Period	Unit in Self Test - motor running
	Flashing 1.0 Second Period	Unit is waiting to bind to a controller
	On for 4 seconds	Unit is binding with a device (sensor or controller)
BLUE	On, Off, Toggles Mode	Unit has received a telegram
RED-BLUE	Alternatively Flashing	Unit has not received a telegram for 2 hours, the valve will be positioned at 50%
GREEN	On	Unit is driving stem up
AMBER	On	Unit is driving stem down

Safety Features:

If the unit does not receive a command signal from a device for 2 hours, sensor or controller, the RED and BLUE LED will start flashing alternatively and the actuator will position the valve at 50% opening.

Supported Profiles:

Controller:

A5-3F-7F

Sensors:

A5-10-03 TEMP AND SETPOINT
A5-10-04 TEMP AND SETPOINT AND FAN SPEED
A5-10-05 TEMP AND SETPOINT AND OCCUPANCY
A5-10-06 TEMP AND SETPOINT AND DAY-NIGHT
A5-10-10 TEMP AND SETPOINT AND HUMIDITY AND OCCUPANCY
A5-10-11 TEMP AND SETPOINT AND HUMIDITY AND DAY-NIGHT
A5-10-12 TEMP AND SETPOINT AND HUMIDITY AND SETPOINT

The ME83xx takes into account ONLY the TEMP and SETPOINT from all above profiles, other values are discarded.

Remote Management Code: 56657276

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