



SWM 301

Wireless RF Module for Water Meter



Z-Wave® Commissioning Notes

SWM 301 is a battery-powered RF module using Z-Wave® technology for reporting secondary water meter reading in domestic dwellings. The low-power radio signal transmits the meter readings to a Secures controller or any other 3rd party controller in the system. If there are constant powered nodes within the network, these will act as repeaters to increase network reliability.

The RF module records the meter reading by backlash-free pick-up on the litre wheel of the meter register and transmits the data over the Z-wave network either on a time or delta change.

Choose the position where the unit is to be mounted, avoid locations alongside or behind large metal surfaces that could interfere with the low-power radio signals between the unit and the Controller.

The unit contains a lithium battery which provides 10 years battery life based on a 24hr data reporting interval over RF.

To Include the SWM 301 onto a network follow below process. Put the Controller in Include mode, and then hold a magnet on the side of the RF module next to the reed switch for around 3 seconds. LED will turn on to indicate 2 seconds are over since magnet is placed, LED will remain on for next 4 seconds and then after it will flash once to indicate a NIF action is initiated, water meter will then send NIF. The controller will show when the two units have been successfully linked. (Repeat the process if LED is not flashes once)

If the controller does not respond within 2 second of NIF being sent, the SWM 301 will enter NWI inclusion automatically whereby it will try to find the controller using repeating devices in the network. In NWI mode SWM 301 will send explorer frame 3 times each 5 seconds apart, after which it will go into deep sleep mode. If the inclusion/exclusion process fails the LED will flash 3 times, indicating failed. Please note NWI reduces the battery life.

To exclude device from a network, put the Controller in Exclusion mode and follow same sequence as used in inclusion for sending NIF. Controller will indicate exclusion completion.

The unit will transmit and report the meter readings for a short while after the battery level is reported 0%, any data reported at this point is not guaranteed.

Z-Wave Device Classes	Implemented Device Class
Generic	Generic Type Meter
Specific	Specific Type Simple Meter
Basic	Routing Slave
Command Classes Supported	Description
Manufacturer Specific (V2)	Secure Controls (UK) Manufacturer ID, RF Module Serial Number
Version	Provides the version number of the software
Meter Command Class	To report the accumulated water meter readings, meter will send the unsolicited report on delta change or defined time interval to associated nodes in group 1.
Battery Level	To get battery level in range 0-100%, and to report low Battery Warning to the nodes in Group 2.
Wake Up (V2)	To configured wake Up Interval in device, use Wake Up interval Capabilities Get Command to request the wake up interval capabilities of a device.
Basic	Mapped to the Meter Command Class as follows: o Basic SET: Not Supported o Basic GET: Meter Get o Basic REPORT: Meter Report
Association	Three association groups are supported, each group containing max 2 nodes: Group 1 - Nodes to receive unsolicited water meter reading. Group 2 - Nodes to receive unsolicited low battery warnings report. Group 3 - Receive temperature and low temperature alarm

Configuration (Any change from default configuration, like increasing reporting interval or enabling temperature monitoring will reduce the battery life, zero configuration means feature is disabled)	Parameter (sequential order)	NO	Size Bytes	Units	Resolution	Min Value	Max Value	Default Value
	Meter register offset	1	4	Litre	1	0	99999999	0
	Meter reading reporting intervals	2	2	minute	1	1	30 days	24Hr
	Delta configuration for meter reading	3	2	Litre	1	0	10000	0
	Mech meter serial number	4	4	-	-	-	-	FFFFFFFF
	Temperature monitor enable/disable	5	1	Boolean	-	0	1	0
	Temperature Δ	6	1	°C	1	0	30	0
	Temperature Alarm Threshold	7	1	°C	1	0	40	0
Multilevel sensor	To report measured temperature based on delta change.							
Alarm Sensor	To report low temperature alarm.							
CRC - 16	To report water meter reading with more integrity							

Note: All command classes are version 1 unless otherwise stated.

Technical Information			
Dimensions (WxHxD)	64.5 x 27 x 34.5 mm	Power supply	DC 3.6V (Lithium Battery)
Data reporting frequency	Configurable	Transmitter frequency	868.42 MHz
Pollution control degree	3 to EN60950	Design standard	EN 60950
Enclosure protection	IP54	Operating range	0 °C to +45°C
When placed on meter	IP65	Receiver Category	3
Battery Life	10Years*	Power Class	B
Pollution Degree	3	Weight	35.5 gram
Enclosure material	Flame-retardant thermoplastic		

*Based on once in a 24hr reporting interval



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Please dispose of
this unit (and the
batteries that it
contains) responsibly



Part Number P84970 Issue 1