Application Note

BACnet Protocol Implementation Conformance Statement

Date: 22 SEP 2025

Vendor Name: SoundWater Technologies LLC

Product Name: SWT TEM, Thermal Energy Flowmeter

Product Model Number: TEM100

Application Software Version: 2.0.1

Firmware Revision: 4.0.3

BACnet Protocol Revision: 22

PRODUCT DESCRIPTION:

SWT TEM (Thermal Energy Meter) is a completely non-invasive compact thermal energy meter designed for thermal energy measurement. The system measures flow, temperature, and energy (BTU) all in one system with external power and industrial communications designed for long-term monitoring.

Ultrasound flow sensors and PT1000 temperature sensors install on the outside of your pipe to sense flow as well as supply and return temperature—all through the pipe wall. The system is highly accurate, with a matched pair of PT1000 RTD temperature sensors for the highest performance.

Both the flow and thermal sensors connect directly to a single wall-mounted controller with an intuitive touch display and app like interface. It also connects to your SCADA, PLC, or HMI systems through BACnet IP, MODbus RTU/ RS485, or pulse outputs.

BACNET STANDARDIZED DEVICE PROFILES SUPPORTED (ANNEX L):

BACnet Smart Sensor (B-SS)

BACNET INTEROPERABILITY BUILDING BLOCKS SUPPORTED (ANNEX K):

DS-RP-B	DataSharing – ReadProperty – B
DM-DDB-B	DeviceManagement – DynamicDeviceBinding – B
DM-DOB-B	DeviceManagement – DynamicObjectBinding – B

SEGMENTATION CAPABILITY:

NA

STANDARD OBJECT TYPES SUPPORTED:

Object Types: Analog Input, Network Port

ANALOG INPUTS:

Flow Rate (float), Velocity (float), Total Net (float), Total Fwd (float), Total Rev (float), Thermal Energy Rate (float), Thermal Energy Net (float), Thermal Energy Supply (float), Thermal Energy Return (float), Temperature Difference (float), Temperature Supply (float), Temperature Return (float), Signal-to-Noise Ratio (float)

BACNET DATA LINK LAYER OPTIONS:

BACnet IP

DEVICE ADDRESS BINDING:

NA

NETWORKING OPTIONS:

NA

CHARACTER SETS SUPPORTED:

ISO 10646 (UTF-8)