

# SES 002 and SES 003

## Pipe and Tank Temperature Sensor

SES 002 and SES 003 are wired digital temperature sensors designed to measure surface temperature of hot water flow pipes and hot water tanks in central heating and hot water applications. SES 002 and SES 003 can only be used either with wall mounted SES 302 temperature sensor or SES 303 temperature and humidity sensor in a Z-Wave network i.e. SES 002 and SES 003 can't be used standalone. The supplied tank sensor housing fits over the pipe sensor housing for installation on hot water storage tanks. This will measure temperature of hot water tank.

SES 002 is supplied with a 1-metre long communication cable as well as 1-meter long cascading cable. 1-meter long cascading cable can be used to connect another SES 002 in the same network. SES 003 is supplied with a 4-metre long communication cable.

The communication cable have an RJ10 male connector at one end and stripped wires at the other end while cascading cables have RJ10 connectors at both ends. Up to four SES 002 pipe or tank sensors can be cascaded in daisy chain with SES 302 or SES 303 whereas only one SES 003 can be connected with SES 302 or SES 303.



### Application

- Hot water pipe temperature measurement
- Hot water tank temperature measurement
- Optimize heating system and save energy by measuring water temperature at various points in hot water application
- Stratification & Dynamic temperature control of hot water storage tanks
- Tube and tank safety systems
- Indirect detection of hot water flow
- Optimization of heating systems

### Benefits

- Simple and easy to install
- Easy cascading using RJ10-RJ10 cascade cable (applicable for SES002)
- No explicit step to add SES 002 and SES 003 into Z wave network, this will be taken care by SES 302/SES 303
- SES 002/SES 003 will retrofit on SES 302/SES 303

### Features

- Thermal pad for superior conductivity
- Digital temp IC for improved accuracy
- Up to four external digital temperature sensors are supported by cascading

# SES 002 and SES 003

## Technical specifications

### Measurement

Temperature accuracy	$\pm 0.5^{\circ}\text{C}$ for $0^{\circ}\text{C}$ to $65^{\circ}\text{C}$ $\pm 1^{\circ}\text{C}$ for $66^{\circ}\text{C}$ to $85^{\circ}\text{C}$
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### Mechanical

Dimensions	Pipe Sensor - 20mm (H) x 79mm (W) x 24mm (D) Tank Sensor - 69mm (H) x 83mm (W) x 28mm (D)
Product weight with single unit packing	
SES 002	180 $\pm$ 30 g
SES 003	200 $\pm$ 30 g
Enclosure	Thermoplastic, flame retardant
Ball pressure test temperature	75°C

### Environmental

Operating temperature range	$0^{\circ}\text{C}$ to $85^{\circ}\text{C}$
Storage temperature range	$-20^{\circ}\text{C}$ to $85^{\circ}\text{C}$
Environmental humidity range	0%RH to 95%RH

### Compliance

CE   
IEC 61010-1, RoHS

### Ordering information

SES 002	Pipe/Tank temp sensor, 1m cable	NU5680501000
SES 003	Pipe/Tank Temp sensor, 4m cable	NU5680601000
SES 302	Temperature sensor Z-Wave Plus™	NU2010302000
SES 303	Temperature and humidity sensor Z-Wave Plus™	Nu2010303000

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