



# **Temperature Sensor User's Guide**

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# Temperature Sensor

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## NOTES:

Product Version : Ver 1.0

Document Version : Ver 1.1

### Chapter 1. Overview

#### 1.1 Overview

Thanks for using temperature sensors by Sure Electronics. These Maxim-made items are easy to communicate with temperature devices like our self-made thermometers (shown in table 1-2). Its stainless steel and waterproof probe makes it suitable for any wet or harsh environment.

**TABLE 1-1 SENSOR SERIES**

Product No.	Product Name
MB-SM17111	<a href="#">3m Digital Thermal Sensor DS18B20</a>
MB-SM17114	<a href="#">NTC Temperature Sensor</a>
MB-SM17115	<a href="#">3m Digital Thermal Tank Sensor Vertical Tank - DS18B20</a>
MB-SM17116	<a href="#">3m Digital Thermal Tank Sensor Horizontal - DS18B20</a>

#### 1.2 Applications

- Thermostatic Controls
- Industrial Systems
- Consumer Products
- Thermometers
- Any Thermally Sensitive System

#### 1.3 Sensor Description

**TABLE 1-2 SENSOR DESCRIPTION**

Product No.	Sensor	Probe	Typical Application
MB-SM17114	NTC  DS18B20	Stainless steel	Air Environment
MB-SM17111			
MB-SM17115		Stainless steel Easy of mounting	Water Tank Fuel Tank Tube
MB-SM17116			

The length of the product listed above is 3 meters. Customization is available in Sure Electronics.

**TABLE 1-3 CORRESPONDING THERMOMETER**

Product No.	Corresponding Thermometer	
	Red LED Display	Blue LED Display
MB-SM17114	ME-TM11123/ME-TM21123/ ME-TM31123/ME-TM41123	ME-TM12123/ME-TM22123/ ME-TM32123/ME-TM42123
MB-SM17111	ME-TM51121/ME-TM61121	ME-TM52121/ME-TM62121
MB-SM17115		
MB-SM17116		

You may get the details of each thermometer by entering these product numbers on Sure's [Webstore](#).

# Temperature Sensor

## 1.4 Pin Definition

FIGURE 1-1 PIN DESCRIPTION OF MB-SM17114

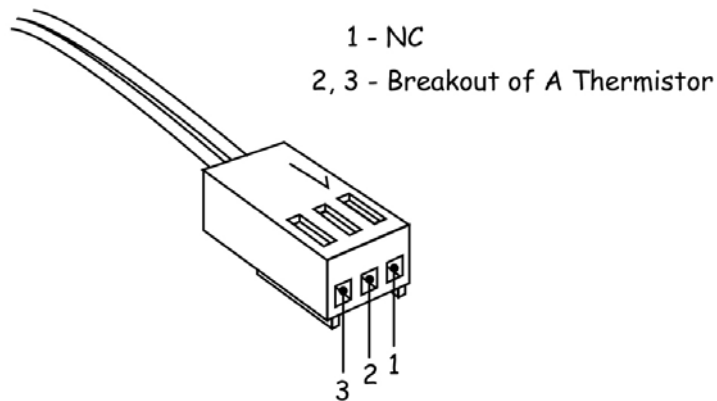


FIGURE 1-2 PIN DESCRIPTION OF MB-SM17111

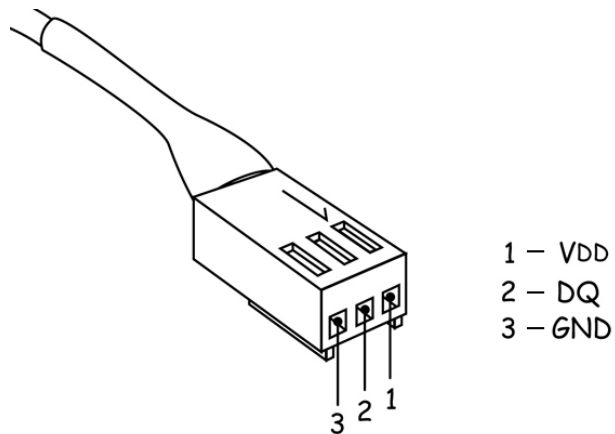


TABLE 1-4 PIN DESCRIPTION OF MB-SM17115 AND MB-SM17116

Product No.	Wire	Description
MB-SM17115	Yellow/Gray	VCC
MB-SM17116	Green/Blue	DATA
	Red/Brown	GND

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**Chapter 2. Electrical Characteristics**

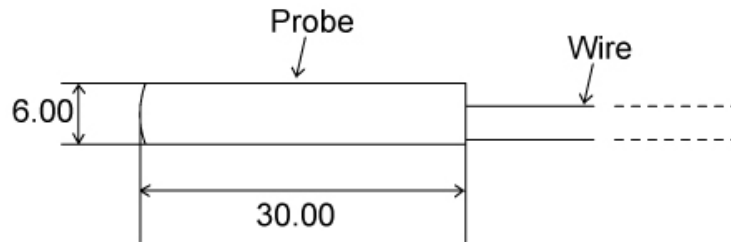
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**TABLE 2-1 ELECTRICAL CHARACTERISTICS**

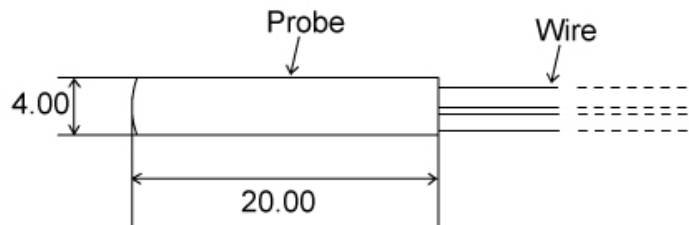
Parameter	Min.	Typ.	Max.
Power Supply	3.0V	-	5.5V
Operating Temperature	-55°C(-67°F)	-	+125°C(+257°F)
Storage Temperature	-55°C(-67°F)	-	+125°C(+257°F)
Accuracy over the range of -10°C to +85°C	-	±0.5°C	-

**Chapter 3. Mechanical Drawing**

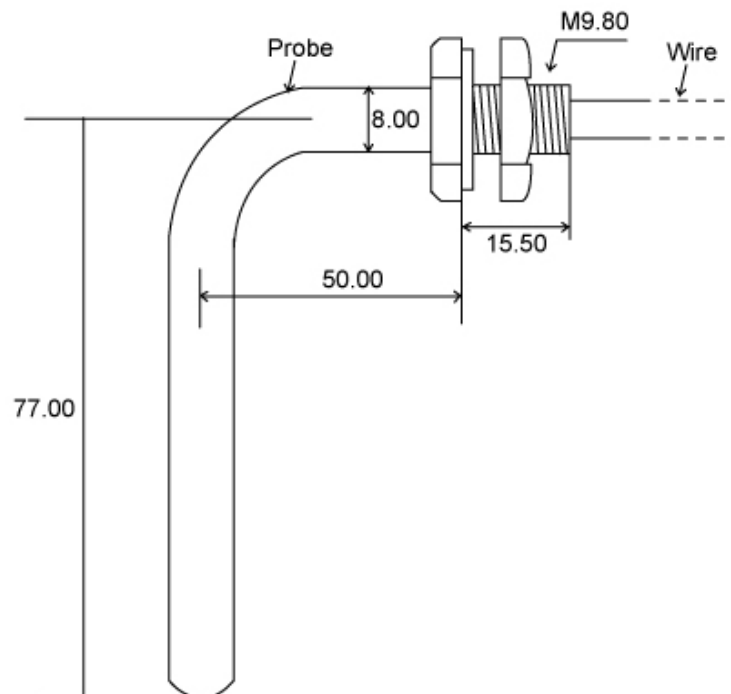
**FIGURE 3-1 MECHANICAL DRAWING OF MB-SM17111 AND MB-SM17114**



**FIGURE 3-1 MECHANICAL DRAWING OF MB-SM17114**



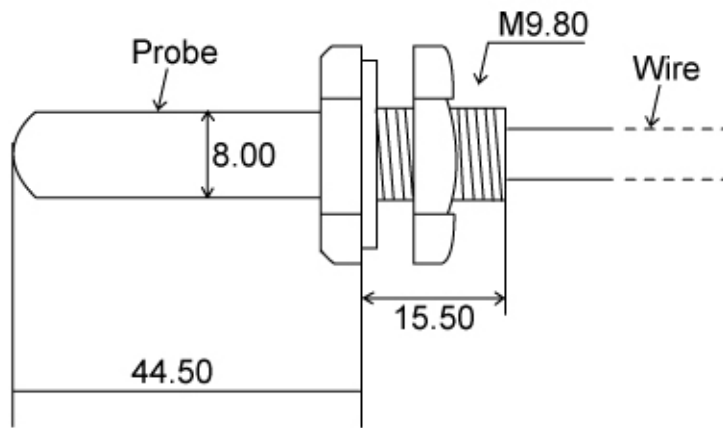
**FIGURE 3-2 MECHANICAL DRAWING OF MB-SM17115**



# Project Name

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FIGURE 3-3 MECHANICAL DRAWING OF MB-SM17116



**Note:**

1. All the diagrams in this manual are for reference only.
2. The unit is mm.



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## Chapter 4. Contact Us

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