



Temperature Sensor User's Guide

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Temperature Sensor

NOTES:

Product Version : Ver 1.0

Document Version : Ver 1.0

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	3m Digital Thermal Sensor DS18B20
MB-SM17114	NTC Temperature Sensor
MB-SM17115	3m Digital Thermal Tank Sensor Vertical Tank - DS18B20
MB-SM17116	3m Digital Thermal Tank Sensor Horizontal - DS18B20

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	Stainless steel	Air Environment
MB-SM17111	DS18B20	Stainless steel Easy of mounting	Water Tank Fuel Tank Tube
MB-SM17115			
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 DESRIPTION OF MB-SM17114

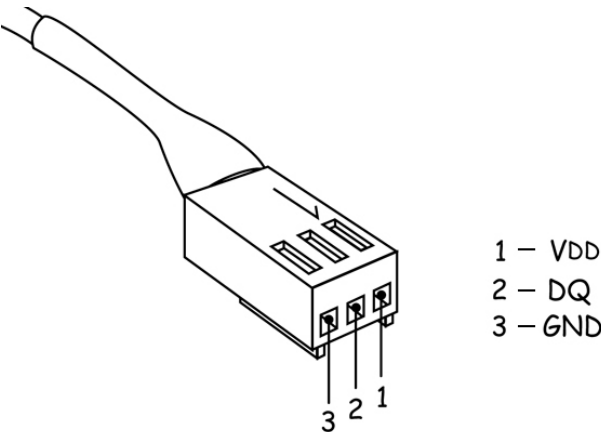


TABLE 1-4 PIN DESRIPTION OF MB-SM17115 AND MB-SM17116

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

Chapter 2. Electrical Characteristics

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

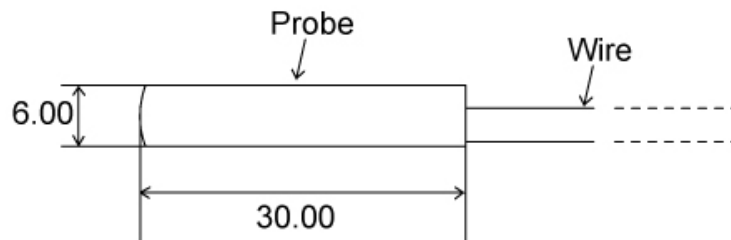


FIGURE 3-1 MECHANICAL DRAWING OF MB-SM17114

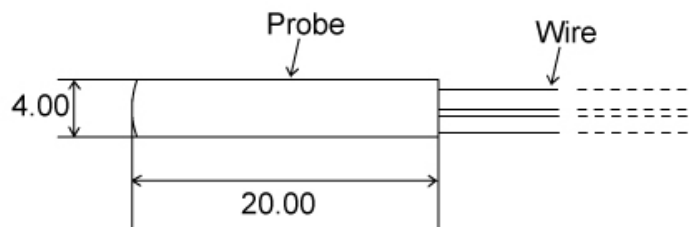
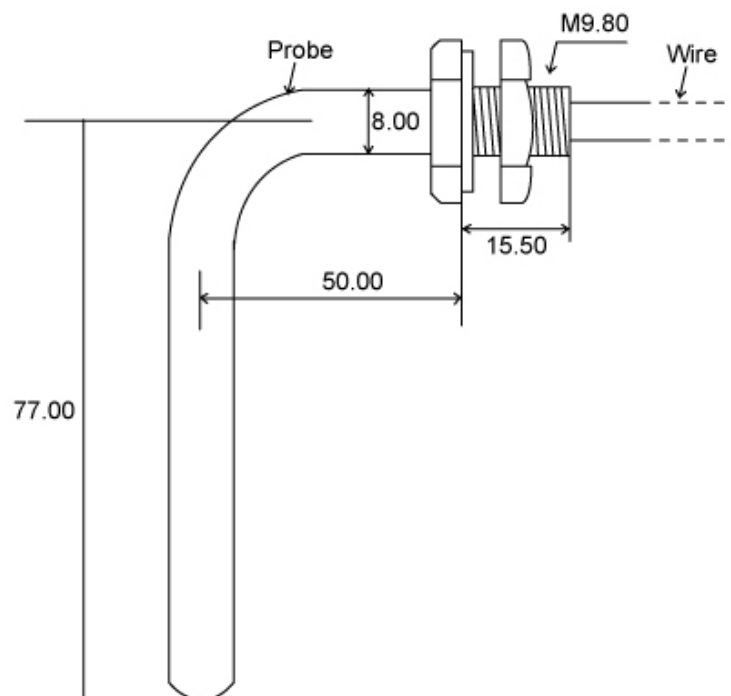
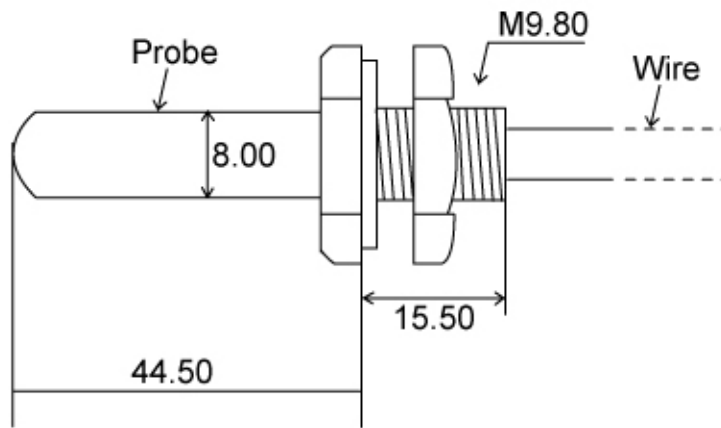


FIGURE 3-2 MECHANICAL DRAWING OF MB-SM17115



Project Name

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.

Chapter 4. Contact Us

Sure Electronics Co., Ltd.

East zone, 3F, Building 6

Jingang Technology Innovation Center

No.108 Ganjiabian Rd (ZIP: 210000)

Qixia District

Nanjing

P.R.China

Tel: +86-25-68154800-860

Fax: +86-25-68154891-832

Website: www.sure-electronics.comEmail: customerservice@sure-electronics.com