



<http://www.EmbeddedDataSystems.com>

FEATURES

- Submersible, Rugged, Wide Temperature Range Probe suitable for use in harsh environments.
- 304 Stainless Steel Probe, from 1.5 to 12 inches in length.
- Pressure tested, water resistant to 60 PSI.
- All exposed surfaces are either stainless steel or Teflon based.
- Available with Dallas Semiconductor DS18S20 or DS18B20 sensors.
- Uses 1-Wire communication protocol.
- Compatible with all EDS 1-Wire bus masters.
- Chemical resistant and waterproof steel probe and cable.
- No external power required, or can be optionally powered for fast (non-parasite) operation.
- Automatic unique device addressing.
- 1-12 feet CAT 5 cable options.
- Applications Include thermostatic controls, industrial systems, consumer products, thermometers, or any thermally sensitive system.



DESCRIPTION

The RTP temperature probe is designed for wide temperature range applications requiring excellent chemical resistant properties and sensor submersion.

All exposed parts of the RTP are manufactured of either stainless steel, or Teflon based products, resulting in excellent chemical resistance properties to acids, alkalis, ketones, esters, aliphatics, aromatics, and outdoor exposure. The probe is constructed of 304 Stainless Steel making it both durable and water resistant to 60 PSI. The cable used on this sensor is Belden's 7928A CAT 5, which uses Teflon based materials for both the outer jacket and inner conductor insulation. This cable is particularly suited for harsh environments, and offers excellent resistance to high and low temperatures, oil, gasoline, and sunlight exposure. The RTP probe is manufactured using a Teflon based heat shrink tubing that creates a water tight seal at the cable's point of entry into the tube. This results in a sensor that can be submerged beyond the top of the steel probe.

For applications that do not require complete submersion or operation in harsh environments, please refer to our STP (standard) temperature probe.

The RTP temperature probe is available with either a DS18S20 or a DS18B20 1-Wire temperature sensor embedded into the probe. The RTP probe is manufactured using a special process that insures the internal sensor is thermally coupled to the steel tube wall; this helps insure rapid sensor response to changing conditions.

Our RTP sensor is supplied standard with Teflon CAT5 cable with stripped leads. Pin outs are as follows:

Common (GND): *Blue / White*
1-Wire Signal: *Blue*
Ext. Power (Vdd): *Orange*

Please note that if you choose to operate the sensor in parasitically powered mode, you must connect the Vdd and GND lines together, per the DS18x20 specifications. When ordered with the optional RJ11 plug, we take the extra steps necessary during the plug installation to properly configure the sensor for parasitically powered operation.

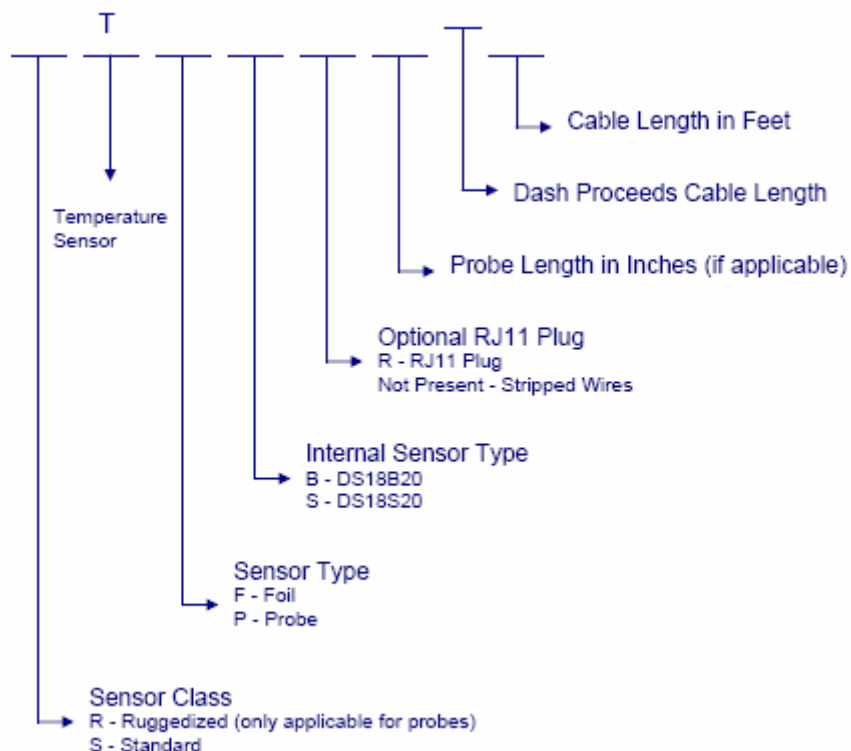
The RTP temperature probes are directly compatible with all Embedded Data Systems and Dallas 1-Wire bus masters, our OneSix server software, and the freely available TMEX drivers. For complete documentation on the embedded DS18x20 sensors, please refer to manufacturer's spec sheets available at <http://dalsemi.com/>.

CUSTOM CONFIGURATIONS

Our standard (stocked) RTP sensor has a 3 inch long steel probe and 12 foot long CAT 5 cable. With minimum orders we can manufacture the temperature probe to a variety of specifications, including length of the steel probe, length of cable, with / without RJ11 plugs, etc. Please contact us for a custom quote.

PART NUMBERS

Please use the following chart to determine the appropriate part number for ordering:



Part # Examples:

RTPB3-12 Rugged probe sensor: DS18B20, 3" probe, 12' cable

RTPS3-12 Rugged probe sensor: DS18S20, 3" probe, 12' cable

RTPBR3-12 Rugged probe sensor: DS18B20, 3" probe, 12' cable, RJ11 plug installed.

SPECIFICATIONS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS
Temperature Range (Probe)	TR	-55		125	Degrees C
Temperature Range (Cable)	TR	-70	-	150	Degrees C
Accuracy (-10 to +85 Deg. C)	ACM	-0.5	-	+0.5	Degrees C
Accuracy (-55 to +125 Deg. C)	ACT	-2	-	+2	Degrees C
Resolution (DS18S20)		9	9	9	Bits
Resolution (DS18B20)		9		12	Bits
Supply Voltage	Vdd	3.0	5.0	5.5	Volts
Active Current	Idd		1000	1500	MicroAmp
Standby Current	Iq		100	150	NanoAmp
Dimensions (body diameter)	BDia	.216	.218	.220	In.
Dimensions (tip diameter)	TDia	.218	-	.233	In.