

# TMP100 *Temperature Module*

Maretron's TMP100 measures the temperature for up to 6 temperature probes and reports the information over an NMEA 2000® network. The TMP100 supports up to 4 thermistor probes and 2 high temperature thermocouple probes. Optional thermistor probes (-20°C to 80°C or -4°F to 176°F) cover a wide range of applications including cabin air temperature, engine room air temperature, refrigerator/freezer temperature, under bolt temperature (inverters, charges, pumps, motors, etc.), tank temperatures (live well bait, hot water, etc.), and air duct temperatures. The optional thermocouple probes (0°C to 900°C or 32° to 1652°F) are used to measure Exhaust Gas Temperature (EGT) as part of a comprehensive fuel management system.



The following accessories are available for the TMP100:



TR3K

TP-AAP-1

TP-IP-1

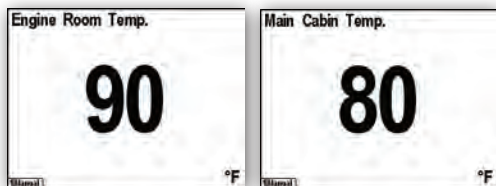
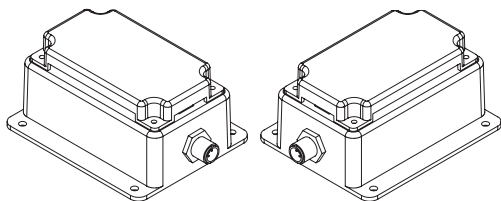
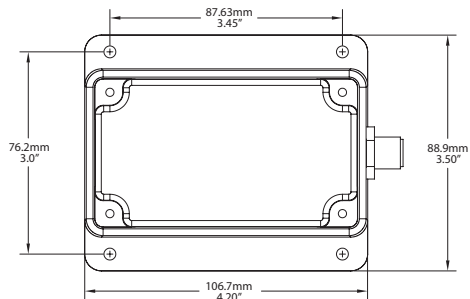
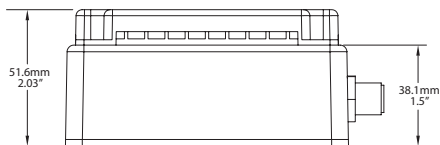
TP-EGT-1

- Six External Temperature Probes are Measured and Broadcast Over NMEA 2000 Network
- Four Channels for Thermistor Probes and 2 Channels for High Temperature Thermocouple Probes
- Wide Variety of Applications Supported with Optional Temperature Probes
  - Cabin Temperature
  - Engine Room Temperature
  - Under Bolt Temperature (Inverters, Chargers, Pumps, etc.)
  - Refrigerator/Freezer Temperature
  - Tank Temperatures (Live Well Bait, Hot Water, etc.)
  - Air Duct Temperature
  - Exhaust Gas Temperature
- Optional Temperature Probes
  - Ambient Air Temperature Probe (-20°C to 80°C or -4°F to 176°F)
  - Ring Terminal Probe (-20°C to 80°C or -4°F to 176°F)
  - Immersion Probe for Tanks or Plenums (-20°C to 80°C or -4°F to 176°F)
  - Exhaust Gas Temperature Probe (0°C to 900°C or 32° to 1652°F)



## Products

PART NUMBER	DESCRIPTION
TMP100-01	Temperature Module
TR3K	TMP100 Ring/Under Bolt Temperature Probe
TP-AAP-1	TMP100 Ambient Air Temperature Probe
TP-IP-1	TMP100 Immersion (Tanks, Plenums, etc.) Temperature Probe
TP-EGT-1	TMP100 Exhaust Gas Temperature (EGT) Probe



DSM150 & DSM250 Screen Shots

**Certifications Specifications**

Parameter	Value	Comment
Number of Thermistor Channels	4	
Number of Thermocouple Channels	2	
Measurement Range – Thermistor	-20°C to 80°C (-4°F to 176°F)	With supplied thermistor probe
Measurement Accuracy – Thermistor	± 2°C (± 3.6°F)	With supplied thermistor probe
Measurement Range – Thermocouple	0°C to 900°C (32°F to 1652°F)	With supplied thermocouple probe
Measurement Accuracy – Thermocouple	± 2°C (± 3.6°F)	With supplied thermocouple probe

Standard	Comment
NMEA 2000® Standard	Level A
Maritime Navigation and Radio Communication Equipment & Systems	IEC 61162-3
Maritime Navigation and Radio Communication Equipment & Systems	IEC 60945
FCC and CE mark	Electromagnetic Compatibility

**NMEA 2000® Parameter Group Numbers**

Description	PGN #	PGN Name	Default Rate
Periodic Data PGNs	130310	Environmental Parameters (not recommended for new designs; included for backward compatibility)	2 times/second
	130311	Environmental Parameters (not recommended for new designs; included for backward compatibility)	2 times/second
	130312	Temperature	0.5 times/second
	130316	Temperature, Extended Range	0.5 times/second
	130823	Temperature, High Range (Exhaust Gas Temperature) (Maretron Proprietary)	0.5 times/second
Response to Requested PGNs	126464	PGN List (Transmit and Receive)	N/A
	126996	Product Information	N/A
	126998	Configuration Information	N/A
Protocol PGNs	059392	ISO Acknowledge	N/A
	059904	ISO Request	N/A
	060928	ISO Address Claim	N/A
	065240	ISO Address Command	N/A
	126208	NMEA	N/A
Maretron Proprietary PGNs	128720	Configuration Exhaust Gas Temperature	N/A 0.5 times/second

**Mechanical Electrical**

Parameter	Value	Comment
Operating Voltage	9 to 32 Volts	DC Voltage
Power Consumption	100 mA	NMEA 2000® Interface
Load Equivalence Number (LEN)	2	NMEA 2000® Spec. (1LEN = 50 mA)
Reverse Battery Protection	Yes	Indefinitely
Load Dump Protection	Yes	Energy Rated per SAE J1113

Parameter	Value	Comment
Size	3.50" x 4.20" x 2.03" (88.9mm x 106.7mm x 51.6mm)	Including Flanges for Mounting
Weight	13 oz. (368.5 g)	

**Environmental**

Parameter	Value
IEC 60945 Classification	Exposed
Degree of Protection	IP64
Operating Temperature	-25°C to 55°C
Storage Temperature	-40°C to 70°C
Relative Humidity	93%RH @40° per IEC60945-8.2
Vibration	2-13.2Hz @ ±1mm, 13.2-100Hz @ 7m/s² per IEC 60945-8.7
Solar Radiation	Ultraviolet B, A, Visible, and Infrared per IEC 60945-8.10
Corrosion (Salt Mist)	4 times 7days @ 40°C, 95%RH after 2 hour Salt Spray Per IEC 60945-8.12
Electromagnetic Emission	Conducted and Radiated Emission per IEC 60945-9
Electromagnetic Immunity	Conducted, Radiated, Supply, and ESD per IEC 60945-10
Safety Precautions	Dangerous Voltage, Electromagnetic Radio Frequency per IEC 60945-12

