



Series 003

CTS 3-In-1 Sensor Module

- Engine applications where space is limited or simplification is desired
- Compact package
 - Throttle position, pressure, and temperature sensor in single package
- Highly resistant to ingress protection
 - Meets stringent IP67 requirements
- Long life
 - 2 million cycles for position sensing
- Cost effective
 - 3 in 1 sensor allows the use of a single harness



Description

Throttle Position Sensor, Manifold Absolute Pressure Sensor, and Intake Air Temperature Sensor in a single package.

Ordering Information

Series	Rotor	Direction	TPS Tolerance	Pressure Sensor	Temperature Sensor										
003	T	CW	D	P	T										
<table border="1"> <thead> <tr> <th>Code</th> <th>Spec.</th> </tr> </thead> <tbody> <tr> <td>T</td> <td>Tang drive</td> </tr> <tr> <td>D</td> <td>Direct drive</td> </tr> </tbody> </table>		Code	Spec.	T	Tang drive	D	Direct drive	<table border="1"> <thead> <tr> <th>Code</th> <th>Spec.</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>±40%</td> </tr> </tbody> </table>		Code	Spec.	D	±40%		
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General Specifications

Parameter	Conditions & Remarks	Min.	Max.	Unit
Input Voltage			5	VDC

Throttle Position Sensor Specifications

Total Resistance		5.0-40%	5.0+40%	k Ω
Linearity	$\pm 2.0\%$ (point slope linearity)			
Resistance Tapers	See resistance taper chart for available tapers			
Mechanical Rotation Angle			122°	
Electrical Rotation Angle			105°	
Hysteresis			1%	applied voltage
Slope	0.8%/degree			
Normal Index Voltage	6% of applied at mid-adjustment			

Manifold Absolute Pressure Sensor Specifications

Pressure Range	10~115 kPa			
Maximum Error	± 1.5 kPa (0~85° C)			
Response Time	≤ 1.0 ms			
Stabilization Time	≤ 10 ms			

Intake Air Temperature Sensor Specifications

Resistance	2 k Ω $\pm 3\%$			
B Constant B25/85	3,520K $\pm 2\%$			
Thermal Dissipation Constant	≥ 3 mW/° C			

Durability Specifications

Mechanical Cycling	2x10 ⁶ full strokes @ 2-4 Hz; 2x10 ⁶ half stroke @ 2-4 Hz			
Standard Vibration	60 hrs., 3 planes; random 50-500 Hz@294 m/S ² (30G); 6 minutes linear sweep			
Thermal Shock	30 Cycles, -40° to 120° C; transition time less than 10 minutes soak at each temperature			

Environmental

Water Resistance	IPX7			
Solvent Exposure	Brush on gasoline and engine oil			
Dust Exposure	30 Cycles, -40° to 120° C; IP6X			
RoHS	Lead-Free. Fully compliant to RoHS Directive			
Packaging	Standard tray packaging			

Note: These standard specifications have been met by existing production-tooled units evaluated with precise test equipment and procedures. Test results, including failure criteria, is available upon request. This data sheet does not constitute a warranty that the product will meet the above specifications while used in specific applications or attached to specific test equipment.

Mechanical Specifications

