

# SMART Dual Pressure Transducer

**J1587/1939  
CONNECTIVITY!**



**A** METEK Dixon's SMART Dual Pressure Transducer (SDPT) converts air pressure and/or vacuum inputs from two separate sources into data signals and broadcasts those signals over the vehicle data bus.

Designed to withstand the harsh conditions encountered in the heavy vehicle and construction industries, the SDPT incorporates the same, field-proven, pressure-sensing technology found in AMETEK's Reduced Function Interface Module.

The SDPT combines two independent pressure sensors, signal conditioning electronics, data bus interface electronics, and a six-pin, self-locking, sealed Packard Metri-Pack<sup>®</sup> connector in a compact, environmentally sealed, polymer package. Powered by the vehicle's ignition power, the SDPT eliminates the need for pressurized air lines and hoses behind the dash for instrumentation purposes.

The SDPT uses the vehicle data bus to provide both pressure information and a low-high pressure indication that is suitable for driving a warning light.

The SDPT meets all SAE J1455 and J1113 requirements for vehicular instrumentation. Designed for vehicular braking applications in which reliability and durability are of prime importance, it can be incorporated into a variety of pressure and/or vacuum monitoring systems, making it the ideal solution for your pressure-monitoring applications.

## Features

- 12- through 24-volt operation
- Accepts pressure/vacuum inputs from -14.5 to +150 psi
- SAE J1587/1939 data bus communication
- Warning LED activation over vehicle data bus
- Two active-low switched inputs for system redundancy
- Minimal footprint (18.7 sq. in.), can be mounted in any position
- Environmentally sealed against dust and moisture penetration
- Can be mounted on chassis
- 1/8- or 5/32-inch NPT

## Applications

- Brake Line Pressure
- Pedal Application Pressure
- Auxiliary Air Pressure
- Turbo Boost Pressure
- Suspension Pressure
- Engine Manifold Vacuum
- Air or Fuel Filter Restriction Vacuum
- Central Tire Inflation

# Specifications

<b>Physical Characteristics</b>		<b>Electrical Inputs</b>	
Housing material	Black mineral-filled nylon plastic	Input voltage	9 to 32 VDC through ignition switch
Sealing		Input current	500 mA maximum at 13.8 VDC nominal
Cover	Silicon O-ring	Data bus	SAE J1587, 1939
Connector	6-pin sealed Metri-Pack® 150-Series	Switch to ground	2
<b>Environmental Characteristics</b>		<b>Mechanical Inputs</b>	
Temperature and humidity	Meets or exceeds SAE#J1455-1994-08	Number	2
Shock and vibration	Meets or exceeds SAE#J1455-1994-08	Type	Air pressure/vacuum
Salt spray	Meets or exceeds SAE#J1455-1994-08	Range and Accuracy	0 to -1.45 psi: 6% maximum error from 0 to 85° C 0 to -14.5 psi: 3.5% maximum error from 0 to 85° C 0 to 150 psi: 5% maximum error from 0 to 85° C
<b>Electrical Characteristics</b>		<b>Electrical Outputs</b>	
Operating limits	9 to 32 VDC, reverse polarity protected	Data bus	SAE J1587, 1939
Jump-start protection:			
12-volt input	Withstands 24 VDC for 10 minutes		
24-volt input	Withstands 36 VDC for 10 minutes		
Transient protection	Meets or exceeds SAE #J1455-1994-08		

# Installation Data

**Top View**

**Side View**

**Bottom View**

Dimension	Inches	Millimeters
A	3.6	91.4
B	1.5	38.1
C	5.2	132.1
D	0.3	7.6
E	0.81	20.6
F	0.24	6.1

**Functional Block Diagram**

**Electrical Connections**

Pin	Signal	Pin	Signal
A	Battery Voltage	D	J1587 Data Bus ( - )
B	Battery Ground	E	Switch 1 Input
C	J1587 Data Bus ( + )	F	Switch 2 input

**Note:**  
Switch 1 and Switch 2 inputs provide electrical backup for the two direct air inputs to the SDPT. This provides system redundancy should the SDPT fail to respond to a low air input from the mechanical connections. Switch 1 and Switch 2 are active when below 2 volts.



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