

# SMART Dual Pressure Transducer

# J1587/1939 CONNECTIVITY!



METEK Dixson'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 sixpin, self-locking, sealed Packard Metri-Pack® 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**

#### **Physical Characteristics**

Housing material

Sealing

Cover

Connector

**Environmental Characteristics** 

Temperature and humidity Shock and vibration

Salt spray

#### **Electrical Characteristics**

Operating limits Jump-start protection:

12-volt input

24-volt input Transient protection Black mineral-filled nylon plastic

Silicon O-ring 6-pin sealed Metri-Pack® 150-Series

Meets or exceeds SAE#J1455-1994-08 Meets or exceeds SAE#J1455-1994-08 Meets or exceeds SAE#J1455-1994-08

9 to 32 VDC, reverse polarity protected

Withstands 24 VDC for 10 minutes Withstands 36 VDC for 10 minutes Meets or exceeds SAE #J1455-1994-08

**Electrical Inputs** 

Input voltage Input current Data bus

Switch to ground

**Mechanical Inputs** 

Type

Range and Accuracy

9 to 32 VDC through ignition switch 500 mA maximum at 13.8 VDC nominal

SAE J1587, 1939

Number Air pressure/vacuum

0 to -1.45 psi: 6% maximum error from 0 to  $85^{\circ}$  C

0 to -14.5 psi: 3.5% maximum error from 0 to  $85^{\circ}$  C

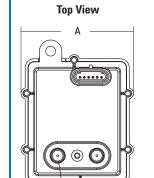
0 to 150 psi: 5% maximum error from 0 to 85° C

#### **Electrical Outputs**

Data bus

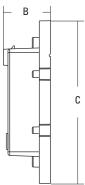
SAE J1587, 1939

## **Installation Data**

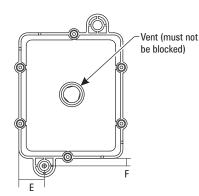


%inch NPT (2 places)



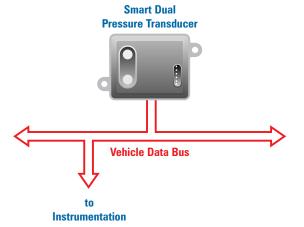


#### **Bottom View**



Dimension	Inches	Millimeters
Α	3.6	91.4
В	1.5	38.1
С	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
Α	Battery Voltage	D	J1587 Data Bus ( – )
В	Battery Ground	Ε	Switch 1 Input
С	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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