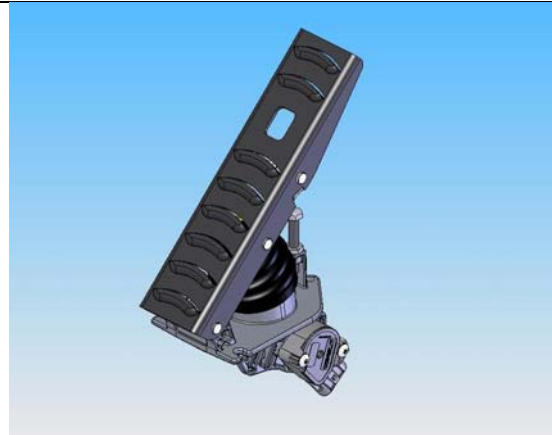
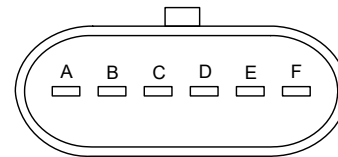


**Features:**

- 45 degree pedal
- FMVSS-124 and 302 compliant
- Ratiometric APS output
- Form C IVS output
- Isolated APS/IVS functions
- Electronics IP66 sealed
- Highly EMI resistant
- +5V operation
- -40°C to + 85°C operation
- Integral preload spring
- Metripak 150-series compatible connector
- Protected against electrical misconnection (indefinite duration)



**Connector Pinout**



View Facing Connector End

Pin	Function	Pin	Function
A	APSOUT	D	IVSVNO
B	APSGND	E	IVSNC
C	APSVCC	F	IVSCOM

Mating Connector – Delphi-Metripak P/N **12066317** or equivalent

**Applications:**

- Truck throttle with position sensor for off-highway applications
- Sensor commonly applied to:
  - Cummins
  - Detroit Diesel III, IV, & V
  - International
  - Mack
  - MB NAFTA

**Description:**

The EFPA is designed to provide a signal to the engine fuel control system in response to the driver’s request for engine power. A sensor is employed which provides a voltage proportional to the angular displacement of the treadle.

## Absolute Maximum Electrical/Mechanical Ratings

Supply Voltage (APSVCC, IVSCOM)	-5V to +5V
Output Current (APS1, APS2 output)	+/- 10 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
APS short circuit duration to ground	Indefinite
APS short circuit duration to VCC	Indefinite

*Operation of this device beyond absolute maximum ratings may result in permanent damage.*

## Environmental Validation

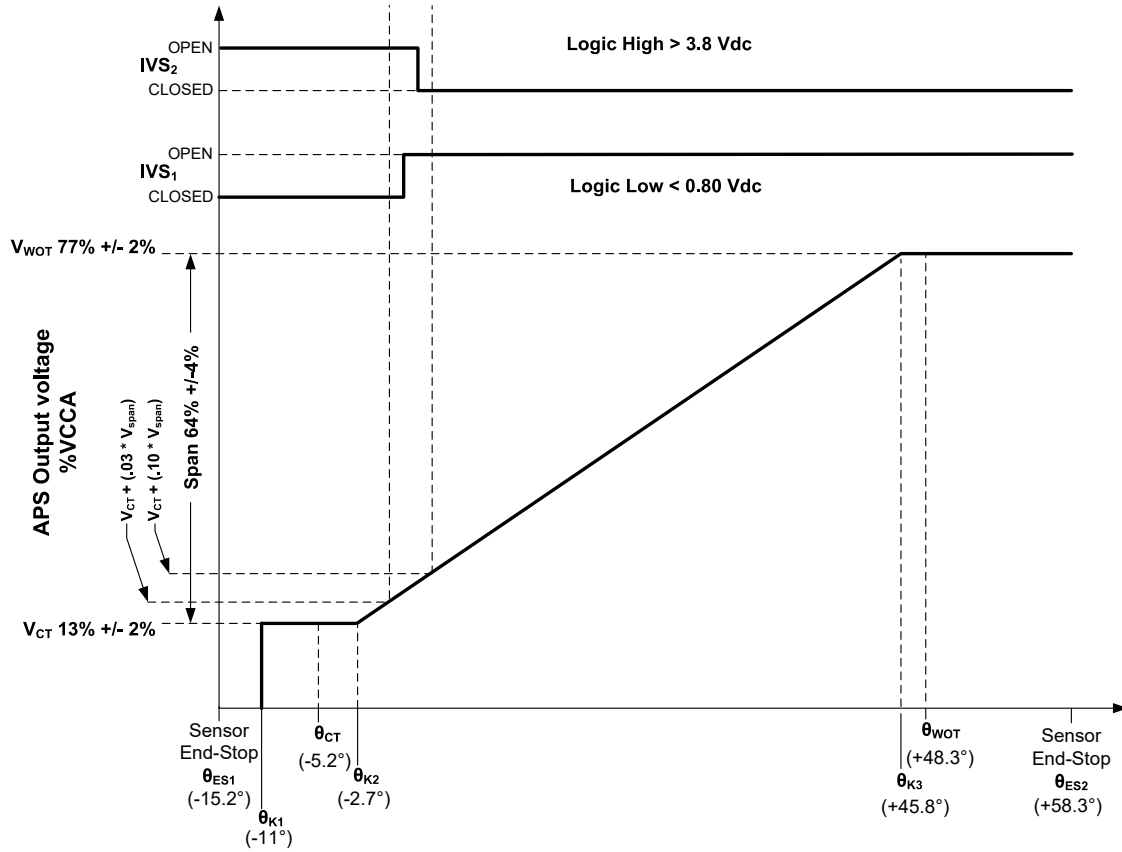
### Pedal Validation

- **FMVSS-124 RTI Certification**  
Per Federal regulations
- **FMVSS-302 Flammability**  
Per Federal regulations
- **Ultimate Strength**  
With force vs. displacement plots
- **Side Load Deflection**
- **Full Stroke Endurance/Durability**  
With continuously monitored electrical output
- **Thermal cycle**  
SAE J1455 85C to -40C
- **Thermal Shock**  
-40C to 85C
- **Humidity**  
120 hour exposure at 95% humidity and 27C to 75C
- **Mechanical Vibration**  
Swept sine resonant frequency search
- **Mechanical Vibration**  
Random broadband 5-500 Hz, 4.0 G's
- **Salt Spray Exposure**  
ASTM B-117 96 hr exposure
- **Dust Exposure**  
24 Hr exposure, pedals cycled
- **Chemical Exposure**  
Diesel, brake fluid, antifreeze, and plastic protectant exposure.
- **Pressure Wash**  
250 psig detergent, 1000 psig water at 140F- 40 minute exposure, 0.05 rpm
- **Mechanical Shock**  
SAE J1455: One meter drop to concrete with additional harness drop test.

### Sensor Validation

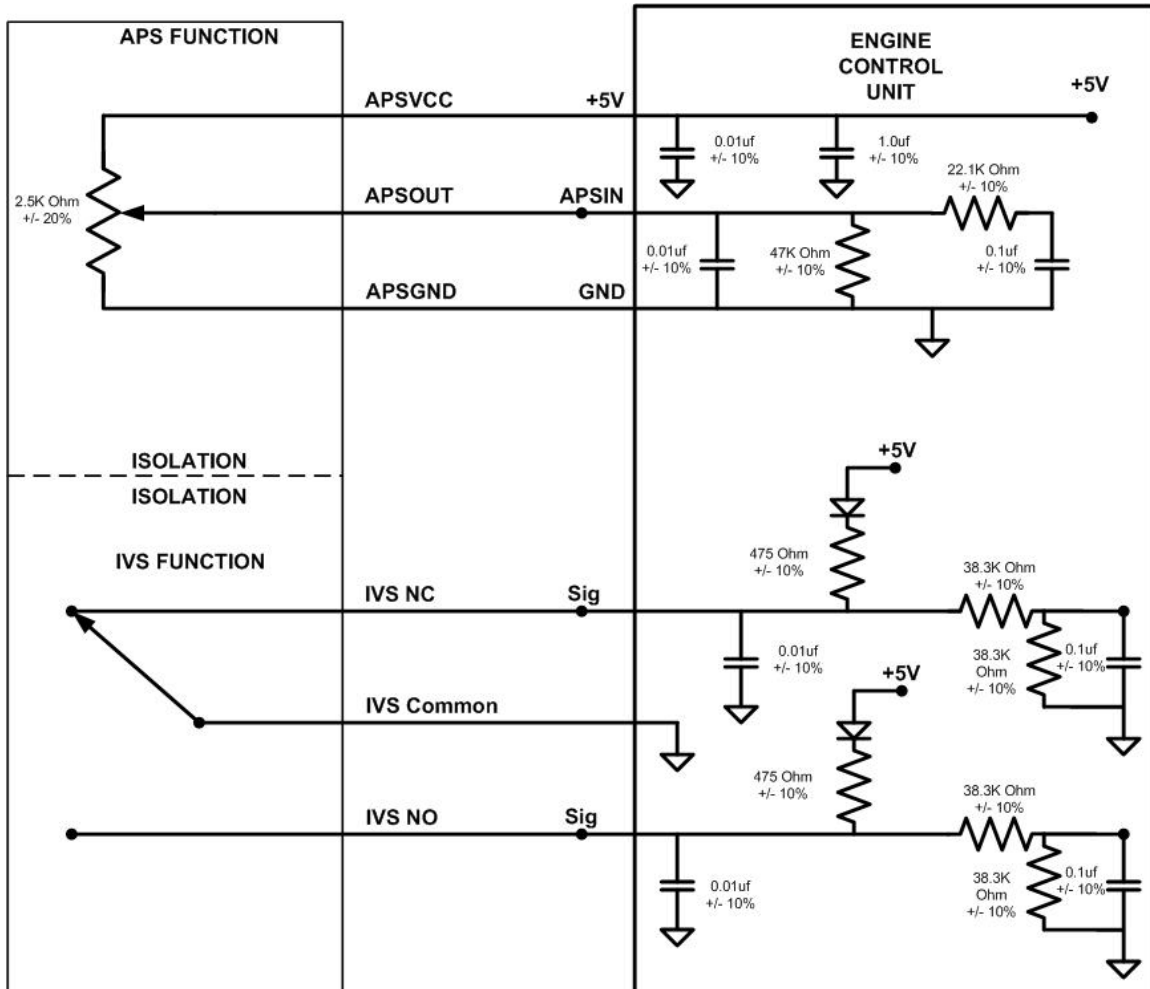
- **Endurance Cycling to 10 Million Cycles**  
Sensors cycled over temperature, -40C to 85C; continuously monitored electrical output
- **Dither Testing**  
Sensors cycled to 80 million cycles at 28 Hz with periodic monitoring
- **EMC Testing**  
Sensors tested per SAE J1113 Class C for EMI

## Typical Output Characteristics





## Applications Information:



## Referenced Documents:

- Williams Controls DWG # 351614
- Williams Controls Specification # WDS-010B
- SAE J1113-1 – Electromagnetic Compatibility Measurement Procedures and Limits for Components of Vehicles, Boats, and Machines
- FMVSS-124, 302

## Revision History

Rev	Date	By	Changes/Comments
A	1-11-07	SCN	New Release