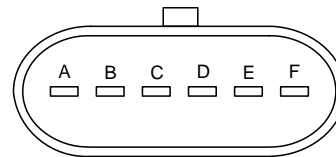


Features:

- 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

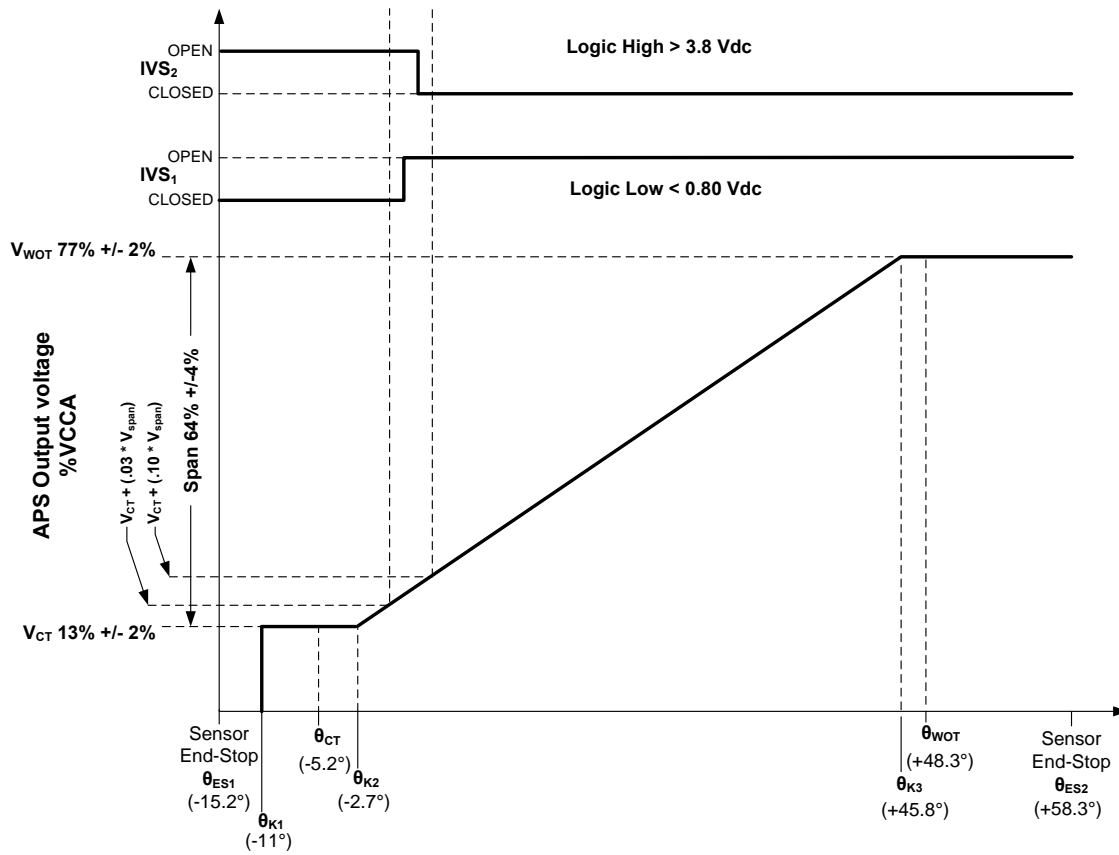
Pedal Validation

- **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.

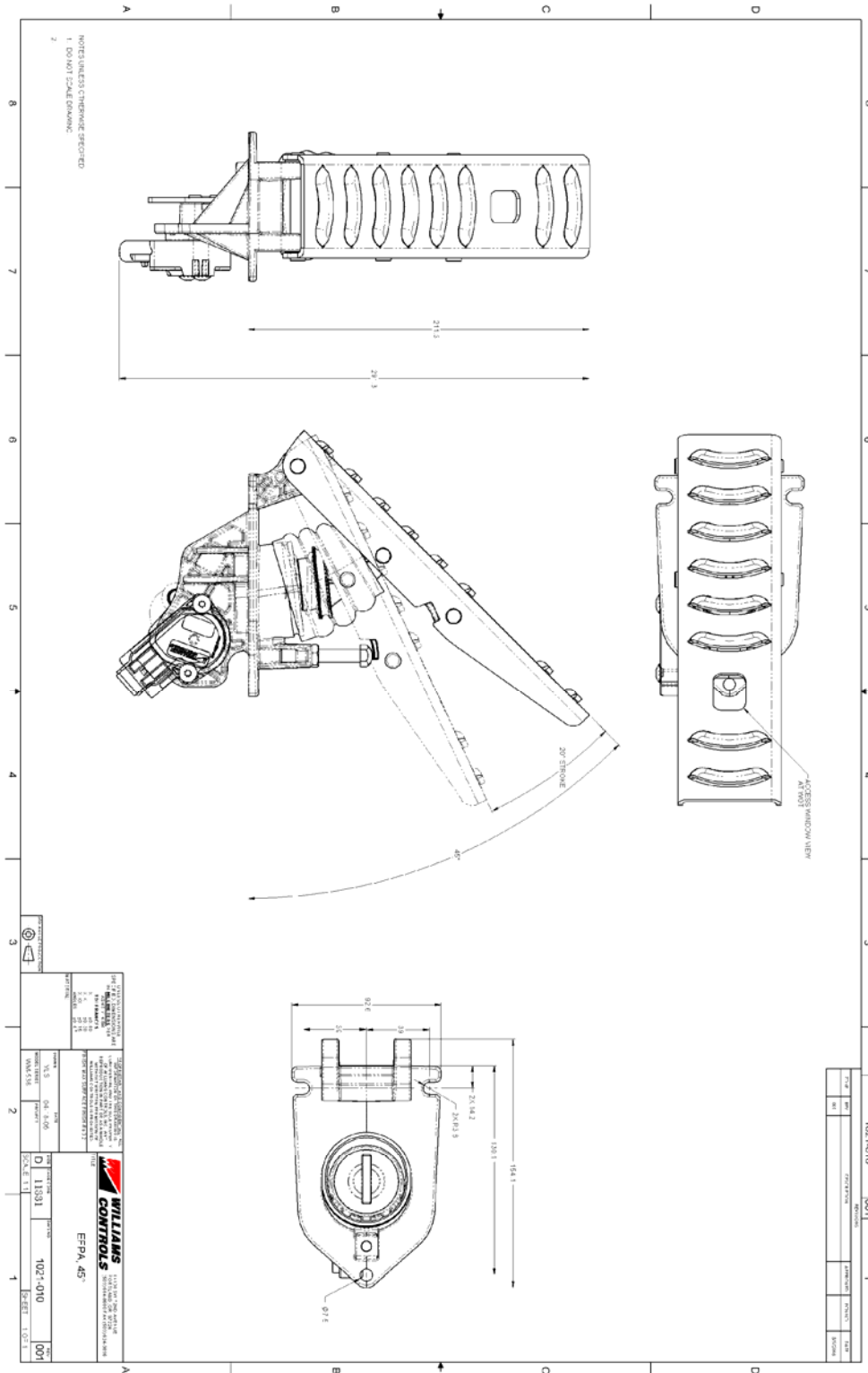
Sensor Validation

- **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

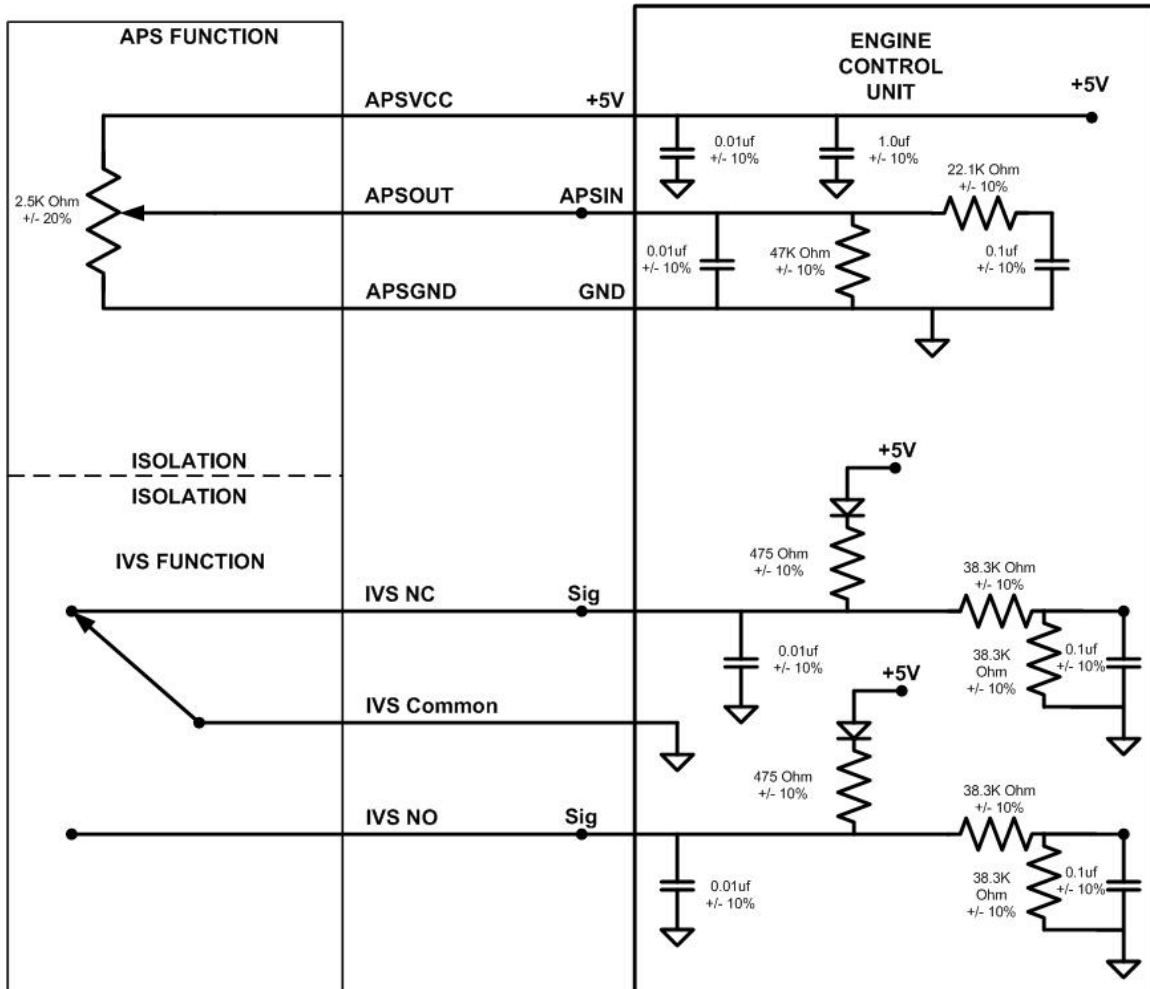
Typical Output Characteristics



Mechanical Dimensions and Characteristics (for reference only)



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