

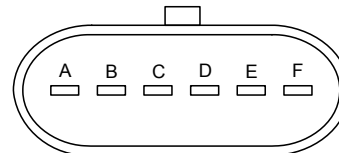
Uses Williams Sensor 134143

Features:

- $17^{\circ} \pm 2^{\circ}$ Angular Rotation
- $30^{\circ} \pm 2^{\circ}$ Pedal Angle
- FMVSS 124 and 302 compliant
- -40°C to $+85^{\circ}\text{C}$ operation
- Non-Contact sensor
- Dual Ratiometric APS output
- Independent, Isolated APS circuits
- Highly EMI resistant
- + 5V regulated operation
- Metripak 150-series compatible connector
- Protected against electrical misconnection
- Electronics IP66 sealed
- Rubber Cover



Connector Pin Configuration



View Facing Connector End

Pin	Function	Pin	Function
A	APS1	D	VCC2 (+5V)
B	GND1	E	GND2
C	VCC1 (+5V)	F	APS2

Mating Connector:

Packard Electric "Metri-Pack"

Housing P/N 12066317

Terminal P/N: 12103881

Applications:

- Throttle with position sensor
- Used with on and off highway industrial/commercial applications

Description:

The floor mounted pedal 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 (APS, IVS)	5V ± 0.5 V
Output current (APS, IVS)	±10mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
APS1,2 short circuit duration to ground	20 minute max
APS1,2 short circuit duration to VCC	20 minute max
Downward Static Load Limit	1560 N measured 150 mm from pivot
Side Static Load Limit	330 N measured 10 mm from front edge

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

Electrical Specifications; Pedal

- Over -40°C to +85°C temperature range, $V_{CCx} = +5\text{ V}$ regulated unless noted

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
$V_{CC1,2}$	APS Supply Voltage		4.5	5	5.5	V
I_{CC}	APS Supply Current			7	10	mA
V_{CT1}	CT Output, APS	$\theta = \theta_{CT}$	20	22	25	%VCC
V_{WOT1}	WOT Output, APS	$\theta = \theta_{WOT}$	81	84	86	%VCC
V_{CT2}	CT Output, APS	$\theta = \theta_{CT}$	9	11	14	%VCC
V_{WOT2}	WOT Output, APS	$\theta = \theta_{WOT}$	39	42	44	%VCC

Mechanical Specifications; Pedal

Parameter	Conditions	Min.	Typ.	Max.	Units
Pedal Start Angle	See Drawing	28	30	32	°
Pedal Angular Rotation	See Drawing	15	17	19	°
Pedal Assembly Weight			0.66		Kg
Life expectancy; cycles	Applied @ 1Hz	3×10^6			Cycles

Design Verification Testing (Regulatory, Mechanical, Environmental)

Regulatory Validation

- **FMVSS-124 RTI Certification**
Per Federal regulations
- **FMVSS-302 Flammability**
Per Federal regulations

Mechanical Validation

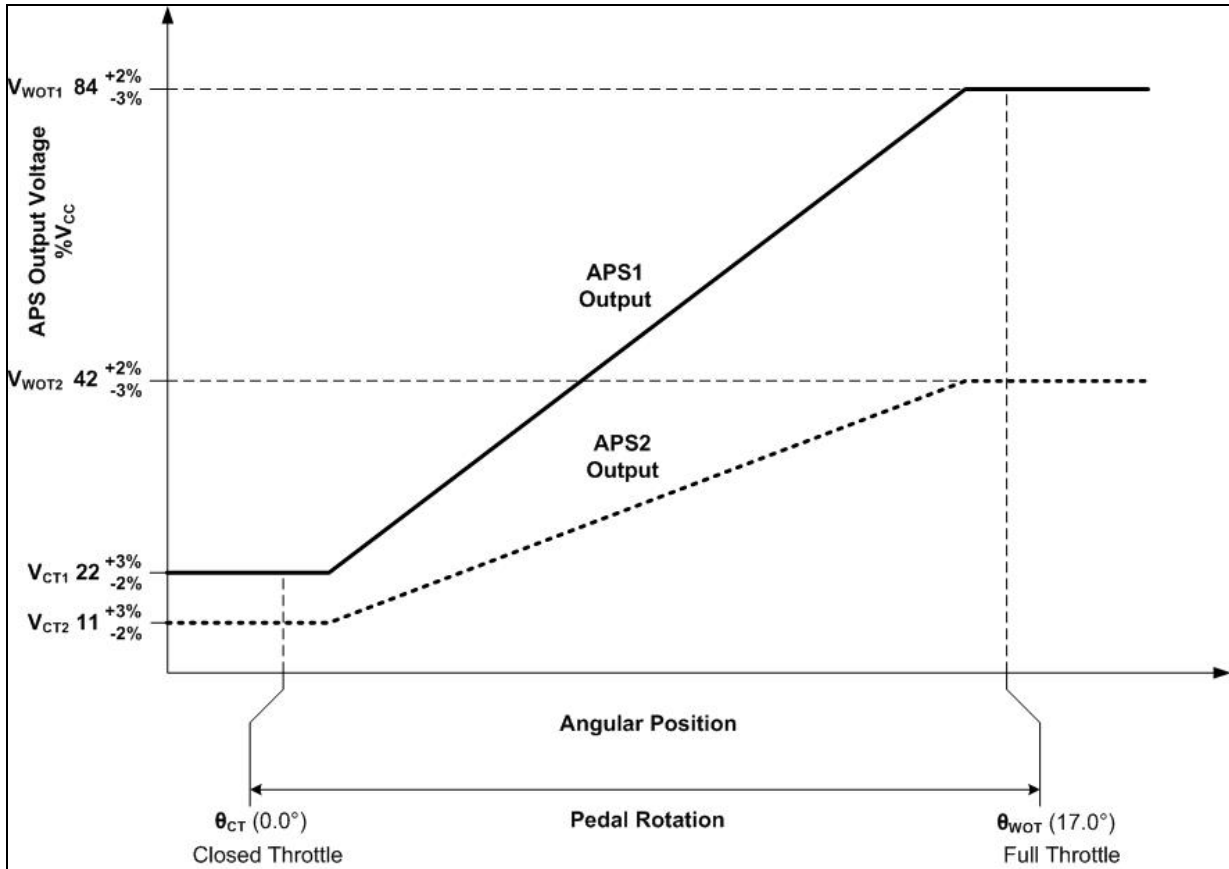
- **Full Stroke Endurance/Durability**
With periodically monitored electrical output
- **Ultimate Strength**
With force vs. displacement plots
- **Side Load Deflection**

Full Stroke Cycles:	3 x 10 ⁶ Cycles
Cycle Rate:	1 Hz
Overpressure Load:	130 N

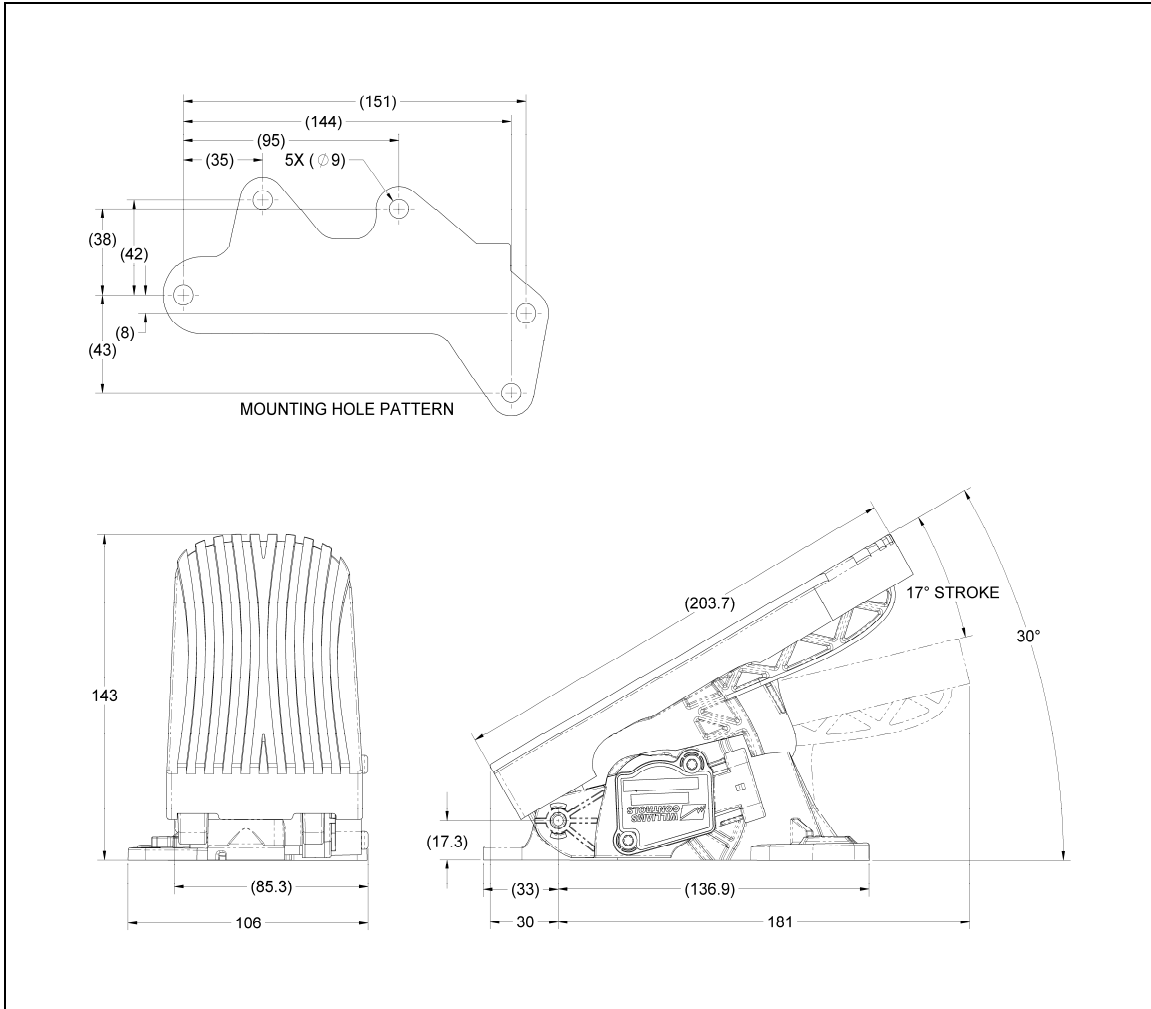
Pedal Environmental Validation: (Refer to Williams Spec WDS-010)

- | | |
|--|---|
| <ul style="list-style-type: none"> - Thermal Cycle / Stress
SAE J1455 -40°C to +85°C - Thermal Shock
-40°C to +85°C - Humidity
120 hour exposure at 95% humidity
from +27°C to +75°C - Mechanical Vibration
Random broadband 5 - 500 Hz, 4.0
G's - Mechanical Vibration
Swept sine resonant frequency
search | <ul style="list-style-type: none"> - Salt Spray Exposure
ASTM B-117 96 Hr cycled - Dust Exposure
24 Hr exposure, pedals cycled - Chemical Exposure
Diesel fuel, brake fluid, antifreeze,
and plastic protectant exposure. - Pressure Wash
250 psig detergent at +75°C - 40
minute exposure, 0.05 rpm
1000 psig water at +75°C - 40
minute exposure, 0.05 rpm - Mechanical Shock
SAE J1455 One meter drop to
concrete with additional harness
drop test. |
|--|---|

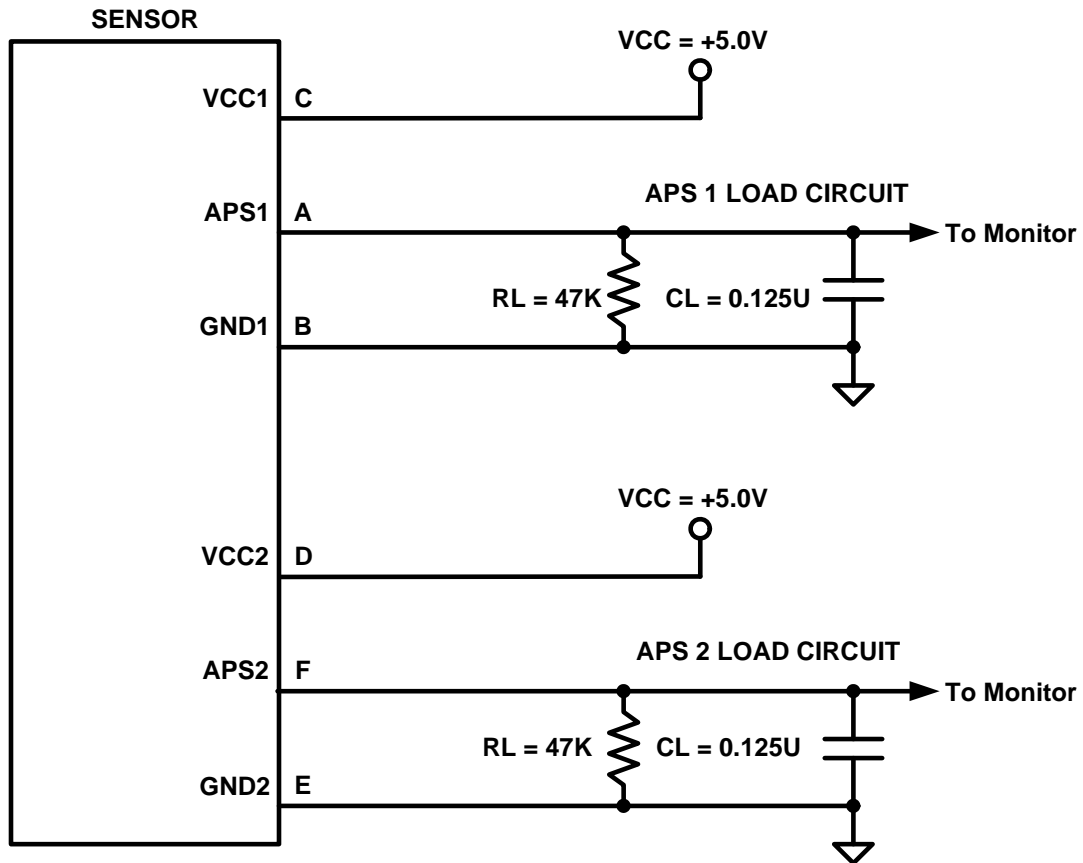
Typical Pedal Output Characteristics



Mechanical Dimensions and Characteristics (for reference only)



Applications Information



Reference Documents:

- Williams Controls DWG # 351677
- Williams Controls DWG # 134143
- Williams Controls Specification # WDS - 010 (A, B)
- Williams Controls Specification # WCS - 134143
- FMVSS-124 & FMVSS-302
- SAE J1455

Revision History

Rev	Date	ECN#	Checked	Approved	Changes/Comments
A	06/16/2008	42114	Chris M	LAR	Initial Release