

Fig. 1 Circuit Diagram

- 1. General Layout**  
Non - Contact Sensing Technology.  
This drawing is satisfied with FMVSS124.  
International Patent Pending.
- 2. Mechanical Conditions**  
- A static pedal force is applied at a point of 150mm from the pedal pivot axis and perpendicular to the pedal surface.  
(Initial Load : 0.9kgf(MIN), Full Throttle : 3.3kgf(MAX)  
- End-Break force : 160kgf±5kgf will not damage any pedal parts.  
- Two return Spring, inner and outer spring, incorporated to return pedal to idle release actuation force.
- 3. Electrical Conditions**  
**1.0 Environmental Conditions:**  
Operating Temperature : -40°C ~ +85°C  
Storage Temperature : -40°C ~ +105°C  
**2.0 Electrical Characteristics**  
2-1 Type of sensing element  
2.1.1 Input Voltage(Vcc) : 5Vdc ± 2%  
Ratiometric Operational Input Range : 4.5 ~ 8V  
2.1.2 Operation Current(Iop) : 8mA(Normal), 10mA(Max) / Channel  
2.1.3 Reverse Polarity : Withstand 10min  
2.1.4 Electrical Travel : See Fig 2.  
2.1.5 Independent Linearity : ±2%  
2.1.6 Signal Load : 10kohms, C=4.7nF Tested.
- 3.0 Mechanical Specifications**  
3-1 Mechanical Travel : 17.5±2'
- 4.0 Electrical Connection**  
AMP J - Series Connector : for 6 wire 174264-2 ( CAP )
- 5.0 Material**  
Pedal Foot Plate : PA66+GF30%+Anti Static  
Pedal Bottom Plate : Aluminum ( ADC12 )  
Cable : AEXf or AVXf ( 0.50mm )  
Sensor serial number and pedal production number shall be indicated and recorded before despatch at factory.
- 7.0 Durability**  
Subject to over 10million cycles between idle and full throttle position at a rate of approx. 100 cycles per minute.  
Any wear observed, e.g., on the mechanical stops checked to be in compliance with the initial condition values.
- 8.0 Environment Test**

| Pin Location | Description               | Color  |
|--------------|---------------------------|--------|
| A            | Power Input, Vcc 1        | Red    |
| B            | Pedal Signal Output, Vs 1 | Green  |
| C            | Ground 1                  | Black  |
| D            | Power Input, Vcc 2        | White  |
| E            | Pedal Signal Output, Vs 2 | Orange |
| F            | Ground 2                  | Violet |

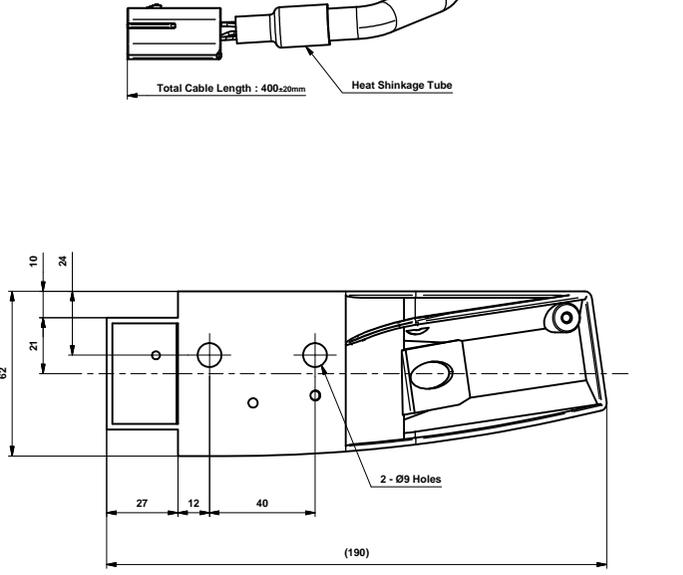


Fig. 2 Signal Output

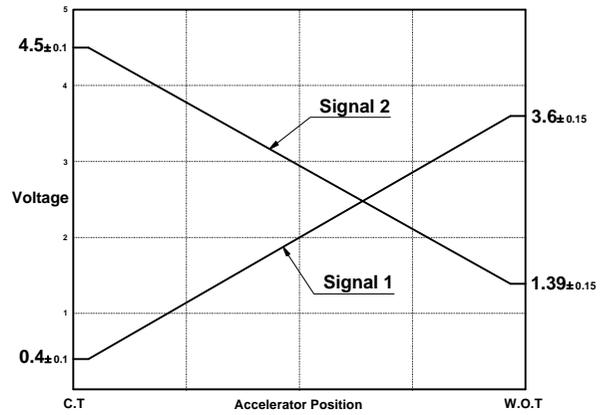
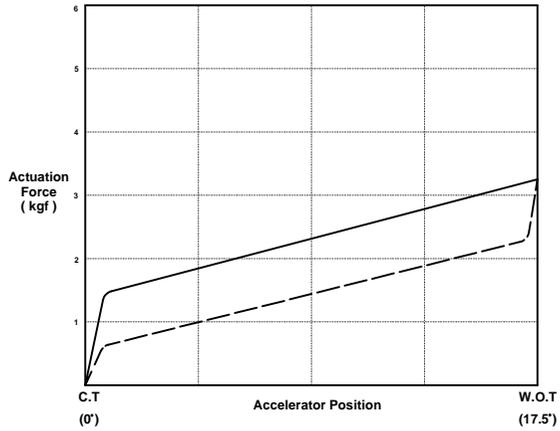


Fig. 3 Spring Force



| Item              | Test Method   | Decision Standard |
|-------------------|---|-------------------|
| Vibration Test    | Subject to broadband random vibration between 20 and 2000Hz for 20hours in all 3 axis.            | Normal Operation  |
| Shock Test        | After Exposed to Acceleration 20g (ZERO to PEAK) for 11ms   | Normal Operation  |
| Impact Test       | Subject to a drop test onto a smooth concrete floor from a height of one meter a total of 6 times | Normal Operation  |
| High voltage Test | APS Signal : After Exposed to 12Volts for 3min<br>IVS Signal : After Exposed to 38Volts for 3min  | Normal Operation  |
| Temp. Test        | After Exposed to -40°C - 85°C (100 cycles)  | Normal Operation  |
| Humidity Test     | After Exposed to -32°C - 70°C (86%)   | Normal Operation  |
| Salt Fog Test     | After Exposed to Salt Fog for 96 Hours (JIS Z2371)  | Normal Operation  |
| Chemical Test     | Exposed to 3 second dipping in each of the test fluids, followed by 3 minutes air dry             | Normal Operation  |

**ComeSys** Control & Measurement Systems Limited

Application Name: Electronic Accelerator Pedal Assy MTF3

Material:   
Weight:   
Heat Treatment:   
Customer Part No.: 8124951  
Company Part No.: FY3-014-471

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