

TILT SWITCH AND DISPLAY SYSTEM

The Tilt Switch and Display System consists of three devices, Digital Tilt Sensor, controller device and display. The tilt sensor gives two angles while controller activates two relays depending upon angle limits. The Digital Display connects with tilt sensor and displays the two angles.

DIGITAL TILT SENSOR

The Digital Tilt Sensor (ARN-TS2D) uses new age sensors employing MEMS accelerometers and embedded processing to give accurate information of Roll and Pitch angles in static or non-dynamic conditions. Please refer datasheet of ARN-TS2D for detailed specifications.

- Angles: Roll and Pitch
- Measurement Range: $\pm 180^\circ$ (Roll), $\pm 60^\circ$ (Pitch)
- Data output protocol: RS485
- Power supply: 12 VDC



CONTROLLER DEVICE

The Controller Device has two relay outputs to operate buzzer or solenoids. It receives the two angles from Digital Tilt Sensor, data is given to onboard processor, an algorithm running in the processor gives activation commands to relays when the angles reach their respective limits in longitudinal and transverse axis.

- Output: 2 relays outputs
- Roll axis limits: $\pm 2^\circ$
- Pitch axis limits: $\pm 5^\circ$
- Power supply: 12 VDC
- Data input protocol: RS485

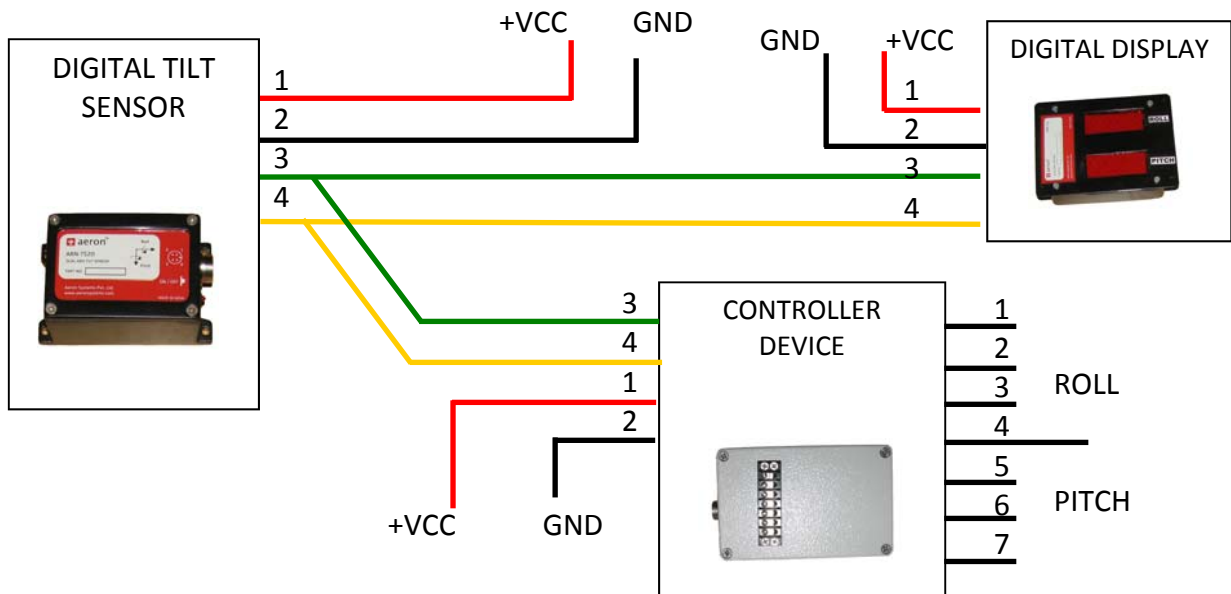
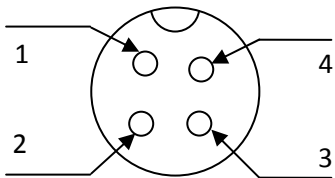


DIGITAL DISPLAY

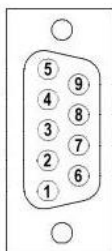
The Digital Display having 7 segment bright red color LEDs is visual indicator of Roll and Pitch angles. It displays the two angles in separate lines for easy readability. It's compact size allows it to be installed in operator cabin at

- Axis: Dual
- Type: LED
- Power supply: 12 VDC
- Data input protocol: RS485
- Angle resolution: 0.1°
- Angle display range: $\pm 90^\circ$ (Roll), $\pm 60^\circ$ (Pitch)



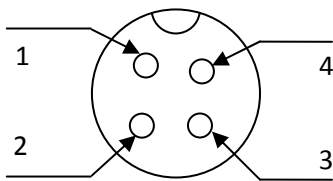
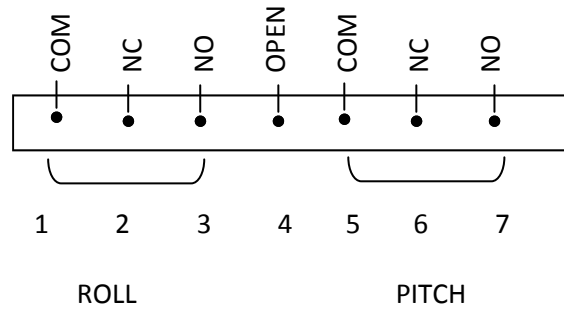
CONNECTION DETAILS

PIN DIAGRAM: DIGITAL TILT SENSOR


PIN 1: +VCC
 PIN 2: GND
 PIN 3: D+
 PIN 4: D-

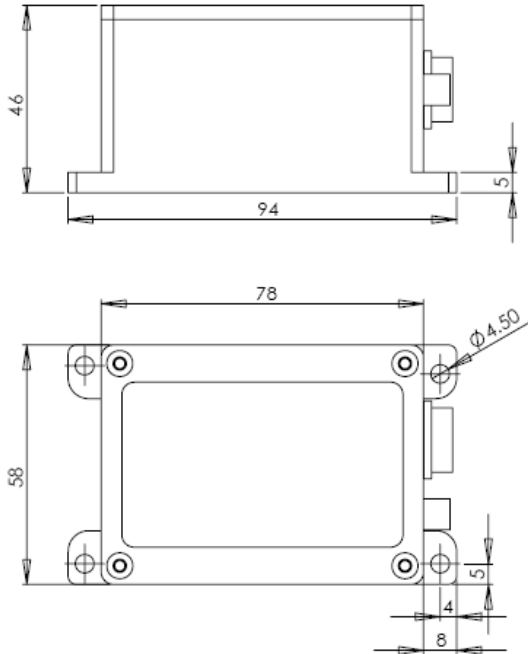
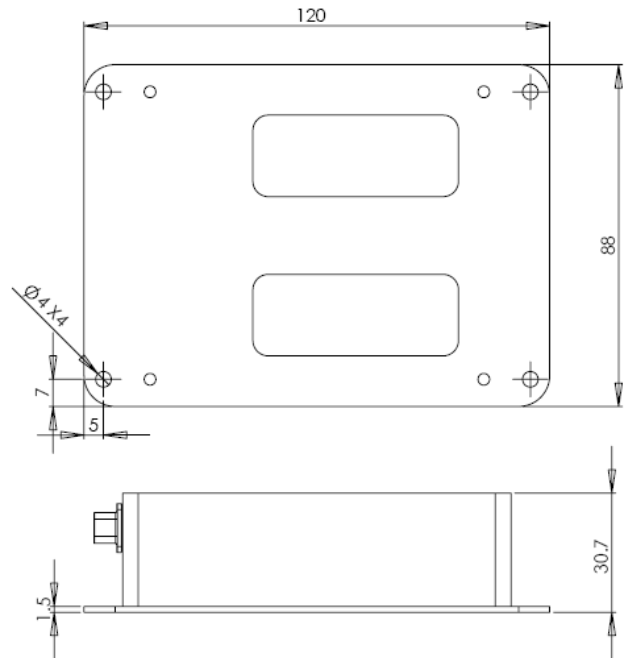
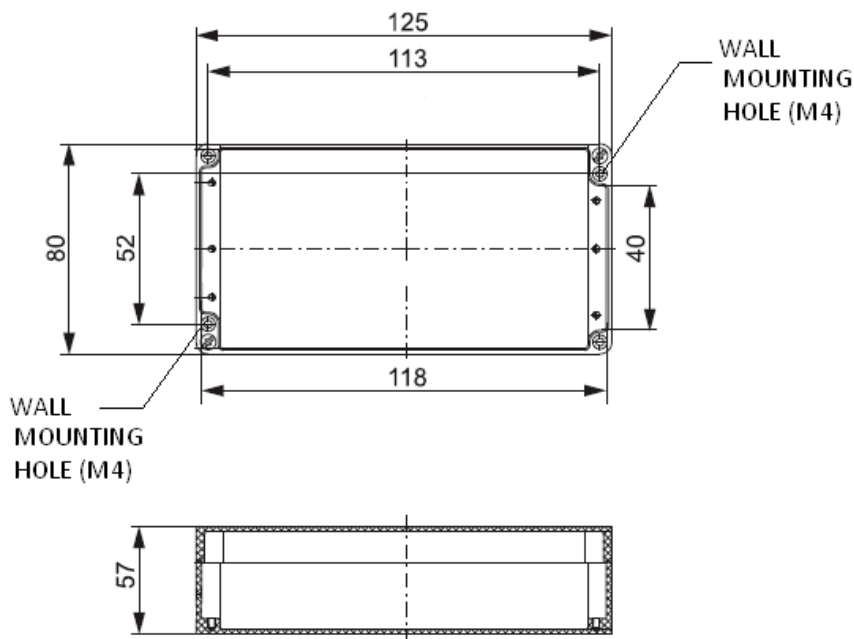

PIN DIAGRAM: DIGITAL DISPLAY

DB9 MALE CONNECTOR

PIN 1: OPEN
 PIN 2: D+
 PIN 3: D-
 PIN 4, 5: OPEN
 PIN 6: +VCC
 PIN 7: GND
 PIN 8, 9: OPEN



PIN DIAGRAM: CONTROLLER DEVICE


PIN 1: +VCC
 PIN 2: GND
 PIN 3: D+
 PIN 4: D-

DIMENSIONAL DRAWING:
DIGITAL TILT SENSOR (ARN-TS2D)

DIGITAL DISPLAY (ARN-LD2)

CONTROLLER DEVICE


Note: All dimensions are in mm.