

Model ECN-121F 1-axis Inclination Sensor



Model List	Output	Detection Inclination Range
ECN-121F	CANopen	±30° (Detection width of 60°)

Application

- (Slope in case of theft) anomaly detection of vehicle
- Horizontal detection of construction machinery

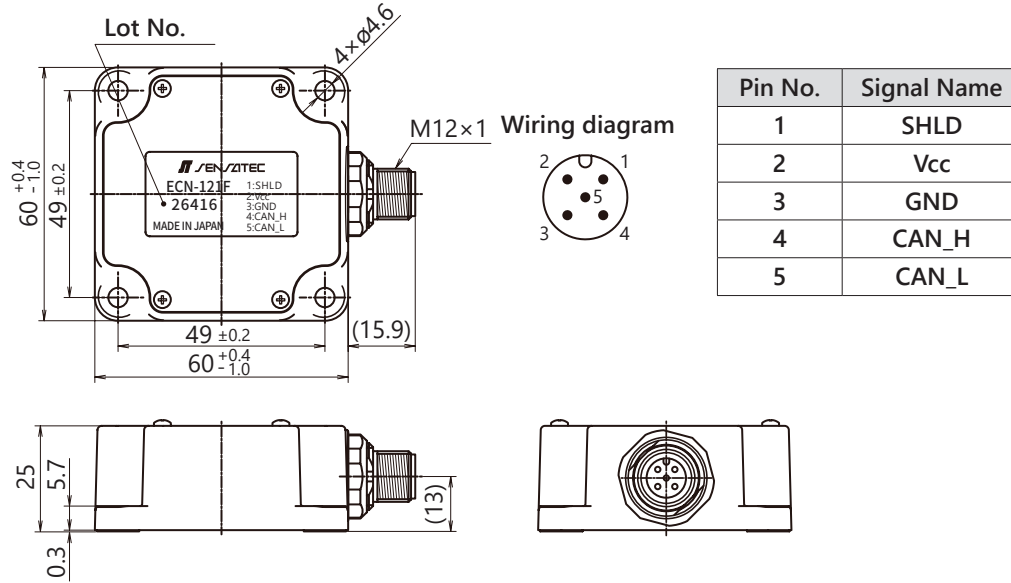
Features

- Excellent temperature characteristics
- CANopen compliant product.
- Zero point adjustment is possible with the object dictionary.
- The cutoff frequency of the FIR filter can be selected from the object dictionary.
- You can change the node ID, the default baud rate, and the detected tilt angle range.
- For the connector connection, easy maintenance of the product.

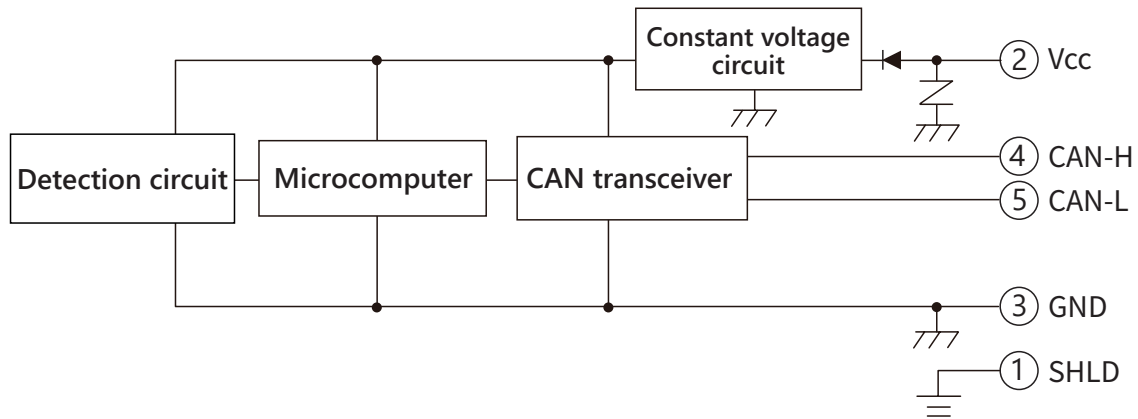
Rating/Performance

Model	ECN-121F
Detection Inclination Range	±30° (Detection width of 60°)
Accuracy	±0.1° or less (at ±3°, ambient temperature: 25°C, FIR filter: 0.5Hz) ±0.5%FS or less (at ±3° to 30°, ambient temperature: 25°C, FIR filter: 0.5Hz)
Resolution	0.001°/ 0.01°/ 0.1°/ 1°(Default : 0.001°)
Power Voltage	12 V to 24 V DC (Operating voltage range: 10.0 V to 30.0 V DC)
Power Consumption	DC 50 mA or less (With DC 12 V, 25°C)
Linearity	±0.5% FS or less
Response Time	60 ms or less (FIR filter disabled)
FIR Filter Delay Time	2 s or less
Node ID	A (hexadecimal), 10 (decimal)
Baud Rate	10k/20k/50k/125k/250k/500k/800k/1Mbps(Default : 125kbps)
Interface	CAN interface 2.0B active, ISO11898
Communication Profile	CANopen CIA DS-301 ver.4.2.0 compliant
Device Profile	CANopen CIA DSP-410 ver.1.3.0 compliant
Temperature Range	-25 to 85 °C (-25 to 85 °C during storage)(Without dew condensation or freezing)
Humidity Range	35 to 95% RH (35 to 95% RH during storage)(Without dew condensation)
Breakdown Voltage	1 min at AC 500 V (Between terminals and mounting part, excluding SHLD)
Insulation Resistance	100 MΩ or more, at 500 V DC megger (Between terminals and mounting part, excluding SHLD)
Vibration Resistance	Durability: 2 hours in each X, Y, Z direction at 10 to 55 Hz and with peak-to-peak amplitude of 1.5 mm (At power off)
Shock Resistance	Durability: 3 times at 1000 m/s ² (approx. 100 G) in each X, Y, Z direction (At power off)
Ingress Protection	IP67
Case Material	Case: Zinc alloy (nickel plated) Cover: Aluminum (Surface treatment/white alumite)
Cable	Size: M12 5 pin/connector
Weight	Approx. 200 g

Dimensions

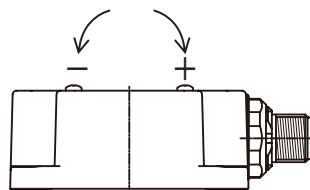


Output Circuit



Detection Direction

X axis Inclination direction



Precautions During Use

1. If you turn the nut of the input/output connector (M12), the waterproof performance cannot be maintained.
 2. For other precautions, refer to "General Precautions" for Inclination Sensors.
- *For a detailed specification of the other, Please refer to specifications.