Features:

- Accurate 6 DOF DC measurement
- Voltage output signal
- Proven and robust silicon MEMS
- High shock and vibration rejection
- Class-leading bias and noise over temperature
- Low cost – high resolution

Applications:

- Automotive in-car navigation
- Vehicle and personal navigation aiding
- Vehicle yaw, pitch and roll rate sensing
- Antenna stabilization
- Motion control
- Railway engineering

Dynalabs Inertial Measurement Units are based on triaxial accelerometers and triaxial gyroscopes that are integrated in a single housing. The inertial measurement unit (IMU) is based on proven microelectromechanical systems (MEMS) accelerometers and gyroscopes for detecting the smallest linear accelerations and angular rates. Dynalabs IMUs enable separate analog voltage outputs for all 6 degrees of freedom (DOF). IMUs enable power supply voltage from 6 to 35 VDC.

Dynalabs IMUs feature a lightweight, reliable aluminum housing with protection class IP68 and have cable with configurable length and connectors.

* Any combination of gyroscopes and accelerometers is possible.

GYROSCOPES

Full-scale angular velocity	(°/s)	± 75	± 150	± 300	± 900
Frequency range	(Hz)	0-150	0-150	0-150	0-150
Non-linearity (full scale)	(%)	0.06	0.06	0.06	0.06
Noise (in band)	(°/s/√Hz)	0.0075	0.0075	0.0075	0.0075
Scale factor (nominal)	(V/°/s)	0.012	0.006	0.003	0.001
Scale factor var. over temp.	(%)	0.5	0.5	0.5	0.5
Bias variation with temp.	(°/s)	± 1	± 2	± 3	± 4

ACCELEROMETERS

Full-scale acceleration	(g)	± 2	± 4	± 8	± 10	± 20	± 40	± 50	± 100	± 200	± 500
Frequency range (±3dB)	(Hz)	1,500	1,500	1,500	1,500	1,500	1,500	3,000	3,000	3,000	3,000
Non-linearity (full scale)	(%)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Noise (in band)	(µg/√Hz)	25	25	25	80	75	110	35	50	80	170
Scale factor (nominal)	(mV/g)	1,600	800	400	320	160	80	80	40	20	8

Power: 6V to 35V DC power

DynaLabs

Technical Drawing
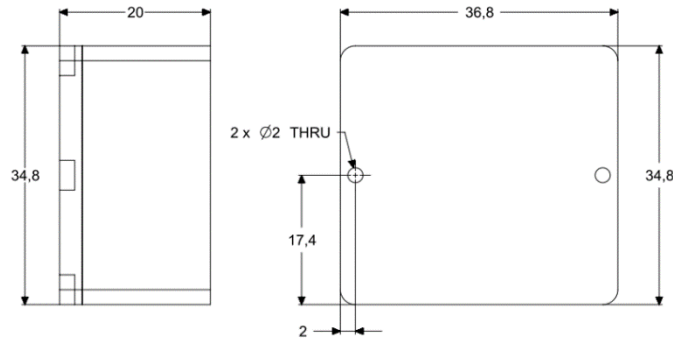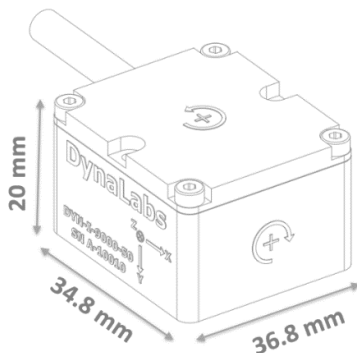
Options:

- Custom Cable Length (5m standard cable)
- Custom Housing Material
- Custom Connector

Standard length of the integrated cable is 5 meters. But, based on request customized cable lengths are possible. Standard version has no connector at the cable end. However, it is possible to assemble connectorduring production.

Cable Code/Pin Configuration:

• Red : V +	Supply voltage
• Black : Ground	Power GND
• X-Axis : Yellow : Signal(+)	Positive, analog output voltage signal for differential mode
Purple : Signal(-)	Negative, analog output voltage signal for differential mode
• Y-Axis : Blue : Signal(+)	Positive, analog output voltage signal for differential mode
Green : Signal(-)	Negative, analog output voltage signal for differential mode
• Z-Axis : White : Signal(+)	Positive, analog output voltage signal for differential mode
Orange: Signal(-)	Negative, analog output voltage signal for differential mode

Cable Code/Pin Configuration:

• Red: V +	Supply voltage 6V to 35V
• Black: Ground	Power GND
• RX : Brown : Signal	X-Axis: Analog output voltage signal for single-ended mode
• RY : Grey : Signal	Y-Axis: Analog output voltage signal for single-ended mode
• RZ : Pink : Signal	Z-Axis: Analog output voltage signal for single-ended mode
• White-Brown : Not Connected	Not connected

Cable: 12x #28 AWG Conductors PFA Insulated, Braided Shield, TPE Jacket

Quality: All Dynalabs products are **CE** compliant.