LDF-1600 Series
Single Axis Digital
Inclinometer / Accelerometer

BEST OF CLASS

The LDF-1600 Series takes Jewell's highly accurate closed loop sensor technology to the next level. An internal processor closes the servo loop and allows the LDF to compensate for errors including thermal sensitivity, thereby ensuring the highest level of accuracy over the entire operational temperature range. It features a proprietary protocol that contains advanced forward error correction and error detection. The LDF series also features both RS-422 (TIA/EIA-422 compliant) and analog voltage output as standard.

Applications

- Antenna Leveling
- Structural Monitoring
- Tunneling & Mining Equipment
- Weapons Platforms & Targeting

LDF-1600 Series Digital Specifications

Performance		
Maximum input range, degrees:	±90	(±1g)[1]
Accuracy, angle, maximum error		
All error sources including temperature, angular degrees:		
Angles of ±30 degrees or less:	0.050	(<0.001g)
Angles of ±60 degrees or less:	0.100	(<0.001g)
Output at zero tilt, degrees, maximum:	0.020	(<0.4mg)
Angular zero drift over temperature, degrees, maximum:	0.005	(<2µg/°C)
Servo bandwidth, Hz, nominal[2]:	50	
Filter bandwidth, Hz, nominal:	10	
Transverse axis misalignment, degrees, maximum[3]:	0.05	
Resolution, bits reported:	27	
Angular resolution and threshold, micro degrees:	2	
Noise floor, degrees rms, maximum[4]:	0.001	
Warm-up time, minutes, maximum[5]:	5	
(g) Errors with optional acceleration output. Output in degrees (Arc Sin) standard.		

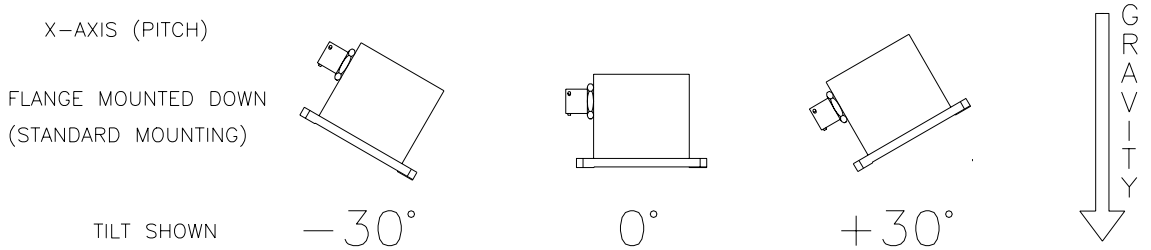
Electrical	
Supply voltage, Volts DC:	+6 to +50
Power consumption, Watts, maximum:	1.8
Case to ground voltage, Volts, maximum:	±100

1 ±1g at ±90 angular degrees. LDF acceleration input range is greater than ±2g.
2 The servo bandwidth is the internal bandwidth of the sensor that is before any filter that might be selected.
3 Output axis misalignment digitally compensated to zero.
4 Dependent on filter settings and input angle. Specification for 10Hz bandwidth for angles of ±30° and lower.

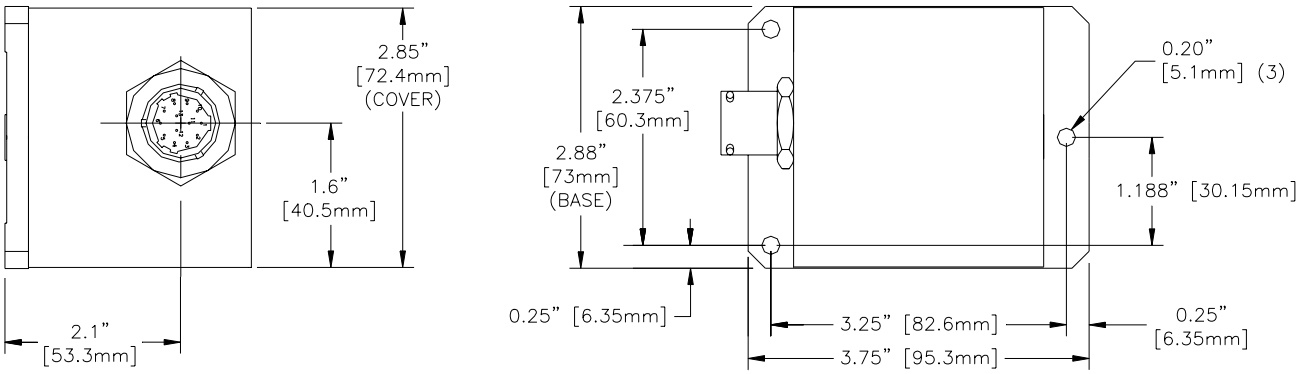
Environmental	
Operational temperature range, °C:	-40 to +80
Storage temperature range, °C:	-55 to +90
Protection class per IEC 529:	IP66
Seal:	MIL-STD-202, Method 112
Shock survival:	1500g, 1msec, ½ sine
Vibration survival:	20grms (20Hz to 2KHz)

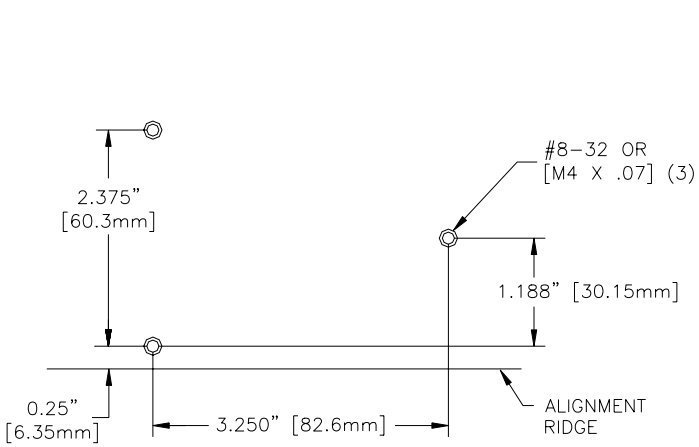
Enclosure	
Housing material:	Nickel Plated Aluminum
Weight:	18.7 oz [530g]
Connector type:	MIL-C-38999 Series I
Recommended mating connector:	MS27467T11F35S
Recommended fastener size:	#8-32 [M4X0.7]
Recommended torque for steel fasteners:	10 inch-lbs [1.0Nm]

Standard Inclinometer Polarity

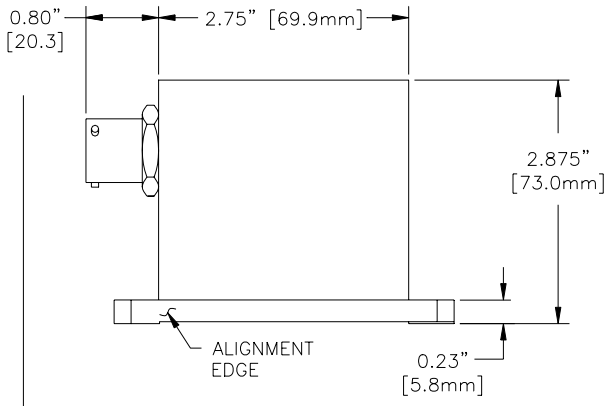


Outline Diagram





MOUNTING FOOTPRINT



NOTE: IN ADDITION TO THE ALIGNMENT EDGE SHOWN, THE THREE MOUNTING FEET CONSTRUCT AN ALIGNMENT PLANE.

WHILE FASTENING THE UNIT, PRESS THE ALIGNMENT EDGE SECURELY AGAINST THE ALIGNMENT RIDGE.