Jewell Instruments

MAKING SENSE OUT OF MOTION

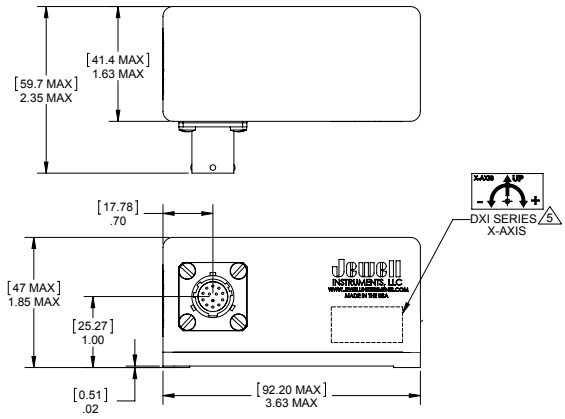
DXI-100/200

Single or Dual Axis Digital Inclinometer

The Jewell DXI-100/200 Series single or dual digital inclinometer takes Jewell's highly accurate analog closed loop sensor technology to the next level. The DXI-100/200 is available with either RS422 or RS485 (Standard) digital interfaces. Witha variety of options, including metric mounting threads, a flanged base, and CENELEC/AREMA certified, this product is easily customized to suit your specific application.

FEATURES:

- Digital output
- Resolution 0.001°
- Mechanical Shock 1500g 1msec ½ sine
- Industry Standard EIA RS485 and EIA RS422 output
- For use in high shock and vibration environments
- High Precision and Performance
- Low Noise



Dimensions: in [mm]

*Standard DXI-100 includes X-axis only

RAILSTAR

The Jewell Instruments RailStar line offers high performance sensors and control products for the rail transporation industry. Many of the products in this line meet CENELEC and AREMA Standards.

CENELEC AREMA

APPLICATIONS:

- Radar/Antenna Control
- Structural Monitoring
- Linear Acceleration/Deceleration Measuring
- Automatic Train Position Control
- Seismic Monitoring
- Platform Leveling

PERFORMANCE SPECIFICATIONS DXI-100/200

PERFORMANCE

INPUT RANGE (°)	±1.0	±3.0	±14.5	±30.0	±60.0
NON LINEARITY (%FRO max)[2]	0.06	0.015	0.02	0.02	0.03
SCALE FACTOR TOLERANCE (% max)	0.1				
SCALE FACTOR TEMP. SENSITIVITY (PPM/°C, max)	100				
OUTPUT AT 0° TILT (° max)	±0.01	±0.01	±0.05	±0.05	±0.05
0° OUTPUT TEMP. SENSITIVITY (°/°C, max)	0.005				
BANDWIDTH (-3dB, Hz, nominal) [3]	3	6	30	30	30
TRANSVERSE AXIS MISALIGNMENT (° max)	0.15	0.15	0.5	0.5	0.5
RESOLUTION & THRESHOLD (° max)	0.001				
POWER ON REPEATABILITY (° max)	0.001				
REPEATABILITY (° max)	0.001	0.001	0.002	0.002	0.003

ELECTRICAL

NUMBER OF AXES	1 or 2
SUPPLY VOLTAGE RANGE (VDC)	10 to 30
NOISE (g rms, max)	0.005
INPUT CURRENT (mA, max)	100

ENVIRONMENTAL

OPERATING TEMP. RANGE	-40° to +85°C
STORAGE TEMP. RANGE	-40° to +85°C
VIBRATION	20 grms
SHOCK	1500g, 1 msec, ½ sine

NOTES:
1. Full range is defined as “from negative full input angle to positive full input angle”
2. Non-linearity is specified as deviation of output referenced to a best fit straight line, independent of misalignment.
3. In default condition without averaging enabled.
4. Default Baud Rate is 38400

*Specifications subject to change without notice on account of continued product development

PERFORMANCE SPECIFICATIONS DXI-100/200

ENCLOSURE

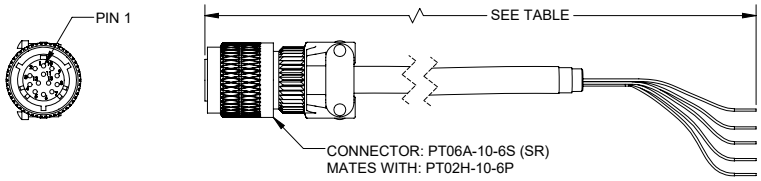
HOUSING MATERIAL	Anodized & Alodine Aluminum
WEIGHT	10oz
PROTECTION CLASS (per IEC 529)	IP67
NEMA ENCLOSURE RATING	6
SEAL	MILD-STD-202 Method 112
CONNECTOR TYPE	MS27476Y10D35P
RECOMMENDED MATING CONN.	MS27473T10B35S

DIGITAL OUTPUT

INTERFACE	RS485 ½ duplex (default)/RS422
PROTOCOL	Proprietary (custom)
BAUD RATE[4]	19200, **38400**, 57600, 115200, 230400

ACCESSORIES

CONNECTOR CABLE



PART #	LENGTH m (ft)
847774-002	-
879839-01	5 (16.5)
879839-03	3 (9.84)
879839-03	1.8 (6)

PIN OUTS

1	-	N/C
2	-	N/C
3	GREEN	CASE GROUND
4	BLUE	+ SERIAL PORT
5	YELLOW	- SERIAL PORT
6	-	N/C
7	-	N/C

8	-	N/C
9	-	N/C
10	-	N/C
11	BLACK	POWER RETURN
12	RED	+ POWER
13	-	N/C

ORDERING INFORMATION

HOW TO ORDER

Model Numbers are comprised of the series, the axis, the input range, and options.

EXAMPLE: DXI Series, dual axis, ±30° Input, RS422 Output, CENELEC/AREMA certified (R), with metric mounting threads (M), and a flange base (FB).

SERIES	-	AXIS	-	INPUT RANGE	-	OPTIONS*	-	OPTIONS*	-	OPTIONS*	-	OPTIONS*
DXI	-	200	-	30/30	-	422	-	R	-	M	-	FB

*Leave options blank if not needed

Standard Version

	AXES	MODEL #	PART #
±1.0	1	DXI-100-1	02550284-001
	2	DXI-200-1/1	02550285-001
±3.0	1	DXI-100-3	02550284-002
	2	DXI-200-3/3	02550285-002
±14.5	1	DXI-100-14.5	02550284-003
	2	DXI-200-14.5/14.5	02550285-003
±30.0	1	DXI-100-30	02550284-004
	2	DXI-200-30/30	02550285-004
±60.0	1	DXI-100-60	02550284-005
	2	DXI-200-60/60	02550285-005

CENELEC/AREMA Version

	AXES	MODEL #	PART #
±1.0	1	DXI-100-1-R	02550340-001
	2	DXI-200-1/1-R	02550312-001
±3.0	1	DXI-100-3-R	02550340-002
	2	DXI-200-3/3-R	02550312-002
±14.5	1	DXI-100-14.5-R	02550340-003
	2	DXI-200-14.5/14.5-R	02550312-003
±30.0	1	DXI-100-30-R	02550340-004
	2	DXI-200-30/30-R	02550312-004
±60.0	1	DXI-100-60-R	02550340-005
	2	DXI-200-60/60-R	02550312-005

NOTE: Numbers provided are for the standard RS485 digital interface with no additional options.

CENELEC

CENELEC EN 55022:2010
CENELEC EN 50155:2007
CENELEC EN 61000-4-8:2010

AREMA

AREMA PART 11.5.1

850 Perimeter Road Manchester, NH 03103 USA

SENSORS: 800.227.5955
www.jewellinstruments.com | sensors@jewellinstruments.com

© Jewell Instruments 2020

Jewell Instruments
ISO9001 CERTIFIED