

DREW™ XP BEARING DISTRESS INDICATOR



DESCRIPTION

The DREW XP Bearing Distress Indicator is a small, hand-held instrument that provides an instant indication of machinery condition. Utilizing highly sensitive, acoustic emission (AE) measurement technology, the DREW XP Bearing Distress Indicator detects miniscule amounts of activity (i.e., slight rubbing of mechanical components, brief impact or the crushing of a single wear particle in the lubricant, etc.) and provides both decibel (dB) level and distress values within seconds. As an essential component of effective condition monitoring onboard, the DREW XP Bearing Distress Indicator is applicable for the routine monitoring of bearings, gearboxes, motors, and pumps.

As the mechanical condition of machinery deteriorates, energy loss processes such as impacts, friction and crushing, generate sound wave activity that spans a broad range of frequencies. Housed within the DREW XP Bearing Distress Indicator, the patented AE sensor measures transient elastic waves caused by the release of localized stress energy, and converts it to an easy-to-interpret readout on the LCD screen.

APPLICATION AND USE

To mount the DREW XP Bearing Distress Indicator apply a pea-sized amount of viscous couplant (e.g., silicon grease) between the sensor face and a static component of the machinery casing being analyzed. While the magnetic sensor head aids in attaching the sensor to the component, it is best to avoid locations such as flimsy cowls, rusted or painted guards, and dirty nameplates. When properly applied, both decibel level and distress values are displayed within 10 seconds.

The decibel level is an indication of the overall noise and it is dependent on speed. The decibel level increases with speed of rotation, but also with degradation of the machinery or from



PCN 1AB4431

inadequate lubrication. Provided in either numeric or qualitative mode, distress levels give an instant indication of the machinery's state of the health that can then be used to assess machinery condition and to identify any needed action.

Distress (dst)	Distress Qualitative	Machinery Condition	Action Required
< 10	OK	Good	None
10 < dst < 15	Suspect	Fault detected	Sample oil for analysis, check for adequate lubrication, or machinery inspection/service
>15	Poor	Multiple faults, failure imminent	Sample oil for analysis plus particle count/ identification for root cause analysis, machinery/ component overhaul required

FEATURES

- Small, robust pocket-sized instrument
- Magnetic front face for easy mounting
- Simple user interface with only buttons for one-handed operation
- Uses high frequency part of acoustic emission range
- Internal rechargeable battery via USB port

BENEFITS

- Low cost analysis of machinery condition
- Field-proven technology
- Allows easy attachment to multiple machines
- Easy-to-use with easily interpreted results
- 1000 measurements between charges



Contact your Drew Marine representative for more information

Routinely monitoring machinery with the DREW XP Bearing Distress Indicator allows operators to extend the life of the lubricant and/or machinery components. The DREW XP Bearing Distress Indicator can also be used to optimize the interval of lubricant oil and grease sample submittal for condition monitoring analytical services. Refer to the technical product data sheet entitled DREW XP Lube Analysis Program for a complete list of test parameters offered, as well as how to submit samples for shore-based analytical services available from Drew Marine.

Specifications

Sensor Sensing Element	Resonant piezoelectric at ~ 100 kHz (factory set calibration)
Display	LCD, 2 lines by 8 characters
Distress Display	Numeric or Text
Non-volatile Memory	Shows last taken readings when unit is switched on
Auto Shut-off	Instrument auto switches off 30 seconds after last button press
Internal Batteries	NiMH rechargeable battery via micro USB port (Typically over 1000 measurements between charges)
Operating Temperature	0°C to 65°C
Overall Dimensions	98 mm x 62 mm x 34 mm (including magnetic sensing head)
Weight	225 g

Signal Measurement (Unit)	Description	Range	Resolution
Distress (dst)	Fault indicating parameter	0 to 40	1 dst
Decibel level (dB)	Logarithmically scaled mean signal level	10 to 80	1 dB

Ordering Information

Description	PCN
DREW XP Bearing Distress Indicator	1AB4431

Shipping Information

Dimensions, mm	130x100x55
Weight, kg	0.34



Contact your Drew Marine representative for more information

Drew Marine maintains Safety Data Sheets on all of its products. These documents contain health and safety information for the development of appropriate product handling procedures to protect your employees. Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using Drew Marine products.



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