



MOISTURE DETECTOR FOR BEARING OIL

1.0 GENERAL :

- 1.1 The CE mark moisture detector with its probe immersed in bearing oil senses the presence of moisture and gives signal via inbuilt relay / indicator unit and also via current or voltage signal for retransmission to SCADA/CCS in control room. The signal from the probe shall energize the electrical contacts if moisture exceeds the preset value.
- 1.2 The instrument shall be suitable for use with mineral lubricating bearing oil to ISO grade VG 32/46/57/68 in the temperature range of - 20° C to 100° C.

2.0 SPECIFICATION :

2.1 Sensor :

- 2.1.1. Sensors should have protection with fine SS mesh filter.
- 2.1.2. Sensor bulb having separate sensor for temperature and moisture shall have ½” BSP (male) pressure tight to 10 kg/cm² screwed connection for fixing it to the bearing housing filled with bearing oil.
- 2.1.3. Moisture sensors: Highly stable capacitive sensor and should be of interchangeable type with minimum cable length of 20 meter.
- 2.1.4. Temperature sensor: Pt 1000 Class A, according to DIN EN 60751; temp range :- - 40° C to 80° C.

2.2. Indicator unit:

- 2.2.1. The indicator unit shall be suitably mounted inside the panel as specified at clause 2.10 below.
- 2.2.2. Indicator should have feather touch keys to select MIN / MAX & other parameters.
- 2.2.3. The indicator unit shall be provided with a Digital Display for display of measured PPM with a range of 0 to 1000 PPM and temperature.
- 2.2.4. Enclosure of indicator should be of Weatherproof with protection class IP65 & NEMA-4.

2.3. Electromagnetic Capability : Instrument shall comply with the requirements as per EN61326-1 & FCC - Part.15 - Class.B.

2.4. Input Supply: preferably 240 ± 10% , 50Hz ± 3%, However , input supply variation up to +25% may occur frequently and MCB shall be provided to protect against such over voltage. For 24 V DC, suitable SMPS to be provided along with the supply.

2.5. Output / Signal: Two sets of output signals shall be available for retransmission to SCADA/CCS.

- a) 4 - 20 mA output for PPM indication.
- b) 4 - 20 mA output for Temp. indication.

2.6. Alarm Contacts: Two Nos. normally open type of contacts continuously adjustable throughout the range i.e. 0 to 1000 PPM. Contacts shall have capacity of 250 V DC / 0.1A (Resistive).

2.7. Accuracy & Repeatability: shall be better than ± 2%.

गोपनीय एवं अधिकार सुरक्षित
 इस प्रपत्र पर दी गई जानकारी भारत हेवी इलेक्ट्रिकल्स लिमिटेड की सम्पत्ति है इसे प्रत्यक्ष या अप्रत्यक्ष रूप से कम्पनी के हितों को नुकसान पहुँचाने के लिए कदापि उपयोग नहीं किया जावे

संशोधन : Rev 01 dt. 10.6.2012
 Temp. range in Cl. 2.1.4 modified.

हाइड्रोजनरेटर इंजीनियरिंग विभाग
 भारत हेवी इलेक्ट्रिकल्स लिमिटेड

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जारी करने की दिनांक
 27.08.2009



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- 2.8. **Configuration:** Indicator unit & sensor shall be configured & calibrated and identification no. shall be marked on both. Instruments shall have RS232 port for configuration of the instrument with PC via RS232 interface at site, if required.
- 2.9. **Software:** Software shall be supplied along with the instrument for easy configuration & calibration, if required.
- 2.10. **Flush Panel Mounting Enclosure:** All items covered under specification Clause - 2.2, 2.4, 2.5, 2.6 & 2.8 above shall be suitably mounted in an enclosure which shall be suitable for flush panel mounting.
The above flush panel mounting enclosure shall be suitable for panel cutout of 281mm (W) x 281mm (H) and shall have termination plate on the back side fitted with spring loaded self locking terminal block of WAGO make or equivalent suitable for 10mm² cable.
Flush panel mounting enclosure shall be made of sheet steel of thickness not less than 1.6 mm and shall be powder coated with epoxy paint (light grey colour outside & white colour inside)
3. **QUOTATION :**
The quotation must accompany drawings, wiring diagrams, literatures etc. clearly giving details of overall size, mounting details etc. Any deviation from the specifications must be clearly brought out in the quotation.
4. **PACKING :**
The instrument shall be packed in a seaworthy packing in a suitable case , with adequate cushioning material to withstand rough handling, loose shunting and upside down movements during transit and shall be suitable for 5 years storage at site.
5. **ANNEXURE 'CL':**
Supplier must submit the clause by clause confirmation of Annexure 'CL', else the offer is liable for rejection.