Environmental Chambers

Application Notes

Weiss Technik climatic chambers

Background

Climatic test chamber manufacturers, military testing of electronic components (85:85 ie 85 % rh at 85 °C).

Climatic Chamber Users

Monitoring and control of dew point and/or humidity within a climatic chamber.

The chamber may be used for a variety of product test applications, from aerospace (military components) to consumer goods testing. Often they test at the extremes of the temperature and humidity envelope placing high demands on the choice of reference standard instrument . Low cost humidity probes are not suited to this application.

Reference Users

British Aerospace, Consumer Research Association, Ministry of Defence, Vötsch, Weiss Technik GmBH, MIRA

Optidew

Measurement Technique

The Optidew High Performance Optical Dew-Point Transmitter works on the proven, fundamental optical dew-point measurement principle, giving unmatched and drift-free long-term performance. It offers a wide measurement range from the equivalent of <0.5 to 100 %rh at ambient temperatures from -40 to +90°C. Optidew provides two linear 4-20 mA outputs in addition to serial communications, allowing set-up and monitoring by a suitable computer or PLC system or via specific Optidew logging software. An adjustable volt-free contact alarm means that Optidew can be used for direct process control. An optional high definition alphanumeric display provides local indication of the measured humidity.

The High Temperature Optidew Sensor has been developed to meet the rigorous demands of environmental testing and other similar elevated temperature gas applications. The construction and design of the sensor allows it to provide accurate, repeatable and reliable measurements where previously cooled-mirror sensors have been unable to perform.

At ambient temperature of up to 115 ^{o}C, (High Temperature version) only the sensor will operate continuously and automatically, tracking and measuring humidity changes within the chamber. Up to this temperature, the sensor is fully self-compensating for the effects of varying temperature. At higher temperatures, up to 130 ^{o}C, the sensor optics may be user set for fixed temperature operation and will then provide the same level of measurement and control accuracy whilst at that fixed ambient temperature.

All versions of the Optidew can be aligned in environmental chambers, but the High Temperature version of the Optidew Vision is the preferred solution for most chamber users and manufacturers. The Vision provides a high definition alphanumeric display of the measured humidity, two linear mA outputs and serial communications, allowing set-up and monitoring by a suitable computer or PLC system or via specific Optidew Vision logging software. An adjustable volt-free contact alarm means that Optidew Vision can be used for direct process control.

Michell Instruments Ltd
48 Lancaster Way Business Park,
Ely, Cambs, UK
Tel: +44 (0)1353 658000 Fax: +44 (0)1353 658199
e-mail: info@michell.co.uk
www.michell-instruments.com

Q6284 (UK) 0179 (UK)

MICHELL Instruments

The Dew Point Specialists

Ref: EC - APN 1