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NanoTrace Moisture Analyzer Configuration Guide

Effective: April 2, 2006

DF-745

Standard Features & Specifications

Performance

Lowest Detection Level 2.00 ppb

Resolution

Analytical (Sensitivity-smallest detectable change) 0.50 ppb

Display 0.01 ppb

Accuracy (greater of) ±3% of reading or ±1 ppb (Constant Conditions)

Speed of Response (typically) 10 minutes

Time to reach 90% of an upward step challenge

Upset Recovery Time < 5 minutes

Time from high ppb upset to within 10 ppb of the previously stable reading

Range 0-20 ppm

Ambient Operating Temperature 50° to 105° F (10° to 40° C)

Background Gas Compatibility

All inert and passive gases including N_2, He, H_2, Ar, and O_2

Gas Scale Factor permits accurate read-out of moisture in background gases other than nitrogen.

Gas Sample Conditions

Sample Pressure

Operating limits: 15 to 25 psig (2.03 to 2.8 BarA)

Sample Return Pressure Atmospheric Vent (optimal)

Limits:-2 to 2 psig (0.88 bar to 1.14 BarA)

Flow Rate:

Operating: 0.5 to 4 slpm N_2

Sample Line Temperature 10° C to 80°C (50° F to 176° F)

Pneumatic Pressure 60 to 100 psig (5.1 to 7.9 BarA)

(Required for 745-ISO)

Gas Flow System

Construction Materials 300 Series stainless steel

Gas Connections ¼ inch VCR compatible inlet fitting

¼ inch compression outlet fitting

$^1/_8$ inch compression fitting for pneumatic gas inlet

Gas Delivery System Components

Pneumatically actuated springless diaphragm valves, orbital butt welded assembly with zero dead volume for sensor isolation (optional)

Construction

Enclosure: NEMA 1 in 19" Rack Mount

Dimensions:19" (48.3cm) W x 10.5" (26.7 cm) H x 22.5" (57.2 cm) D

Weight: 64 lbs. (29 kg.)

CE Conformance: Added EMI/RFI and Conducted interference immunity

Maintenance & Logging

DataLogging & Graphing

Blocks of data downloadable to 3 ¼" disk drive mounted inside analyzer. User can create filenames and store data to analyzer hard drive and download blocks to disk at later date.

Automatic Maintenance Log

Records calibration information and system error logs. Automatically maintains records satisfying many ISO 9000 requirements

Electrical

Back Lighted Display 7.4" VGA Monochrome (640x480)

Visual Alarm Status Indicators

4 moisture levels, temperature, moisture sensor diagnostic, analyzer off-line, expanded range

Relays

(Failsafe action upon loss of power to alarm condition)

4 non-latching, independently assignable to alarms or indicators. SPDT contacts rated for 1A at 30 VDC.

Power Requirements

100-120 VAC @ 5A, 50/60 Hz (standard); 200-240 VAC @ 2.5A, 50/60 Hz (optional). Configurable at factory.

Output Signals

Analog Outputs:

Menu scaleable single output range of 0-2 ppb up to 0-10 ppm

Isolated 4-20 mADC, and choice of 0-1, 0-2, 0-5, or 0-10 VDC

Expanded Range Scales

Two user selectable secondary analog output ranges for re-scaling the output once the primary range is exceeded

Digital Output:

2-Way RS232 or RS485, configurable at factory

Hydrogen Safety

Optional safety system for use with hydrogen includes Sample Delivery Interlock and Case Purge Valves for instrument housing, and NEMA4 enclosure and Z-purge protection system for external vacuum pump. Optional Hydrogen Safety System can be ordered with or without the NEMA4 enclosure and Z-purge protection system for the pump.

NEMA4 pump enclosure is 16.6" (42.4 cm)W x 14.5" (36.8 cm)H x 11.6" (29.5 cm)D.

NOTE: Hydrogen Safety system limits available relays from 4 to 3

NanoTrace Moisture Analyzer
Ordering Codes

Base Model

745-0020 *NanoTrace Moisture Analyzer*

-V (added to model number)
230 VAC/50/60 Hz Input Power

Outputs ***(pick one Serial Communication)***

745-RS232 *Two-Way Serial Communications*
745-RS485 *Two-Way Serial Communications*

(pick one VDC Output)

745-OS-1 *0-1 VDC*
745-OS-2 *0-2 VDC*
745-OS-5 *0-5 VDC*
745-OS-10 *0-10 VDC*

Cabinet

745-KYLK *Key Lock*

Plumbing

745-HSS1 ***Hydrogen Safety System with Pump Purge***

Includes Sample Delivery Interlock and Case Purge valves for instrument housing, and enclosure with purge protection system for vacuum pump.

745-HSS2 ***Hydrogen Safety System without Pump Purge***

Same as above, except vacuum pump is mounted on bracket only and does not include purge protection system.

745-ISO *Note2* ***Isolation Package***

Includes upstream and downstream internally air actuated electropolished isolation valves to isolate cell during transport and upon loss of power. Package also includes Bypass Rotameter and Inlet Pressure Regulator (rated up to 150 psig), and a back flow prevention valve. DF-745's with this option require 60-100psig connection to 1/8" compression inlet fitting for valve actuation.

NOTES:

1. Hydrogen Safety system limits available relays from 4 to 3
2. If the Isolation Package is not ordered, it is recommended that a regulator with bypass flow loop be incorporated in the sample line prior to the sample inlet of the instrument. Isolation valves and heat tracing can also be incorporated.

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