

air.IQ

Moisture Analyzer Packaged Solution



Features

air.IQ simplifies the selection and installation of your moisture analyzer. Install the moisture probe, wire your power and outputs to the terminal strip, and connect your gas to the inlet fitting.

- Wall mounted NEMA 4X package
- Includes the analyzer display, moisture probe, interconnecting cable, and sample system
- Features the dew.IQ moisture analyzer
- Available with the IQ.probe or with the M Series moisture probe
- Sample system provides isolation, filtration, pressure and flow indication, pre-wired, and a clear door for easy viewing of all readings

Applications

The standard air.IQ package is designed for moisture measurement in any inert gas application, in industrial environments classified as safe areas, where the process gas pressure is slightly positive to a maximum of 200 psig. It combines the Panametrics dew.IQ and IQ.probe with 50 years of sample system design, to deliver the moisture measurement you have come to trust.

Markets and applications served include:

- Industrial Gas
- Air Dryer / Clean Dry Air
- Plastics Drying
- Pharmaceutical
- Aerospace
- Power Generation



Ordering Configuration

air.IQ is comprised of the following items:

- DEW.IQ-3-6-1-0
- IQ.PROBE-2-R-0-0-0-0
- 733-1155-00

Application Parameters

- Inert Gases such as air, nitrogen, SF6
- Sample Gas Pressure: 0 to 200 psig
- Sample Gas Temperature: 0 to +50°C
- Moisture Content: -110° to +20°C dew/frost point, non-condensing
- Power Requirements: 100 - 240 VAC @ 50 - 60 Hz
- General Purpose installations – Division 2 options are available

dew.IQ Specifications^{*}

European Certification

Complies with EMC Directive 2004/108/EC and 2006/95/EC Low Voltage Directive (Installation Category II, Pollution Degree II)

Input

Moisture signal from an M Series probe or IQ.probe

Analog Output

Single internal isolated recorder output, internally optically isolated, 10-bit (0.1%) resolution

Switch-Selectable Outputs

0 to 2 V, 10k Ω minimum load resistance
0 to 20 mA, 400 Ω maximum series resistance
4 to 20 mA, 400 Ω maximum series resistance
User-programmable within the range of the instrument and the corresponding sensor or transmitter

Alarm Relays

One fail-safe fault relay
Two standard Form C relays SPDT, rated for 3 A at 250 VAC/30 VDC
Set to any level within the range of the instrument; programmable from the front panel

Alarm Set Point Repeatability

$\pm 0.1^\circ\text{C}$ ($\pm 0.2^\circ\text{F}$) dew point

Datalogger

32 GB capacity with MicroSD card, 4 GB card included

Display

128 x 64 matrix LCD

Display Functions

Dew point temperature in $^\circ\text{C}$ or $^\circ\text{F}$, ppmv with a constant pressure input, or sensor signals for diagnostics

Power Requirements

Universal power 100-240 VAC @ 50-60 Hz,

Temperature

Operating: -20° to 60°C (-4° to 140°F)
Storage: -40° to 70°C (-40° to 158°F)

Warm-Up Time

Meets specified accuracy within three minutes

IQ.probe Specifications^{*}

Sensor Type

Thin-film aluminum oxide

Dew/Frost Point Temperature

Overall range capability: -110° to 60°C (-166° to 140°F)
Standard: -80° to 20°C (-112° to 68°F) with data to -110°C (-166°F)

Calibrated Accuracy at 77°F (25°C)

$\pm 2^\circ\text{C}$ (3.6°F) from -65° to 10°C (-85° to 50°F)
 $\pm 3^\circ\text{C}$ (5.4°F) from -80° to -66°C (-112° to -87°F)

Repeatability

$\pm 0.5^\circ\text{C}$ (0.9°F) from -65° to 10°C (-85° to 50°F)
 $\pm 1.0^\circ\text{C}$ (1.8°F) from -80° to -66°C (-112° to -87°F)

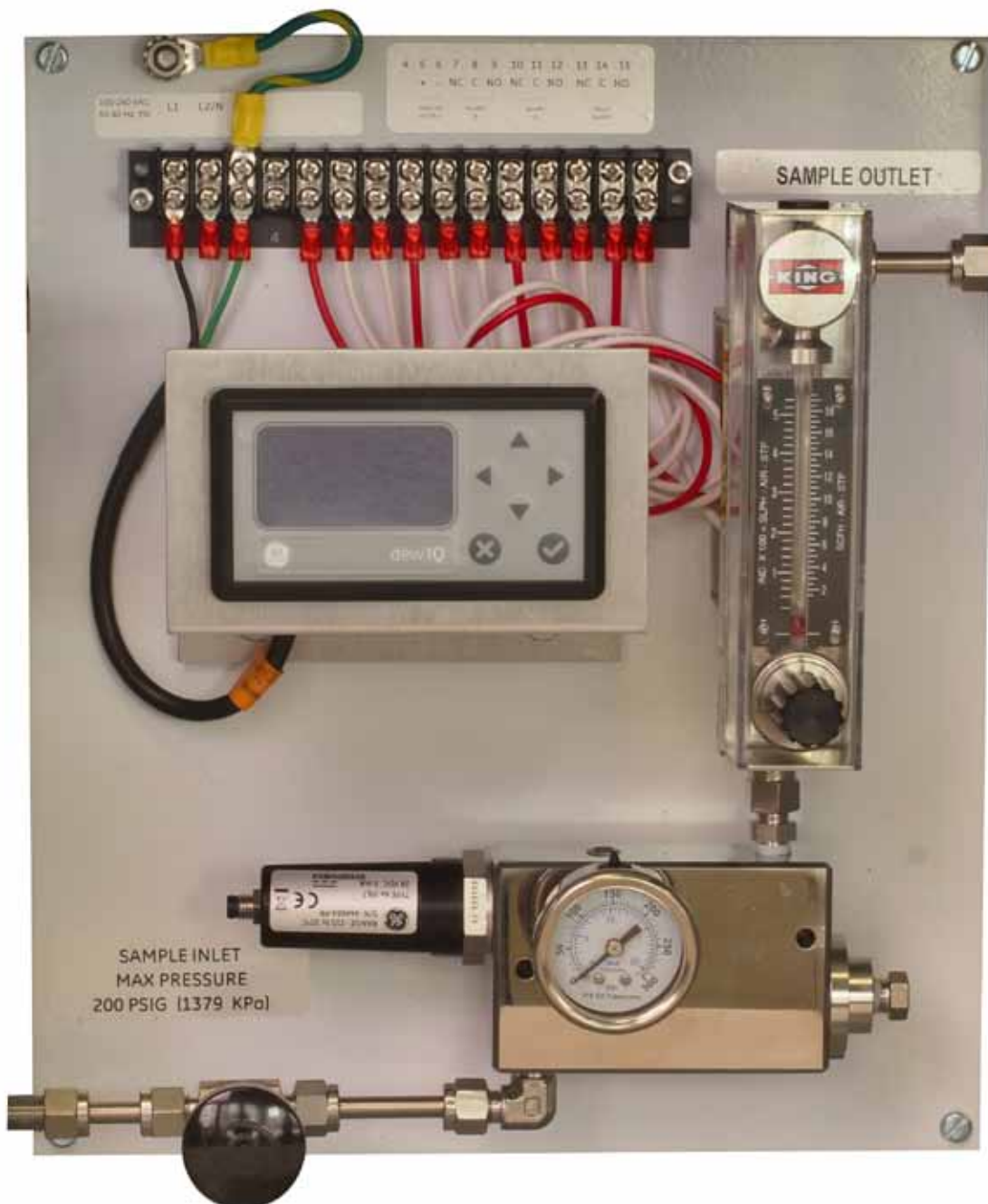
* Refer to dew.IQ and IQ.probe data sheets for complete specification details

Start-Up Procedure

- Insert moisture probe into the sample cell
- Start with the inlet valve and the valve on rotameter fully closed
- For dew points at process pressure, slowly open the inlet valve until fully open; then crack the valve on the rotameter to get flow on scale
- For dew points at atmospheric pressure, fully open the valve on the rotameter; then crack the inlet needle valve on the rotameter to get flow on scale

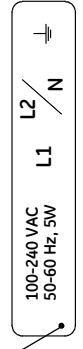
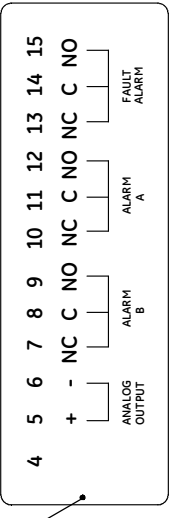
Shut-Down Procedure

- Slowly close the inlet needle valve
- Slowly open the valve on the rotameter until the pressure on the pressure gauge is 0 psig
- Remove the moisture probe

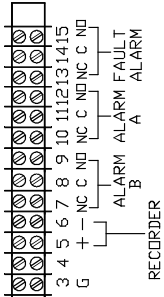


REV		ECO		DESCRIPTIONS		DWN		CKD		APVD	
1				ORIGINATED FOR REV CONTROL							10/29/12
2				UPDATE							12/06/12

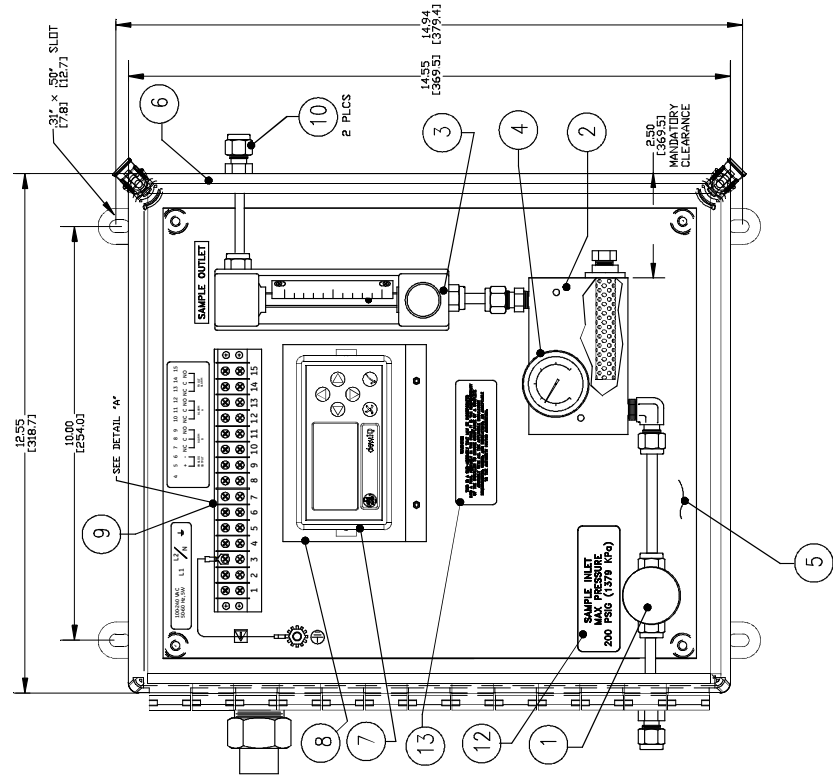
LABEL, SAMPLE SYSTEM,
DEW.IQ OUTPUTS




LABEL, SAMPLE SYSTEM,
DEW.IQ, POWER STRIP



- NOTES:
- ENCLOSURE NEMA 4X: 14.55"Hx12.55"Wx8.00"D (369.5x318.7x203.2)
PANEL 12.75"x10.88" (323.8x276.3)
 - PROCESS CONNECTIONS: 1/4" COMPRESSION FITTINGS
 - PROCESS TUBING: 1/4" STAINLESS STEEL
 - ELECTRICAL CONNECTION: 1/2" FNPT
 - INCHES/MM
 - REF. DWG. BM733-1155-00-rev2
 - WIRE PROBE CABLE FROM PROBE TO DEW.IQ PER SHEET 2
 - ALL PIPE THREADS TO BE SEALED USING PTFE
THREAD SEALER



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE DECIMALS ± 1/32"		THIRD ANGLE PROJECTION		GE Sensing 1100 Technology Park Dr. Billerica, MA 01821 USA	
DRAWN BY: JXX ± .01 DATE: 10/29/12		CHECKED BY: JXX ± .01 DATE: 10/29/12		TITLE: SAMPLE SYSTEM	
SURFACE FINISH: 125		SCALE: 1:2		DRAWING NUMBER: 733-1155	
COPYRIGHT 1997 GENERAL ELECTRIC CO.		GENERATED USING AUTOCAD		REV: 2	
PREPARE: ANY INFORMATION - THIS DRAWING IS THE PROPERTY OF GENERAL ELECTRIC CO. AND MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF GENERAL ELECTRIC CO.		MODEL NO. SAMPLE SYSTEM		SHEET 1 OF 2	

 GE Sensing 1100 Technology Park Drive, Billerica, MA 01821, USA		DRAWN PMH 5/10/13 CHECKED JR 5/10/13		APPROVED EJ 5/10/13 RELEASE NO.		MODEL NO. air.IQ custom sample system with dew.IQ and moisture probe		BM BM733-1155-00 SHEET 1 OF 1		REV 2	
DWG ITEM	SALES P/N	PART NO.	DESCRIPTION								
1		255-184	NEEDLE VALVE 316SS 5000PSIG 1/4" COMPRESSION INLET/OUTLET								
2		750-2123-00	Air.IQ sample cell assembly								
3		750-414	Flowmeter Assembly								
4		443-046-01	1-1/2" pressure gauge, 316 SS, 1/8" NPTM center back mount, range 0-300 psig								
5		421-2002	Assembly mounting and piping of sample system components onto a white enamel plate 12.75" x 10.88"								
6		425-406	ENCL NEMA 4X 14X12X8 FBRGLAS								
7			Mounting of DEW.IQ on a sample system plate. Dew.IQ should be specified, priced and ordered as a separate item.								
8		418-200	Mounting bracket								
9		213-2000	15 POS.BARRIER BLOCK 28F871								
9		213-2001	15 POS.MARKER STRIP 29F817								
10		255-163-04	TUBE BULKHEAD UNION 316SS 1/4"COMP								
11		442-1036	Label, Sample System, Outputs								
11		442-1345	Label, power strip								
12		442-1347	Sample Inlet Label								
13		442-1355	Sub Component Label								
14		255-347	Union explosionproof conduit to conduit fitting. 1/2" NPTM to 1/2" NPTF, CL 1, Div 1 & 2, Grp A, B, C, & D								
15		412-2028	1/2" CONDUIT LOCKNUT								
16		410-516-01	GASKET PVC W/SS RING 3/8" to 1/2"								
17		413-540	Spacer, threaded, aluminum, 6-32, 1/4"								
50		733-1155	air.IQ custom sample system								
REV	ECN NO.	DATE/APPD	REV	ECN NO.	DATE/APPD	REV	DATE/APPD	NOTES			
1	N/A							1. REF DWG 733-1155rev2			
2	N/A	5/10/2013						2. PROCESS CONNS: 1/4" COMPRESSION FITTINGS			
								3. PROCESS TUBING: 1/4" STAINLESS STEEL TUBING			
								4. ELECTRICAL CONNECTIONS: 1/2" NPTF			

If all you need is a transmitter... we offer two

DewPro MMY30 and MMY31 Dew Point Transmitters

The DewPro MMY30 is a loop-powered transmitter with 4 to 20 mA output. The DewPro MMY30 is specifically designed to measure dew point or ppm in gases at line pressure or atmospheric pressure.

The DewPro MMY31 measures dew point or ppmv in gases. It is a cost-effective, loop-powered dew point transmitter designed for "in-line" installation where trace moisture measurement is required.

Both use the planar aluminum oxide sensor provides excellent corrosion resistance, longer calibration stability, and quick response times.

Applications include glove boxes, environmental chambers, test chambers, and other locations where direct insertion is required.

Features

- Loop-powered, 4 to 20 mA transmitter
- Fast response planar aluminum oxide sensor
- Trouble-free indoor or outdoor mounting
- Microcontroller electronics in Type 4X/IP67 enclosure



MMY30



MMY301



www.ge-mcs.com

920-624B