

# 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  $\Omega$  minimum load resistance  
0 to 20 mA, 400  $\Omega$  maximum series resistance  
4 to 20 mA, 400  $\Omega$  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:  $-20^\circ$  to  $60^\circ\text{C}$  ( $-4^\circ$  to  $140^\circ\text{F}$ )  
Storage:  $-40^\circ$  to  $70^\circ\text{C}$  ( $-40^\circ$  to  $158^\circ\text{F}$ )

### 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:  $-110^\circ$  to  $60^\circ\text{C}$  ( $-166^\circ$  to  $140^\circ\text{F}$ )  
Standard:  $-80^\circ$  to  $20^\circ\text{C}$  ( $-112^\circ$  to  $68^\circ\text{F}$ ) with data to  $-110^\circ\text{C}$  ( $-166^\circ\text{F}$ )

### Calibrated Accuracy at 77°F (25°C)

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

### Repeatability

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

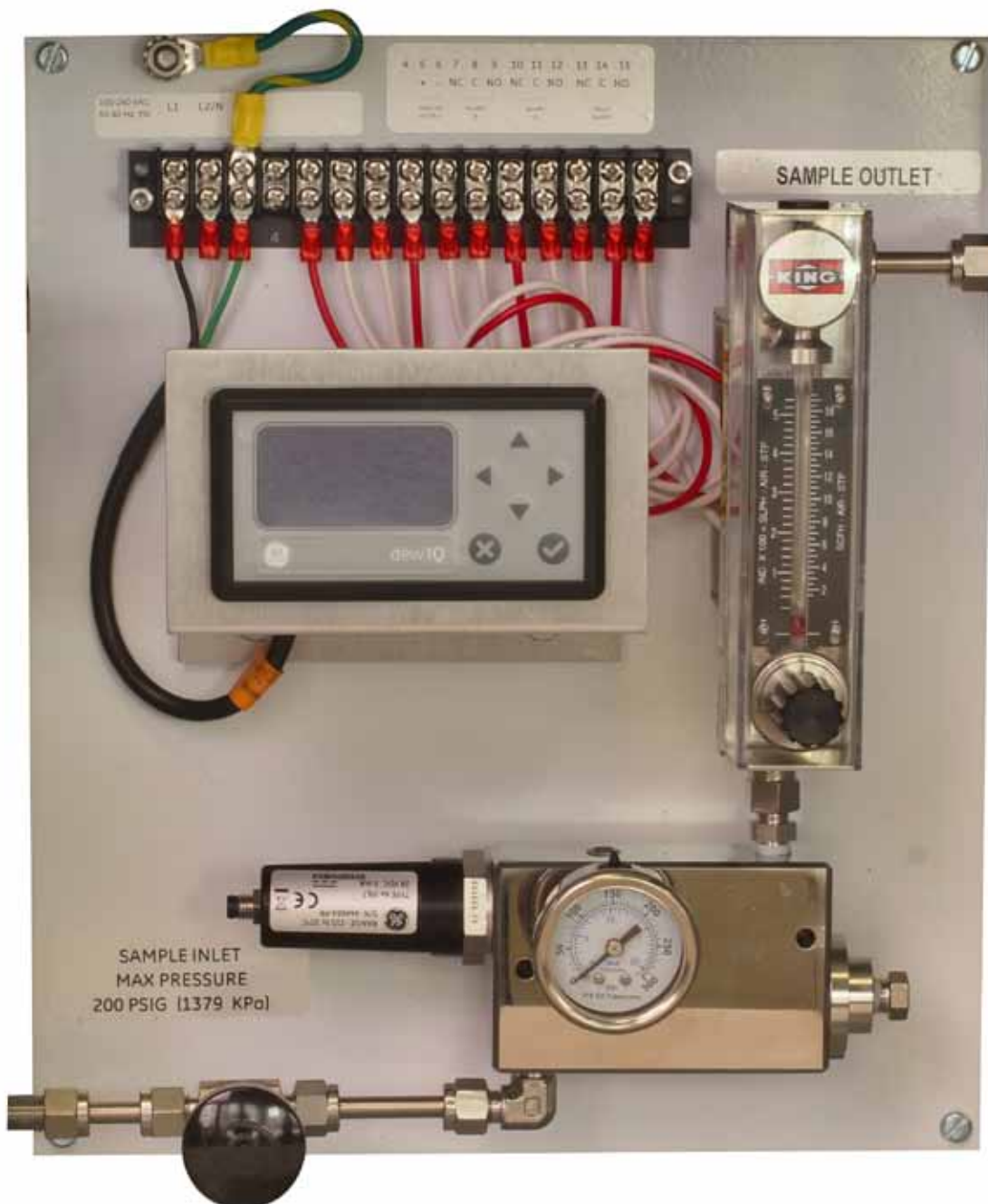
\* Refer to dew.IQ and IQ.probe data sheets for complete specification details

## 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

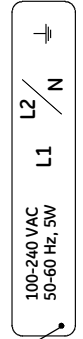
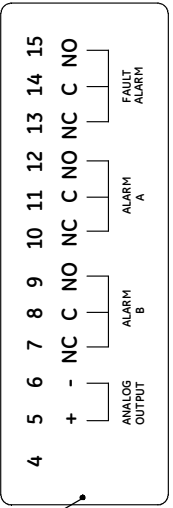
## Shut-Down Procedure

- 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

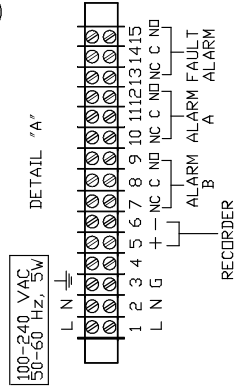


REV		ECO		DESCRIPTIONS		DWN		CKD		APVD	
1				ORIGINATED FOR REV CONTROL							10/29/12
2				UPDATE							12/06/12

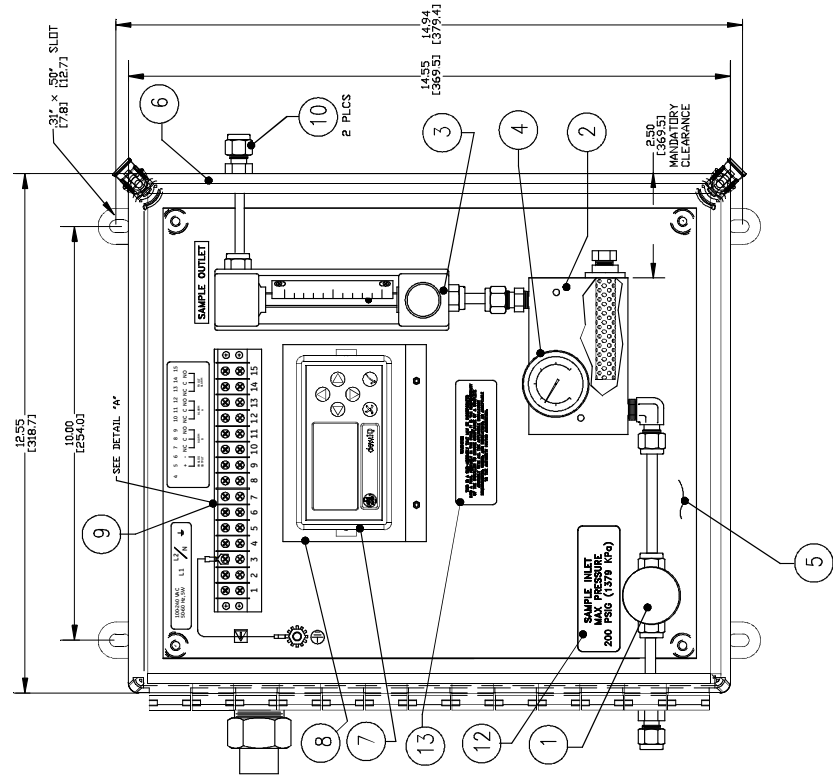
LABEL, SAMPLE SYSTEM,  
DEW.IQ OUTPUTS



LABEL, SAMPLE SYSTEM,  
DEW.IQ, POWER STRIP



- NOTES:
- ENCLOSURE NEMA 4X: 14.55"Hx12.55"Wx8.00"D (36.95x31.87x20.32) PANEL 12.75"x10.88" (32.38x27.63)
  - PROCESS CONNECTIONS: 1/4" COMPRESSION FITTINGS
  - PROCESS TUBING: 1/4" STAINLESS STEEL
  - ELECTRICAL CONNECTION: 1/2" FNPT
  - INCHES/TMM
  - 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	
ANGLES XX ± .01 XXX ± .005 SURFACE FINISH 125		DRAWN BY: 10/29/12		TITLE SAMPLE SYSTEM	
COPYRIGHT 1997 GENERAL ELECTRIC CO.		CHECKED BY: 10/29/12		SIZE DRAWING NUMBER 733-1155	
PREPARE: ANY INFORMATION - THIS DRAWING - GENERAL ELECTRIC CO. AND MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM WITHOUT PERMISSION BY GENERAL ELECTRIC CO.		CERT RN		REV 2	
MODEL NO. SAMPLE SYSTEM		SCALE 1:2		DID NOT SCALE DWG SHEET 1 OF 2	

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

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D

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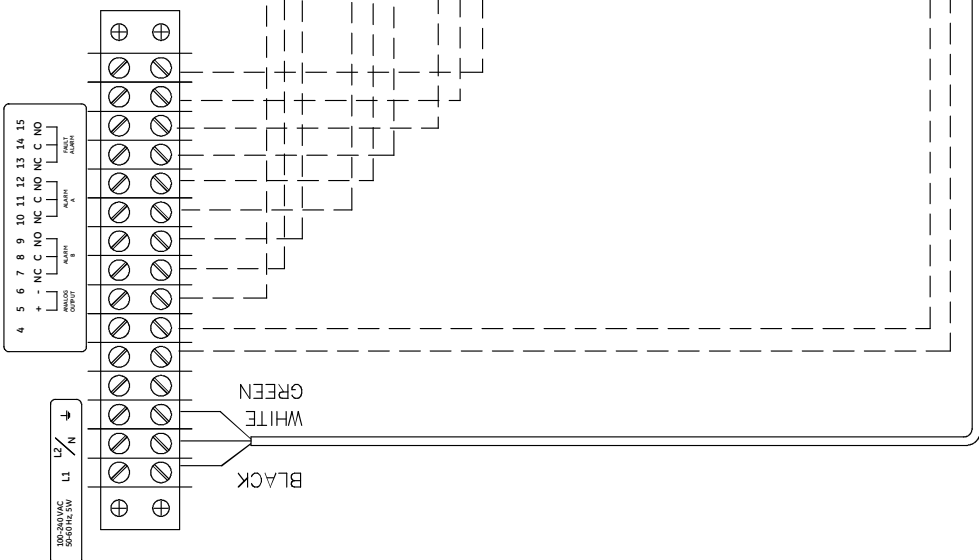
D

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### DEW.IQ REAR VIEW



APPROV TK 10/25/12	SIZE C	DRAWING NUMBER 733-1155	REV 2
DRAWN JK 10/25/12	CHECKED SALES	SCALE 1/2	DO NOT SCALE DWG SHEET 2 OF 2
GENERAL ELECTRIC CO. 100-240 VAC 50-60Hz, 5W		RELAY RATING 30 VDC, 3A 250 VAC, 3A	
MEMORY CARD		100-240 VAC 50-60Hz, 5W	
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*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](http://www.ge-mcs.com)

920-624B