

# 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
- The IQ.probe makes installation and start-up easy
- 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-W-0-0-0-0
- 733-1155-00

## Application arameters

- 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

## 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

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

### Datalogger

32 GB capacity with MicroSD card, 2 GB card included

### Display

128 x 64 matrix LCD

### Display functions

Dew point temperature in  $^\circ\text{F}$  or  $^\circ\text{C}$ , 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)

- $\pm 3.6^\circ\text{F}$  ( $\pm 2^\circ\text{C}$ ) above  $-148^\circ\text{F}$  ( $-100^\circ\text{C}$ )
- $\pm 5.4^\circ\text{F}$  ( $\pm 3^\circ\text{C}$ ) below  $-148^\circ\text{F}$  ( $-100^\circ\text{C}$ )

### Repeatability

- $\pm 0.4^\circ\text{F}$  ( $\pm 0.2^\circ\text{C}$ ) above  $-148^\circ\text{F}$  ( $-100^\circ\text{C}$ )
- $\pm 0.9^\circ\text{F}$  ( $\pm 0.5^\circ\text{C}$ ) below  $-148^\circ\text{F}$  ( $-100^\circ\text{C}$ )

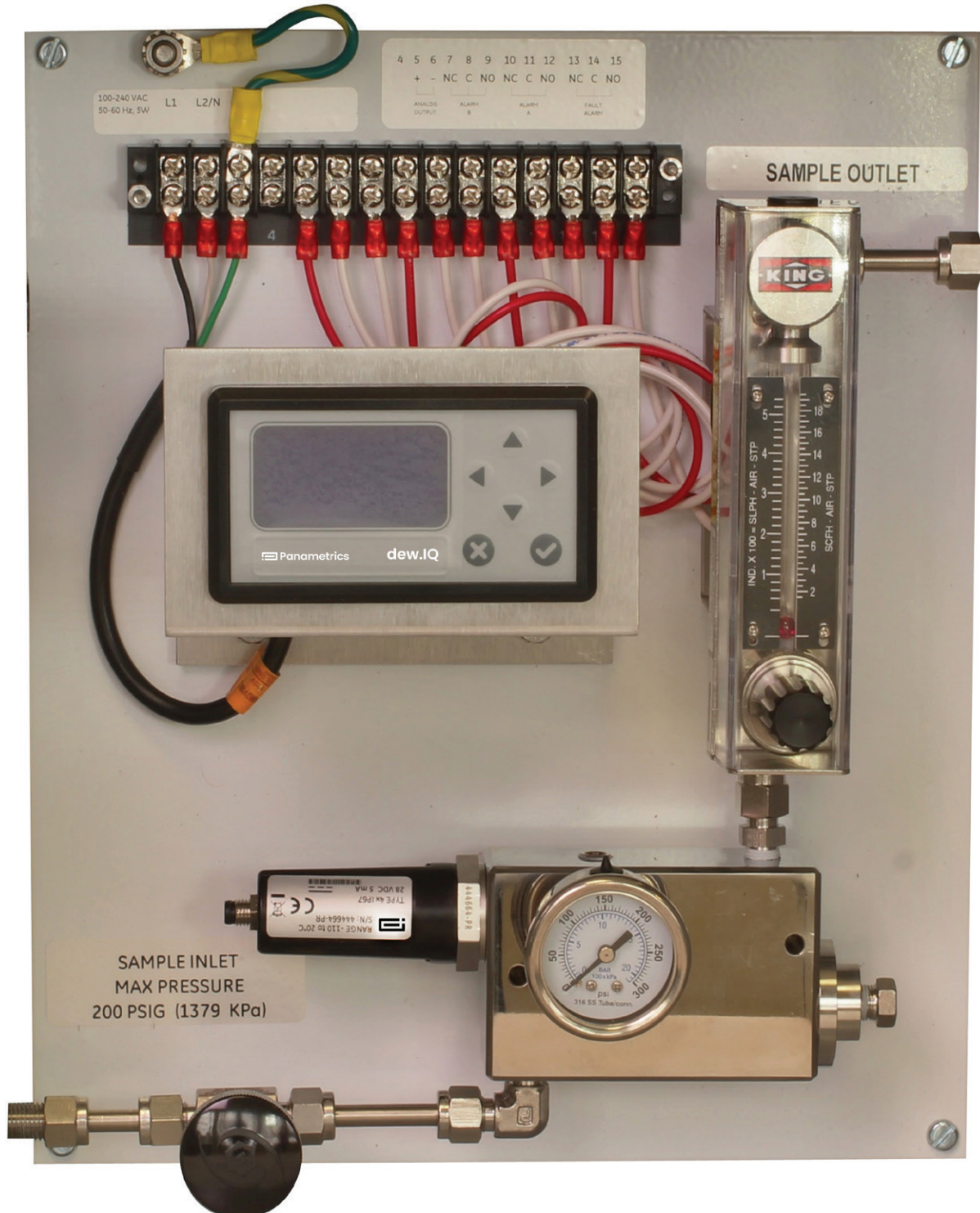
\* Refer to dew.IQ and IQ.probe data sheets for complete specification details

## 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

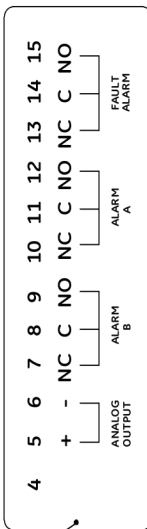
## Shut-down procedure

- 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

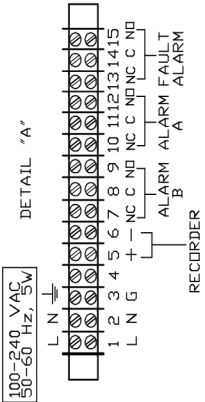


REVISIONS			
REV	ECO	DESCRIPTIONS	APVD
1	??	ORIGINATED FOR REV. CONTROL	10/29/12
2	??	UPDATE	12/6/12

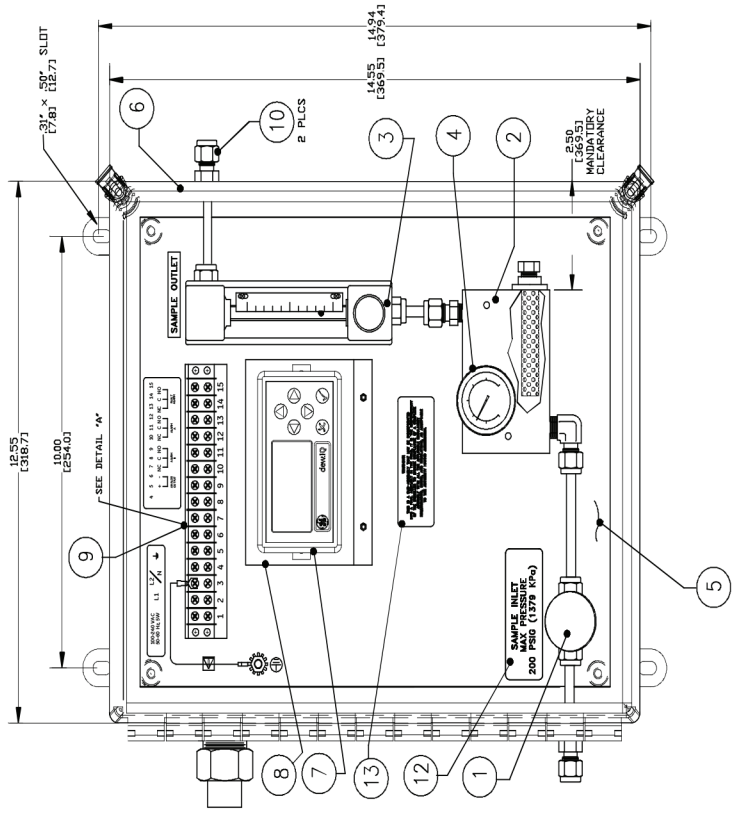
LABEL, SAMPLE SYSTEM,  
DEW.IQ OUTPUTS



LABEL, SAMPLE SYSTEM,  
DEW.IQ, POWER STRIP

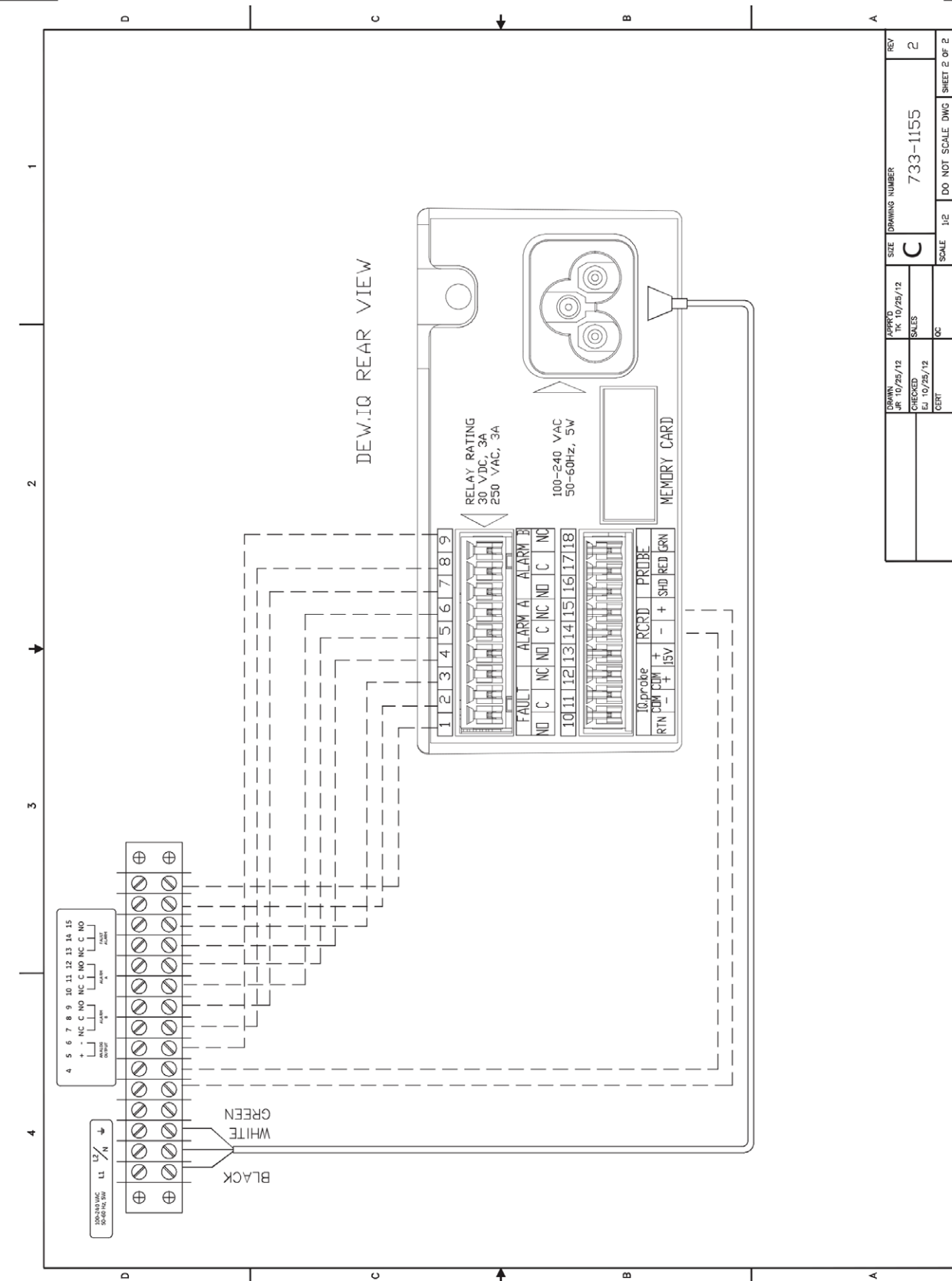


- NOTES:
1. ENCLOSURE NEMA 4X: 14.55"Hx12.55"Wx8.00"D (369.5x318.7x203.2)  
PANEL 12.75"x10.88" (323.8x276.3)
  2. PROCESS CONNECTIONS: 1/4" COMPRESSION FITTINGS
  3. PROCESS TUBING: 1/4" STAINLESS STEEL
  4. ELECTRICAL CONNECTION: 1/2" FNPT
  5. INCHES/IMM1
  6. REF. DWG. BM733-1155-00-ev2
  7. WIRE PROBE CABLE FROM PROBE TO DEW.IQ PER SHEET 2
  8. ALL PIPE THREADS TO BE SEALED USING PTFE THREAD SEALER



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS DECIMALS ANGLES		THIRD ANGLE PROJECTION	
FRACTIONS		DRAWN	
.XX ± .01 ± 1'		APVD	
.XXX ± .005 ± 1'		10/29/12	
SURFACE FINISH: 125		SALES	
CHECKED		OC	
CERT		SCALE	
R/N		GENERATED USING AUTOCAD	
MODEL NO.		DRAWING NUMBER	
SAMPLE SYSTEM		733-1155	
SCALE 1/2		REV 2	
SHEET 1 OF 2		DO NOT SCALE DWG	





REV	2
DRAWING NUMBER	733-1155
SIZE	C
SCALE	1/2
DO NOT SCALE DWG	SHEET 2 OF 2
APPROD	TK 10/25/12
CHECKED	SALES
DATE	10/25/12
CERT	OC

Panametrics, a Baker Hughes Business, provides solutions in the toughest applications and environments for moisture, oxygen, liquid and gas flow measurement. Experts in flare management, Panametrics technology also reduces flare emissions and optimizes performance.

With a reach that extends across the globe, Panametrics' critical measurement solutions and flare emissions management are enabling customers to drive efficiency and achieve carbon reduction targets across critical industries including: Oil & Gas; Energy; Healthcare; Water and Wastewater; Chemical Processing; Food & Beverage and many others.

Join the conversation and follow us on LinkedIn  
[linkedin.com/company/panametricscompany](https://www.linkedin.com/company/panametricscompany)