

IQ plus® 810 Purged/Pressurized Hazardous Environment Indicator



The IQ plus 810 indicator has the following approvals:



Measurement
Canada
Approved



UL & CSA approval applies to electrical power control unit only

The Purged/Pressurized systems have the following approvals:

PART #	DESCRIPTION
40081 IQ plus 810 X-Purged/Pressurized Indicator

The strength of the IQ plus 810 indicator is now available for use in hazardous areas without the expense of NEMA 7/9 explosion-proof hardware. If your customer has an existing plant air or inert gas system, the purged IQ plus 810 may be the solution to their hazardous environment control requirements. This indicator is manufactured to the American National Standards Institute/National Fire Protection Association (ANSI/NFPA) Article 496 guidelines for purged and pressurized enclosures. Positive pressure within the enclosure prevents particles, gases, and fibers from entry. A differential pressure switch may be used to remove power when the pressure falls below the acceptable level, such as when the door is opened or the enclosure is penetrated. Three possible configurations are available:

Type X Pressurizing: Reduces the classification within the protected enclosure from Division 1 to Safe

Type Z Pressurizing: Reduces the classification within the protected enclosure from Division 2 to Safe

Note: Plant safety engineers and certified electricians must always be involved in the specification and installation of any explosive environment equipment.

Note: Consult factory for preset factory configuration of enclosure pressure switch cutoffs.

Applications

- Hazardous areas that require setpoint control
- Petroleum refineries, solvent plants, grain dust areas, fueling stations
- Control solutions for Class I, Divisions 1 and 2, Groups C and D; Class II, Divisions 1 and 2, Groups E, F, and G; Class III hazardous environments

Standard Features

- Enclosure manufactured to ANSI/NFPA Article 496 guidelines for purged/pressurized enclosures
- Flow and pressure gauges used to track and display purge status
- Factory-installed safety barriers for hazardous area interface
- Enclosure protection vent with tamper-proof regulator
- SURVIVOR® oil tight switches per NFPA 496
- NEMA 4X stainless steel wall mount enclosure
- Bright, bold Vacuum Fluorescent Display (VFD) with 1/4" clear vinyl cover plate per NFPA 496
- Full keyboard for setpoint or fixed tare entry
- Front-panel calibration
- Advanced digital filtering and RATTLETRAP® vibration control
- 20 programmable setpoint steps
- Multi-channel accumulators
- 3 digital inputs, TTL or hard contact closure; 4 TTL digital outputs, expandable to 16
- Multi-scale control expandable to 4 scale inputs, with individual scale setup
- NTEP and Canadian Weights & Measurements certified
- Models with JetPak™ option feature 100 Hz A/D for 100 updates per second: available with single channel unit only

Options/Accessories

- 19363 48-segment LED bar graph module
- 40386 Dual load cell input module (3rd and 4th scale)
- 19371 Single load cell input module
- 40385 Expansion board (keyboard connection only)
- 19357 Analog output module, 0-10 VDC/4-20 mA
- 19358 Header in print
- 19359 Rate of change
- 19360 Peak hold
- 30547 Password
- 19372 RS-485 communication
- 19374 20 mA full duplex EDP port
- 36642 12-channel digital setpoint output mod
- 19375 Supervisory setpoint configuration access switch
- 19365 4-channel relay rack
- 19373 16-channel relay rack (Requires #19362 setpoint expander board)
- 30263 ± Signal barrier
- 30264 ± Sense barrier
- 30265 + Excitation barrier
- 30266 - Excitation barrier
- 31542 RS-232 communications barrier
- 31202 4-20 mA analog output barrier

I/O relay modules sold separately:

- 15969 DC input relay module (N/O)
- 15971 AC output relay module (N/O)
- 15970 Dry contact output relay (N/O)
- 15972 AC input relay module (N/O)
- 22847 230 VAC output relay (N/C)
- 36632 230 VAC output relay (N/O)
- 42100 Additional operating manual (Version 3)

LOAD CELL EXCITATION:

Maintained intrinsically safe by factory-selected barrier set (on up to 4 channels)

INTERCONNECTION CABLE REQUIREMENTS:

6-wire shielded (sense leads required)

ANALOG SIGNAL INPUT RANGE:

0.6 mV/V - 3.9 mV/V

ANALOG SIGNAL SENSITIVITY:

0.3 microvolts/graduation minimum
Legal-for-trade recommended minimum 1 microvolt/graduation

CONVERSION RATE AT FULL SCALE:

20/second, typical (standard resolution)
10/second, typical (high resolution)
Added channels reduce conversion rate per channel

RESOLUTION:

Selectable up to 100,000 displayed graduations
Selectable up to 740,000 graduations internal

DISPLAY INCREMENTS:

1, 2, 5

LEAD ZERO BLANKING:

Standard, per NIST H-44 requirements

DISPLAY:

Large .55" (14.0mm) 7-digit, 14-segment blue/green VFD

DECIMAL POINTS:

8888888, 888888.8, 88888.88, 8888.888, 888.8888,
88.88888, 8.888888, 8888800, 8888880

LB/KG SWITCHING:

Front-panel push button

FRONT-PANEL CONTROL SWITCHES:

Zero, Net/Gross, Tare, Units, Print, Disp Accum, Disp R.O.C.,
Disp Tare, Time/Date, New ID, Base #, Set Point, Clear

FRONT-PANEL ANNUNCIATORS:

Lb, Kg, R.O.C., Accum, Push Tare, Keyed Tare, Motion,
Center of Zero, Gross, Net

SERIAL OUTPUT:

EDP port, full duplex RS-232 or 20 mA optional
Printer port, simplex RS-232 and 20 mA current loop

DIGITAL INPUTS:

3 inputs, TTL or switch closure, active low

DIGITAL OUTPUTS:

4 outputs standard, TTL active low, expandable to 16

SETPOINTS:

20 fully-programmable setpoint steps

AZM CAPTURE RANGE:

Selectable to: *Off*, ± 5 , ± 1 , or ± 3 graduations

ANALOG FILTERING:

Software selectable: 2, 8 Hz typical/3 pole, off (25 Hz)

DIGITAL FILTERING:

Standard range software selectable: 1, 2, 4, 8, 16, 32, 64, 128
RATTLETRAP® high vibration control: 4, 8, 16, 32, 64, 128

MOTION BAND:

1, 2, 3, 5, 10, 20, off

MOTION TIME SENSITIVITY:

Fixed at 1 second

POWER:

Line voltages: 115/230 VAC + 10%/-15%

Frequency: 50 or 60 Hz

Power consumption: 12 watts with minimum configuration, 30 watts with all options

Fusing: 0.25A SB (UL/CSA) 5x20mm @ 115/230 operation
0.125A SB (UL/CSA) 5x20mm @ 240V operation

DISPLAY CHECK:

All digit segments and annunciators simultaneously illuminated upon application of power

OPERATING TEMPERATURE RANGE:

14°F to 104°F (-10°C to 40°C)

PACKAGING:

Enclosure: NEMA 4X FRP wall mount (IQ plus 810HE);
NEMA 4X stainless steel (IQ plus 810SS)

Weight: IQ plus 810HE = approximately 17.3 lb (7.8 kg)
IQ plus 810SS = approximately 24 lb (10.9 kg)

APPROVALS:

NTEP certified per H-44 at 10,000 Divisions, Class III/IIIL,
CC# 92-013 A2. Measurement Canada approved, AM-4840

WARRANTY:

One year limited warranty

EPCU Pressurized Unit:**SUPPLY PRESSURE RANGE:**

5-120 PSI max.

SUPPLY REQUIREMENTS:

Clean air or inert gas
1.5 oz @ 20 Micron filtration
0.25"/1" @ safe pressure

SYSTEM SUPPLY PORT:

1/4" tube fitting

EPCU CONDUIT PORT SIZE:

1/2" FPT

EPCU POWER REQUIREMENTS:

115 VAC 60 Hz

EPV-1 VENT:

120 PSI maximum to 5 PSI minimum

DIMENSIONS

The dimensions of equipment configurations vary with each application. Consult factory for individual dimensions.

CAUTION! The equipment contained within this Explosive Environment section requires greater attention to specification and installation guidelines. Improper specification, installation, or service of these products can result in loss of equipment or serious injury.