



MIRION
TECHNOLOGIES

PREMIUM ANALYSE

C ionix™ - EXX

Installed Tritium Monitor

Installed tritium monitor for workplace monitoring, decommissioning, stack release or other applications.



FEATURES

- **High-performance**
 - Self-checking
 - Continuous measurement
 - Response time below 3 minutes
 - Integrated light and sound alarms
 - Detection of tritium from 10 kBq/m³ (0.27 μ Ci/m³)
 - Possibility for automatic γ compensation
- **Simple**
 - Ready to install
 - User-friendly interface
 - Transmission of alarms possible by dry contacts, Modbus Ethernet...
- **Easy maintenance**
 - Minimal intervention
 - Quick change components
 - Simple γ source verification of system

DESCRIPTION

The monitor C ionix measures continuous activity of tritium and other β emitters in gases for all applications of workplace monitoring, decommissioning, stack release or other applications.

Wall mounted, the C ionix monitor contains a complete, compact tritium monitoring channel that can be combined to a compensation channel.

The C ionix completes our range of monitors from the portable B ionix to the mobile M ionix by offering an installed solution ready to be connected in your plant.

As an option, the monitors can automatically compensate the γ environment due to a compensation detector that can be installed.

TECHNICAL CHARACTERISTICS

The C ionx - EXX monitors are available in several versions:

The versions below have been developed for continuous measurement of tritium activity and other β emitters in gases:

Measurement characteristics in laboratory conditions (given for tritium)	C IONIX - EXM Tritium measurement with manual gamma compensation	C IONIX - EXC Tritium measurement with automatic gamma compensation
Measurement range	2 kBq/m ³ to 2 GBq/m ³ 54 nCi/m ³ to 54 mCi/m ³	2 kBq/m ³ to 2 GBq/m ³ 54 nCi/m ³ to 54 mCi/m ³
Limit of detection (2 σ) = decision threshold	10 kBq/m ³ (0.27 μ Ci/m ³)	15 kBq/m ³ (0.41 μ Ci/m ³)
Limit of detection (4 σ)	20 kBq/m ³ (0.54 μ Ci/m ³)	30 kBq/m ³ (0.81 μ Ci/m ³)
Precision	5% of the measurement $\pm$ 10 kBq/m ³ $\pm$ 0.27 μ Ci/m ³	5% of the measurement $\pm$ 15 kBq/m ³ $\pm$ 0.41 μ Ci/m ³
Maximum deviation	10 kBq/m ³ / year (0.27 μ Ci/m ³)	15 kBq/m ³ / year (0.41 μ Ci/m ³)
Noise (2 σ)	$\pm$ 10 kBq/m ³ ($\pm$ 0.27 μ Ci/m ³)	$\pm$ 15 kBq/m ³ ($\pm$ 0.41 μ Ci/m ³)
Response time	< 3 mins at 90% of step	
Ionization chamber(s)		
Volume	4 200 cc	2 x 4 200 cc
Nominal flow	15 L/m	
Ionization voltage	160 VDC	

Operating conditions:

- Operating temperature: +0°C to +40°C (+32°F to 104°F)
- Influence of temperature: 0.3% /°C for a variation of the ambient temperature < 3°C / hour
- Humidity: 5 to 95% rel.
- Influence of humidity: $\pm$ 1 % of the measurement from 10 to 90% of relative humidity
- Influence of atmospheric pressure: 0.1 %/mbar, hence $\pm$ 5 % of the measurement from 930 to 1030 mbar
- Protection index: IP 54

COMMON CHARACTERISTICS

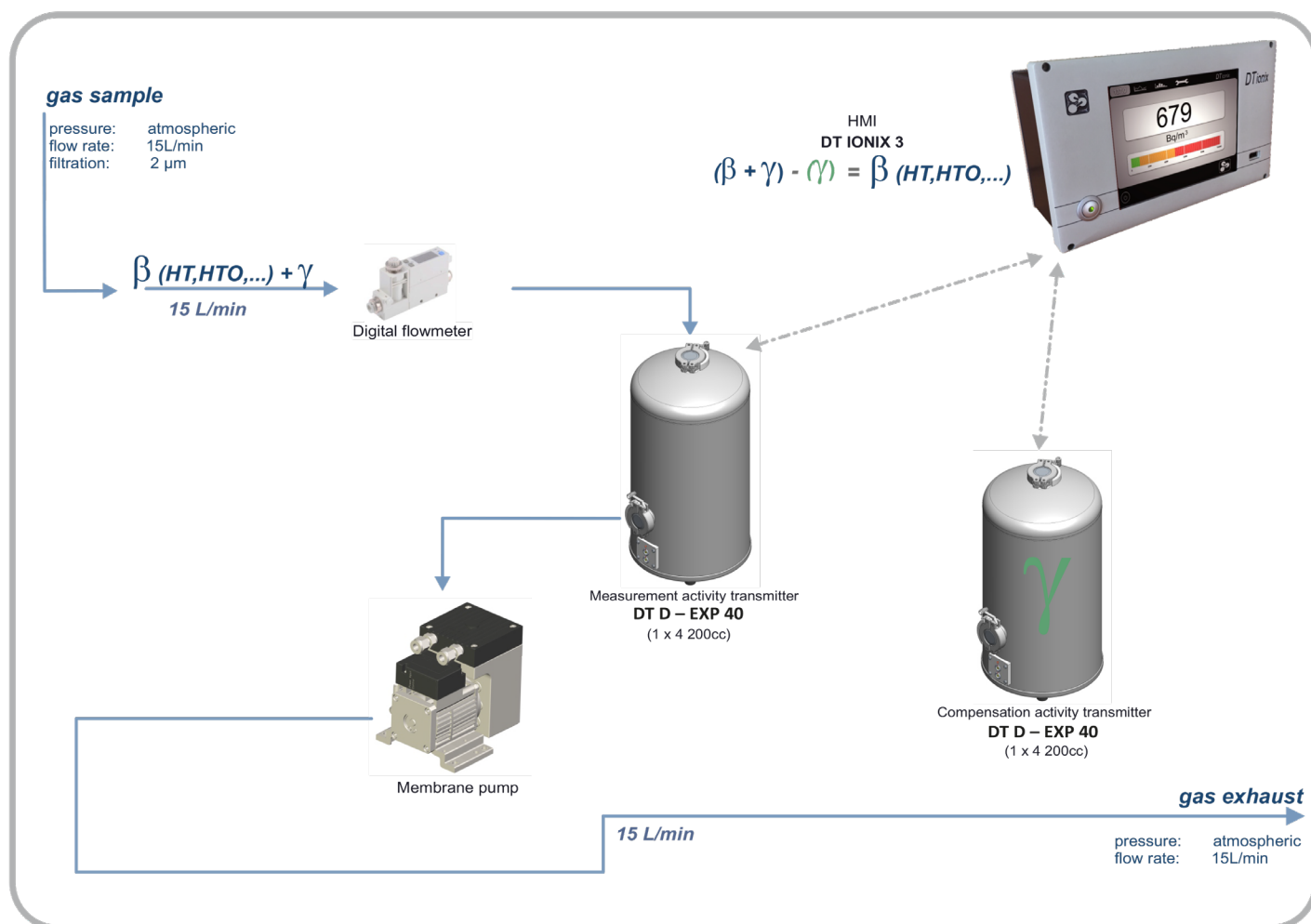
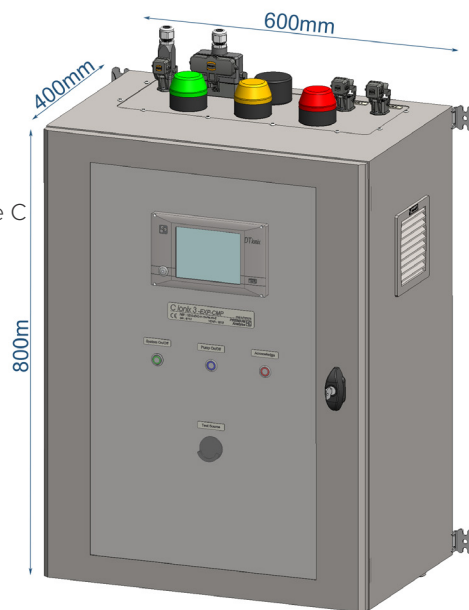
Each unit integrates a DT ionx 3 digital touch interface allowing local viewing of data through an intuitive menu:

- 4 customizable alarm thresholds
- Digital display of volumetric activity
- Archiving of 32 days of measurements
- Data extraction and system update via USB stick
- Adjustment and monitoring of the flow rate with low flow detection possible
- Graphical plotting of measurements and alarm values from 8 minutes to 8 days
- Choice of volumetric activity among 15 units, with 4 customizable ones (Bq/m³, RCA, LPCA, Sv/m³...)
- Light and sound signals when pre-alarm (orange) and alarm (red) thresholds are exceeded, as well as default operation



POSSIBLE CONFIGURATIONS

- Overall dimensions (with lights): W 600 x H 800 x d 400 mm
- Weight (max.): 80 kg (79 lb)
- Power supply, max. power and electrical protection:
 - Option "2": 24 VDC , 120W, 6A fuse
 - Option "V": 85–264 VAC, 50/60 Hz, 120W differential circuit breaker 6A curve C
- Possible options:
 - Remote beacon connection
 - High leak proof (for BMM version)
 - Wall mounting on quick mounting plate
 - Measurement transmission via Modbus Ethernet (x2)
 - Gas I.O via self-sealing STAUBLI or Swagelok fittings
 - Process output with dry contact outputs, 4/20mA outputs...
 - Light and sound signals for alarms and good operation default



Fluid schematic for a C IONIX 3 - EXC

UNIT CONFIGURATION AND PART NUMBERS

	Monitor configuration & options	
Measurement	Manual gamma compensation	C IONIX - EXM - 0 - 00 - 00 - FA - F
	Automatic gamma compensation	C IONIX - EXC - 0 - 00 - 00 - FA - F
Power distribution	24V power supply	C IONIX - EXX - 2 - XX - XX - FA - F
	AC power supply	C IONIX - EXX - V - XX - XX - FA - F
Alarms	Without light and sound	C IONIX - EXX - X - 0X - XX - FA - F
	Local alarms (G / O / R + sound)	C IONIX - EXX - X - YX - XX - FA - F
	Remote beacon connector	C IONIX - EXX - X - XB - XX - FA - F
Connections	Process outputs (dry-contacts, 4-20mA, flow input)	C IONIX - EXX - X - XX - PX - FA - F
	Modbus TCP-IP	C IONIX - EXX - X - XX - XM - FA - F
Label	English	C IONIX - EXX - X - XX - XX - FA - E
	French	C IONIX - EXX - X - XX - XX - FA - F
Reference example	C ionix monitor full option with automatic gamma compensation	C IONIX - EXC - V - YB - PM - FA - F

Accessories	
2µ anti-dust filter + Staubli	ACC F2T S
2µ anti-dust filter + Silencer	ACC F2T
Installed alarm beacon	CX3 ACC BAL F
Gas connector with silencer	ACC ARG SIL
Gas connector for 8 mm hose	ACC ARG S08
Mobile support 1 C ionix - EXX	CEX3 ACC CHM 01

Consumables	
Maintenance kit for pump (*1/2)	SP KIT N838
Spare pump (*1/2)	CEX3 SP PPE
DT ionix axial fan (x1*)	SP 412F
DT ionix axial fan mounted on support (x1*)	SP 412F P
Cabinet fan (x1*)	SP 4314
IP55 filter (*2)	SP 60715 187
HEPA filter (*1)	SP CFL THE
2µ filter (*1)	SP 90F0002
O-ring (*1)	SP 90F0040
Flat seal (*1)	SP 90F0048

* quantity needed for annual maintenance of monitor



C IONIX 3 - EXC - V - YB - PM - FA - F

CONTACT US

Mirion Technologies (Premium Analyse)
Phone: +33 (0)3 87 51 31 75
Email: contact@premium-analyse.fr

**PREMIUM
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