

## Easidew PRO XP

### Explosion Proof Moisture Transmitter

The Easidew PRO XP transmitter is designed to reliably and accurately measure dew point or moisture content in a wide variety of gas or liquid process applications. The robust mechanical design minimizes installation time and provides a robust and reliable transmitter for all global explosion and flameproof applications. Available with the service exchange program which reduces the cost of maintenance.



#### Highlights

- Measurement ranges -110 up to +20 °Cdp (-166...68 °Fdp)
- Global explosion / flameproof certification
- Accuracy  $\pm 1$  °Cdp ( $\pm 1.8$  °Fdp)
- 2-wire 4...20 mA output
- Traceable 13-point calibration certificate
- 450 bar (6527 psi) pressure rating
- Low cost of ownership and easy maintenance with sensor exchange program
- 3/4" UNF industry standard process connection
- EN 10204 3.1 material certification
- Moisture in gases and liquids
- Integral display meter
- Oxygen Service Cleaned

#### Applications

- Natural gas processing / transmission
- Polymer production
- Biomethane gas production
- Hydrogen coolants
- LNG & LPG production
- Inert & bulk gases
- CNG production
- Hydrocarbon refinery processing
- Heat treating furnaces
- Catalyst protection

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## Dew-Point Transmitters



## Easidew PRO XP

## The Global Explosion Proof Transmitter

OEM system integrators and process refineries need to have one rugged transmitter in stock, which covers all their explosion-proof system needs, irrespective of worldwide location.

The Easidew PRO XP moisture transmitter is ATEX, cQPSus, IECEx, UKCA and GOST globally certified within a single design for use in any North American, European or Asian zone, minimizing stock cost.

The transmitter has a wide dew-point measurement range of -110 to +20 °C (-166 to +68 °Fdp) dew point with industry-standard process and electrical connections.

The Easidew PRO XP incorporates the latest Michell ceramic metal-oxide moisture technology, providing stable and reliable measurements for all new and replacement moisture applications.

The unit can also be supplied with an integral 4-digit LED display, displaying the configured moisture output signal.

## Ease of Installation

Our in-house design team have developed the product mechanics to ensure the unit can be quickly and economically installed.

- Electrical industry-standard process housing with dual conduit entry
- US Industry Standard 3/4" UNF Viton® O-ring process connection
- On-site re-ranging and diagnostic communications tool
- 316 stainless steel transmitter sample block
- Transmitter mounting bracket
- 316 stainless steel housing for offshore applications (ATEX, IECEx, UKCA & cQPSus approved)
- 316 Stainless Steel Tag

## Service Exchange/Recalibration Program

Michell offers 2 services for customers who want minimum downtime and sensor traceability, while maintaining the reliability of their system:

**Sensor Exchange** Customers place an order for a guaranteed, reconditioned sensor. When this arrives, they exchange it for the installed sensor which is returned to Michell, resulting in zero process downtime.

**Recalibration** Customers return their installed sensor to Michell, where they are inspected, checked and re-calibrated before being returned. This provides on-going sensor traceability for the process.

## Global Certifications

The Easidew PRO XP uniquely has worldwide explosion and flameproof certifications to ensure a single unit has global acceptability.

- Explosion-proof approval – cQPSus (US and Canada)

- Flameproof approval – ATEX/UKCA
- Flameproof approval – IECEx
- Flameproof approval – TR CU Ex

## Safety and Integrity

The mechanical design considers the health and safety requirements of the end user offering an ultra-high process pressure barrier, along with meticulous levels of product traceability and quality.

- High-performance 450 bar (6527 psi) process media barrier
- No process media entry into the process housing
- Gas wetted parts BS EN 10204 3.1 material certified
- 13-point calibration certificate
- ISO 9001 quality system
- Electronics Conformal Coating
- Optional cleaning for enriched oxygen service

## Measurement Performance

The transmitter uses Michell's market-leading ceramic metal-oxide moisture technology coupled with the latest-generation sophisticated microcontroller electronics to provide accurate and stable measurement across the Easidew PRO XP product life.

- Accuracy  $\pm 1$  °Cdp ( $\pm 1.8$  °Fdp)
- Fast response to moisture changes

## Flexibility of Ownership

The Easidew PRO XP has a secondary RS485 communication system, which gives customers the opportunity to re-range and re-scale a unit for a variety of gas and non-polar liquid moisture measurements.

- Re-ranging 4...20 mA within the -110...+20 °Cdp (-166...+68 °Fdp) range
- Moisture scaling – dew point, ppm<sub>w</sub>, ppm<sub>w</sub>

## Speed of Supply

The transmitter is manufactured within Michell's world-leading high-volume moisture transmitter manufacturing centre in the United Kingdom, which ensures reliability and repeatability of delivery and field supported by a network of Michell's global service centres.

- Calibration manufacturing system is traceable to NPL and NIST standards

## Integral Display

The Easidew PRO XP EX2 has an integral display meter providing local indication of the transmitted analog output in the configured moisture scale.

## System Customization

If your application requires a customized solution, we have a design and manufacturing capability to cover your requirements.



Dew-Point Transmitters

Technical Specifications

Performance Specifications		Easidew PRO XP for Gases	Easidew PRO XP LQ for Liquids
Measurement Range	-110...+20 °C (-166...+68 °F) dew point; -100...+20 °C (-148...+68 °F) dew point		0...1000 ppm <sub>w</sub> capability – factory configured to customer-required range and application
Accuracy	±1 °C (±1.8 °F) dew point (+20...-60 °C / +68...-76 °F); ±2 °C (±3.6 °F) dew point (-60...-110 °C / -76...-166 °F)		
Response Time	5 mins to T95 (dry to wet)		
Repeatability	0.5 °C (32.9 °F) dew point		
Calibration	Traceable 13-point calibration and certificate		
Electrical Specifications			
Output Signal	4...20 mA (2-wire connection, current source); User configurable over range		
Output	Dew point or moisture content		Moisture content
Analog Output Scaled Range	<b>Dew point:</b> -110...+20 °C (-166...+68 °F); <b>Moisture content in gas:</b> 0–3000 ppm <sub>v</sub> ; <b>Non-standard:</b> mg/m <sup>3</sup> , lbs/MMSCF natural gas		<b>Moisture content in liquid:</b> 0...1000 ppm <sub>w</sub> capability – factory configured to customer-required range and application
Supply Voltage	14...28 V DC		
Load Resistance	Max 250 Ω @ 14 V (500 Ω @ 24 V)		
Current Consumption	23 mA max, depending on output signal		
Saturation Constants (for moisture in liquids measurements only)	6-point look-up table for saturation constants up to 1000 ppm <sub>w</sub> over the temperature range 0...+50 °C (+32...+122 °F); saturation constants for 8 common liquids can be programmed into the Easidew PRO XP LQ via the application software; alternatively the user can program saturation constants manually		
Compliances	CE & UKCA		
Operating Specifications			
Operating Temperature	-40...+60 °C (-40...140 °F)		
Compensated Temperature Range	-20...+50 °C (-4...+122 °F) NOTE: The transmitter accuracy statement is only valid for the temperature range -20/+50 °C (-4/+122 °F)		
Storage Temperature	-40...+60 °C (-40...+140 °F)		
Operating Pressure	45 MPa (450 barg/6527 psig) maximum		
Flow Rate	1...5 Nl/min mounted in standard sampling block; 0...10 m/sec direct insertion	0.1...0.3L/min through Easidew sample block 0.1...1m/s direct insertion	
Mechanical Specifications			
Ingress Protection	IP66 in accordance with standard BS EN 60529:1992; NEMA 4 protection in accordance with standard NEMA 250–2003		
Explosion and Flameproof Area Certificates *	ATEX/UKCA:	<b>Standard: Aluminium</b> II 2 GD Ex db ia IIC T6 Gb EX tb IIIC T80°C Db IP66 Tamb -20 °C...+70 °C	<b>Optional: 316 stainless steel</b> II 2 GD Ex db ia IIC T6 Gb EX tb IIIC T80 °C Db IP66 Tamb -20 °C...+70 °C
	IECEX:	Ex db ia IIC T6 Gb Ex tb IIIC T80 °C Db IP66 Tamb -20 °C...+70 °C	Ex db ia IIC T6 Gb Ex tb IIIC T80 °C Db IP66 Tamb -20 °C...+70 °C
	cQPSus:	Class I, Division 1, Groups ABCD T6 Class II & III, Division 1, Groups EFG Class I, Zone 1, AEx/Ex db ia IIC T6 Gb Zone 21, AEx/Ex tb IIIC T6 Db Tamb -20 °C...+70 °C	Class I, Division 1, Groups ABCD T6 Class II & III, Division 1, Groups EFG Tamb -20 °C...+70 °C
Pattern Approval	Kazakhstan (GOST-K)		
Additional Approvals	TRCU 012 (EAC), Japan Ex, PESO (India), NEPSI (China), KCS (Korea)		
Canadian Pressure Vessel Cert	C.R.N. - all Canadian provinces		
Oxygen Service	<b>Optional:</b> Cleaned for enriched oxygen		
Housing Material	<b>Standard:</b> Aluminium (copper free), epoxy and polyurethane powder coated, blue RAL 5009 <b>Optional:</b> 316 stainless steel (supplied with BS EN 10204 3.1 material certificate if option F2 requested)		
Housing Moisture Protection	<b>Optional:</b> Electronics Conformal Coating		
Filter (sensor protection)	<b>Standard:</b> Stainless steel sintered guard (for protection against fine particulate >80µm) <b>Optional:</b> HDPE guard (for protection against fine particulate >10µm)		
Process Connection and Material	3/4" – 16 UNF with recessed Viton® O-ring; 316 stainless steel; Optional O-ring: Kalrez **		
Weight	<b>Aluminium:</b> 1.6kg (3lb 8oz); <b>316 stainless steel:</b> 2.4kg (5lb 5oz)		
Electrical Connections	Dual 3/4" NPT gland		
Programmable Display Meter Range	<b>Optional:</b> -1999...+9999		
Programmable Display Decimal Point	<b>Optional:</b> 0...3 decimal places		
Display Meter Overload Limits	<b>Optional:</b> 3.6 mA and 20.4 mA		
Programmable Display Meter Scales	<b>Optional:</b> °C, °F, %, No Scale		
Stainless Steel Tags	<b>Optional:</b> 316 stainless steel tags (70 x 25mm / 2.76 x 1in)		
Diagnostic Conditions (factory programmed)	<b>Conditions:</b> Sensor fault, Under-range dew point, Over-range dew point		<b>Output:</b> 23 mA, 4 mA, 20 mA

\* The end user has a responsibility to ensure that when installed in the Hazardous Area, the system is compliant with relevant local and international installation Standards for the use of equipment in explosive atmospheres.

\*\* Kalrez O-ring is non standard and available at an additional cost detailed on the price list

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## EASIDEW PRO XP - EXPLOSION PROOF MOISTURE TRANSMITTER

For moisture measurements in gases and liquids & optional oxygen service  
Global explosion proof and flameproof certifications.

Product Parent Code: EA-XP-TX Easidew PRO XP for gases		
Product Ordering Code {Feature A}+{Feature B}+{Feature C}...+{Feature X}		
Feature	Item	Description
Feature {A}	<b>Base Model</b>	
	EA-XP-TX	Easidew PRO XP for gases
Feature {B}	<b>Display</b>	
	EX1	No Display
	EX2	With Display
Feature {C}	<b>Protection</b>	
	C1	SS Sintered Guard (for protection against fine particulates >80µm)
	C2	Standard HDPE guard (for protection against fine particulates >10µm)
Feature {D}	<b>Sampling</b>	
	D1	No Sample Block
	D2	SS Sample Block with 3/4"UNF sensor connection
Feature {E}	<b>Bracket</b>	
	E1	No Bracket
	E2	Pipe Mounting Bracket
Feature {F}	<b>Certificates</b>	
	* F1	No Material Certificates
	* F2	BS EN 10204 – type 3.1 Material Certificates
	* F3	BS EN 10204 – type 3.1 Material Certificates + NACE conformity
Feature {G}	<b>Housing</b>	
	G1	Aluminium (ATEX/IECEX/UKCA, cQPSus Class & Div, Class Zones)
	G2	316 Stainless Steel (ATEX/IECEX/UKCA, cQPSus Class & Div ONLY)
Feature {H}	<b>Range</b>	
	H1	-110 to +20°C (-166 to +68°F) dp range
	H2	-100 to +20°C (-148 to +68°F) dp range
	(v/wx-yz)	Non-standard measurement range: v = zero, w = full scale, x = unit, y = pressure, z = pressure unit
		<b>Units (x)</b> C = °C dew point F = °F dew point P = ppmV (ideal)  Natural Gas LA = lb/MMscf IGT MA = mg/m <sup>3</sup> IGT NA = ppmV IGT LB = lb/MMscf ISO MB = mg/m <sup>3</sup> ISO NB = ppmV ISO
		<b>Pressure units (z)</b> PG = psig PA = psia BG = barg BA = bara
		<b>Note:</b> Pressure (y) is required for ppmV and all Natural Gas units. If omitted from the order code, atmospheric pressure (0 barg) will be assumed. <b>Full names of natural gas standards:</b> IGT = IGT Research Bulletin #8 ISO = ISO 18453 <b>Example:</b> 0/100NA-50BG = 0-100 ppmV IGT @ 50 bar gauge
Feature {J}	<b>Oxygen - cleaned for oxygen service (only if required)</b>	
	J1	Cleaned for oxygen service (only available with C1)
	J2	Kalrez o-ring for aromatic service
Feature {X}	<b>Conforming Coating - Optional</b>	
	CC	Conformal Coating
* On certain labor intensive services, no discount can be offered. These items are always offered at list price.		

### Ordering Example

EA-XP-TX + EX1+ C1+ D2+ E1+ F1+ G1+ H1 + J1	Easidew PRO XP with no display, SS sintered guard, sample block, no bracket, no material certificates, aluminium housing, -110/+20°C DP, oxygen cleaned
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## Humidity and Dew-Point Instruments

Product Parent Code: EA-XP-LQ-TX Easidew PRO XP for liquids		
Product Ordering Code {Feature A}+{Feature B}+{Feature C}...+{Feature X}		
Feature	Item	Description
Feature {A}	<b>Base Model</b>	
	EA-XP-LQ-TX	Easidew PRO XP for liquids
Feature {B}	<b>Display</b>	
	EX1	No Display
	EX2	With Display
Feature {C}	<b>Protection</b>	
	C1	SS Sintered Guard (for protection against fine particulates >80µm)
	C2	Standard HDPE guard (for protection against fine particulates >10µm)
Feature {D}	<b>Sampling</b>	
	D1	No Sample Block
	D2	SS Sample Block with 3/4"UNF sensor connection
Feature {E}	<b>Bracket</b>	
	E1	No Bracket
	E2	Pipe Mounting Bracket
Feature {F}	<b>Certificates</b>	
	* F1	No Material Certificates
	* F2	BS EN 10204 – type 3.1 Material Certificates
	* F3	BS EN 10204 – type 3.1 Material Certificates + NACE conformity
Feature {G}	<b>Housing</b>	
	G1	Aluminium (ATEX/IECEX/UKCA, cQPSus Class & Div, Class Zones)
	G2	316 Stainless Steel (ATEX/IECEX/UKCA, cQPSus Class & Div ONLY)
Feature {H}	<b>Range</b>	
	(y/z)	Programmed user-supplied values; (y = ppmW zero value / z = ppmW full scale value)
Feature {I}	<b>Liquids</b>	
	I01	Methane
	I02	Propane
	I03	Ethane
	I04	Propylene
	I05	Ethylene
	I06	Butane
	I07	Isobutane
	I08	Pentane
	I09	Toluene
	I10	Cyclopentane
Feature {J}	<b>Process Connection O Rings</b>	
	J1	Viton o-ring
	J2	Kalrez o-ring for aromatic service
	Note: Option J1 supplied as standard unless J2 specifically request	
Feature {X}	<b>Conforming Coating - Optional</b>	
	CC	Conformal Coating
* On certain labor intensive services, no discount can be offered. These items are always offered at list price.		

### Ordering Example

EA-XP-LQ-TX + EX1+ C1+ D2+ E2+ F1+ G1+ H1+ I04	Easidew PRO XP (LQ) with no display, SS sintered guard, sample block, mounting bracket, no material certificates, aluminium housing, 0 to 300 ppmW in propylene
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## EASIDEW PRO XP ACCESSORIES AND SPARE PARTS

Order Codes	Product / Description
<b>Spares</b>	
XP-BRK	Mounting bracket
SSG	SS sintered guard replacement (for protection against fine particulates <80µm)
SSF-PF-10PK	Pack of 10 particulate filter cartridges (for protection against fine particulates < 0.1µm (for Sampler Kits))
OR-34-PK5	3/4" UNF Viton O-ring for process connection (pack of 5)
OR-34-KAL-PK1	Kalrez O-Ring for 3/4" UNF Process Connection (pack of 1)
XP-DIS-RK	Easidew PRO XP Replacement Display Module Kit
<b>Sampling Accessories</b>	
SB-34	3/4"UNF SS sample block (with 1/8" NPT inlet & outlet ports)
SB-34-CL	3/4" UNF SS sample block (with 1/8" NPT inlet & outlet ports) cleaning for oxygen service
* SB34-MC	Material certification for 3/4" UNF SB-34 Sample Block
EA-XP-TX-TAG	Standard 316 Stainless Steel Tag
EA-XP-LQ-TX-TAG	Standard 316 Stainless Steel Tag
* On certain labor intensive services, no discount can be offered. These items are always offered at list price.	

## EASIDEW PRO XP SERVICES

Product Parent Code: EA-XP-TX-X Easidew Service Exchange PRO XP for gases		
Product Ordering Code {Feature A}+{Feature B}+{Feature C}...+{Feature X}		
Feature	Item	Description
Feature {A}	<b>Base Model</b>	
	EA-XP-TX-X	Service Exchange, Easidew PRO XP for gases
Feature {B}	<b>Display</b>	
	EX1	No Display
	EX2	With Display
Feature {C}	<b>Protection</b>	
	C1	SS Sintered Guard (for protection against fine particulates >80µm)
	C2	Standard HDPE guard (for protection against fine particulates >10µm)
Feature {D}	<b>Sampling</b>	
	D1	No Sample Block
	D2	SS Sample Block with 3/4"UNF sensor connection
Feature {E}	<b>Bracket</b>	
	E1	No Bracket
	E2	Pipe Mounting Bracket
Feature {F}	<b>Certificates</b>	
	* F1	No Material Certificates
	* F2	BS EN 10204 – type 3.1 Material Certificates
	* F3	BS EN 10204 – type 3.1 Material Certificates + NACE conformity
Feature {G}	<b>Housing</b>	
	G1	Aluminium (ATEX/IECEX/UKCA, cQPSus Class & Div, Class Zones)
	G2	316 Stainless Steel (ATEX/IECEX/UKCA, cQPSus Class & Div ONLY)
Feature {H}	<b>Range</b>	
	H1	-110 to +20°C (-166 to +68°F) dp range
	H2	-100 to +20°C (-148 to +68°F) dp range
		Non-standard measurement range: v = zero, w = full scale, x = unit, y = pressure, z = pressure unit
	(v/wx-yz)	<div> <b>Units (x)</b>            C = °C dew point            F = °F dew point            P = ppmV (ideal)             Natural Gas            LA = lb/MMscf IGT            NA = mg/m3 IGT            NA = ppmV IGT            LB = lb/MMscf ISO            MB = mg/m3 ISO            NB = ppmV ISO         </div> <div> <b>Pressure units (z)</b>            PG = psig            PA = psia            BG = barg            BA = bara         </div>
		<b>Note:</b> Pressure (y) is required for ppmV and all Natural Gas units. If omitted from the order code, atmospheric pressure (0 barg) will be assumed. <b>Full names of natural gas standards:</b> IGT = IGT Research Bulletin #8 ISO = ISO 18453 <b>Example:</b> 0/100NA-50BG = 0-100 ppmV IGT @ 50 bar gauge
Feature {J}	<b>Oxygen - cleaned for oxygen service (only if required)</b>	
	J1	Cleaned for oxygen service (only available with C1)
Feature {X}	<b>Conforming Coating - Optional</b>	
	CC	Conformal Coating
* On certain labor intensive services, no discount can be offered. These items are always offered at list price.		

## Humidity and Dew-Point Instruments

<b>Product Parent Code: XP-LQ-X</b> <b>Easidew Service Exchange PRO XP for liquids</b>		
<b>Product Ordering Code {Feature A}+{Feature B}+{Feature C}...+{Feature X}</b>		
Feature	Item	Description
<b>Feature {A}</b>	<b>Base Model</b>	
	XP-LQ-X	Service Exchange, Easidew PRO XP for liquids
<b>Feature {B}</b>	<b>Display</b>	
	EX1	No Display
	EX2	With Display
<b>Feature {C}</b>	<b>Protection</b>	
	C1	SS Sintered Guard (for protection against fine particulates >80µm)
	C2	Standard HDPE guard (for protection against fine particulates >10µm)
<b>Feature {D}</b>	<b>Sampling</b>	
	D1	No Sample Block
	D2	SS Sample Block with 3/4"UNF sensor connection
<b>Feature {E}</b>	<b>Bracket</b>	
	E1	No Bracket
	E2	Pipe Mounting Bracket
<b>Feature {F}</b>	<b>Certificates</b>	
	* F1	No Material Certificates
	* F2	BS EN 10204 – type 3.1 Material Certificates
	* F3	BS EN 10204 – type 3.1 Material Certificates + NACE conformity
<b>Feature {G}</b>	<b>Housing</b>	
	G1	Aluminium (ATEX/IECEX/UKCA, cQPSus Class & Div, Class Zones)
	G2	316 Stainless Steel (ATEX/IECEX/UKCA, cQPSus Class & Div ONLY)
<b>Feature {H}</b>	<b>Range</b>	
	(y/z)	Programmed user-supplied values; (y = ppmW zero value / z = ppmW full scale value)
<b>Feature {I}</b>	<b>Liquids</b>	
	I01	Methane
	I02	Propane
	I03	Ethane
	I04	Propylene
	I05	Ethylene
	I06	Butane
	I07	Isobutane
	I08	Pentane
	I09	Toluene
	I10	Cyclopentane
<b>Feature {J}</b>	<b>Process Connection O Rings</b>	
	J1	Viton o-ring
	J2	Kalrez o-ring for aromatic service
	Note: Option J1 supplied as standard unless J2 specifically request	
<b>Feature {X}</b>	<b>Conforming Coating - Optional</b>	
	CC	Conformal Coating
<b>* On certain labor intensive services, no discount can be offered. These items are always offered at list price.</b>		

### Ordering Example

<b>XP-LQ-X + EX1+ C1+ D2+ E2+ F1+ G1+ H1+ I04</b>	<b>Service Exchange, Easidew PRO XP (LQ) with no display, SS sintered guard, sample block, mounting bracket, no material certificates, aluminium housing, 0 to 300 ppmW in propylene</b>
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## EASIDEW PRO XP CALIBRATION SERVICES

Order Codes	Product / Description
XP-Recal	Recalibration of Easidew PRO XP (Supplied with traceable calibration certificate)
XP-LQ-Recal	Recalibration of Easidew PRO XP LQ (Supplied with traceable calibration certificate)
READINGS-DPS	Readings before calibration (calibration data recorded before adjustment) - Dew-Point Sensors

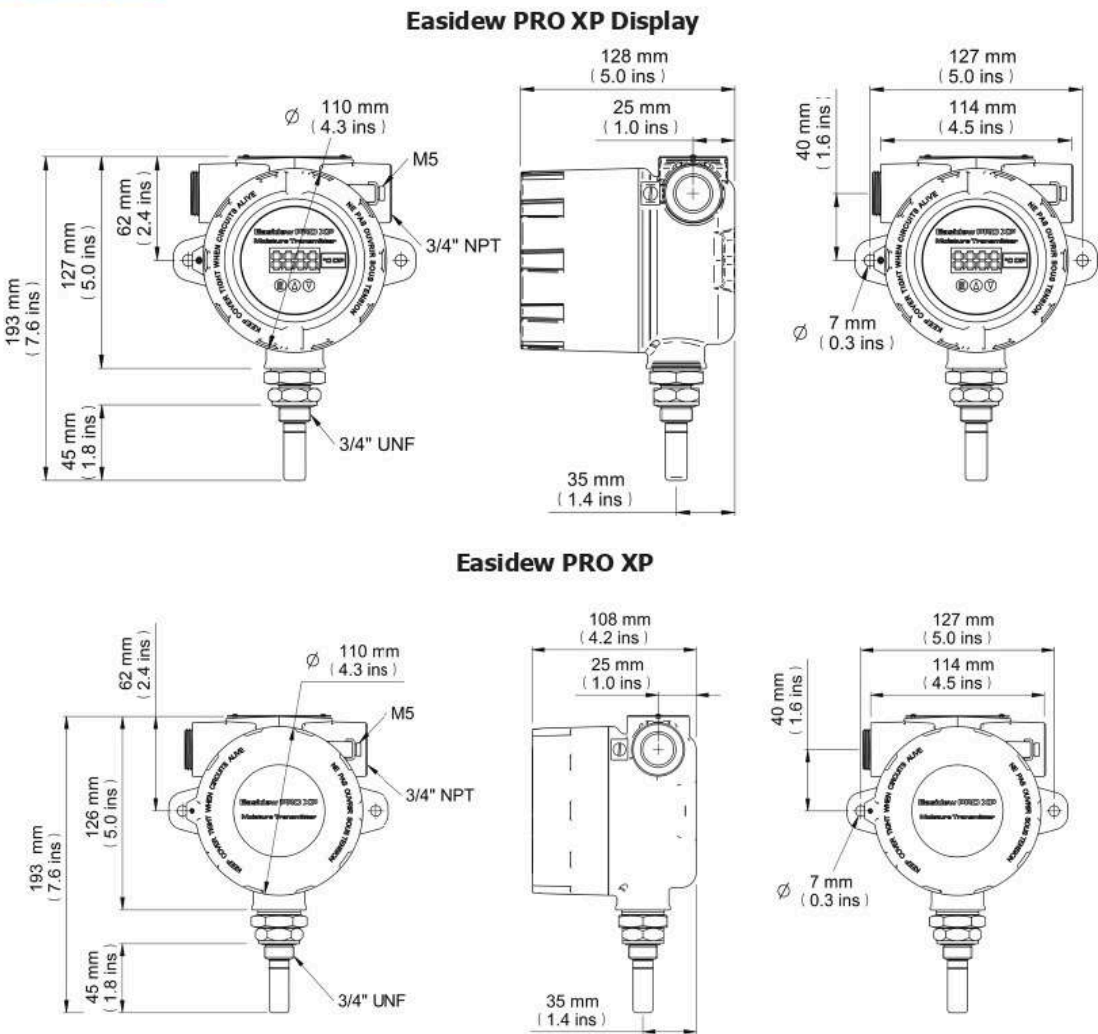
**Please note: Michell Instruments adopts a continuous development program which sometimes necessitates specification changes without notice. Please contact us for latest version. Issue No: Easidew PRO XP\_97459\_V11\_UK\_0223**



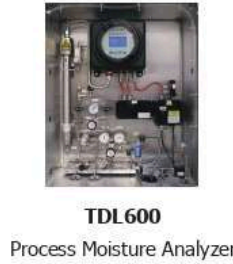
Dew-Point Transmitters

Easidew PRO XP

Product Dimensions



Related Process Products



Michell Instruments adopts a continuous development programme which sometimes necessitates specification changes without notice.  
Issue no: Easidew PRO XP\_97459\_V6.7\_EN\_0623