

Signet 275X Series Wet-Tap DryLoc® pH and ORP Electrodes

Signet 276X Series Differential DryLoc® pH and ORP Electrodes

Signet 277X Series Threaded DryLoc® pH and ORP Electrodes



3-2764.090

Rev B 11/09 English

WARNING!



SAFETY INSTRUCTIONS

- Do not alter product construction.
- Depressurize and vent system prior to installation or removal.
- Confirm chemical compatibility before use.
- Do not exceed maximum temperature/pressure specifications.
- Wear safety goggles or faceshield during installation/service.
- When using chemicals or solvents use appropriate body and respiratory protection.



Description

The 275X Wet-Tap, 276X and 277X electrodes are all-purpose sensors ideal for a wide range of universal applications. They feature a unique foul-proof DryLoc® connector with gold-plated contacts, designed specifically for use with the Signet 2750 and 2760 Sensor Electronics and Preamplifiers. These dependable and highly responsive electrodes feature a large reference chamber volume and intelligent positioning of internal elements that combine to extend the service life. The electrodes are offered with either flat or bulb sensing elements. The flat versions allow sediment and particles to sweep past the measurement surface, minimizing the risks of abrasion, breakage and coating. The bulb versions can be used for general purpose applications and are also offered with a glass or plastic body for use with the 3719 Wet-Tap assembly. The choice of a PT1000 or 3 KΩ temperature sensor allows compatibility into all Signet pH/ORP instruments.

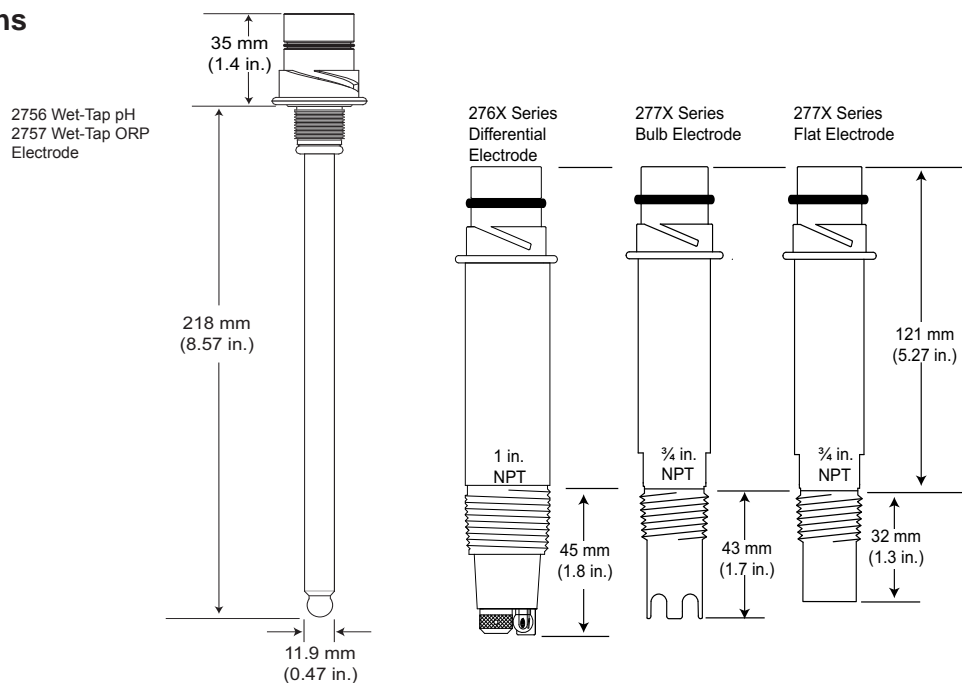
Signet 276X Series Differential pH and ORP electrodes feature a Ryton® body and PTFE reference junction to resist fouling, clogging and chemical attack under harsh chemical applications.


Differential electrodes use a 3-electrode technique, measuring the pH and reference electrodes against a ground electrode for a more stable output signal. The solution ground eliminates noisy measurements by draining electrical current away from the reference electrode. The reference electrode is housed in a glass half-cell embedded in the reference chamber to protect it from poisoning or contamination. The electrolyte chamber is refillable and the salt bridge is field replaceable.

Signet 277X Series pH and ORP electrodes are dependable and highly responsive electrodes featuring a PTFE double reference junction, a KNO₃ salt bridge and a large reference chamber that combine to extend service-life.


Both the 276X Series and the 277X Series feature a unique foul-proof DryLoc® connector with gold-plated contacts designed specifically for use with the Signet 2750 and 2760 preamplifiers, sensor electronics, and connectors. They are available with either flat or bulb style sensing elements. The bulb versions can be used for general-purpose applications. The flat versions allow sediment and particles to sweep past the measurement surface, minimizing risks of abrasion, breakage and coating. All versions can be installed at any angle. The temperature device is positioned at the tip of the measurement surface, resulting in a temperature response of less than 1 minute. Temperature devices available include 3 KΩ, 300 Ω, or PT1000 RTD.

Dimensions



Specifications: 276X Series Differential Electrodes 277X Series Threaded Electrodes	
General	
Compatibility	Signet 2750 and 2760
Shipping Weight	0.25 kg (0.55 lbs.)
Operating Range	
276X Series	0 to 14 pH, ± 1500 mV ORP
277X Series	0 to 14 pH, ± 1500 mV ORP
Reference Electrolyte	
276X Series	Buffered KNO ₃ solution
277X Series	KCl/AgCl gel with KNO ₃ salt bridge
Reference Element	
276X Series	pH glass electrode
277X Series	Ag/AgCl
Temperature Sensor	
276X Series pH	3 K Ω , PT1000 RTD, or 300 Ω
277X Series pH	3 K Ω or PT1000 RTD
276X Series ORP	10 K Ω ID for Signet instruments; PT1000 RTD or 300 Ω options for use with other instruments
277X Series ORP	10 K Ω ID for Signet instruments
Temp response time	$\tau_{95\%} < 1$ min.
Wetted Materials	
Body	Ryton®
Reference junctions	PTFE
Sensing surface	Glass (pH), Platinum (ORP)
O-rings	FPM
Solution ground	Carbon graphite (276X series only)
Standards & Approvals	
CE Manufactured under ISO 9001 and ISO 14001  China RoHS (Go to www.gfsignet.com for details)	
Operating Temperature	
276X Series	0 °C to 95 °C (32 °F to 203 °F)
277X Series	0 °C to 85 °C (32 °F to 185 °F)
Storage Temperature	> 0 °C (32 °F)
Max Operating Pressure	6.89 bar (100 psi)

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Specifications: 275X Series Wet-Tap Electrodes	
General	
Compatibility	Signet 2750 and 2760
Shipping Weight	0.25 kg (0.55 lbs.)
Operating Range	0 to 14 pH, ± 2000 mV ORP
Reference Electrolyte	Solidified Acrylamide Gel
Wet-Tap electrolyte	3.5 M KCl
Reference Element	Ag/AgCl
pH Temp Sensor	PT-1000 or 3K Balco
ORP Identification	10 K Ω ID for Signet instruments
Temp response time, τ	
Wet-Tap	438 s
ORP response time	Application dependent
Efficiency	>97% @ 25 °C (77 °F)
Impedance (pH)	< 150 M Ω @ 25 °C
Sodium Ion Error	<0.05 pH in 0.1 M Na ⁺ ion at 12.8 pH
Wetted Materials	
Wet-Tap body	Glass or PAS (Poly Aryl Sulphone)
Wet-Tap Junctions	Porous PTFE
Sensing surface	Glass (pH), Platinum (ORP)
O-rings	FPM
Solution ground	Carbon graphite (276X series only)
Standards & Approvals	
CE Manufactured under ISO 9001 and ISO 14001  China RoHS (Go to www.gfsignet.com for details)	
Operating Temperature	
	0 °C to 85 °C (32 °F to 185 °F)
Storage Temperature	
	0 °C to 85 °C (32 °F to 185 °F)
Maximum Temperature and Pressure rating	
6.89 bar @ 0 °C to 65 °C (100 psi @ 32 °F to 149 °F)	
4.00 bar @ 65 °C to 85 °C (58 psi @ 150 °F to 185 °F)	

