

SENTEK **directION** ELECTRODES



Do you measure Ammonium, Chloride, Fluoride, Calcium or Nitrate in water?

Have you used conventional Ion selective electrodes?

If the answer to any of these questions is yes, then **directION** electrodes are just what you've been looking for!

Main features and benefits include:

- No reference electrode needed
- No filling solution
- Fully submersible and waterproof
- Virtually unbreakable
- Solid state sensors
- Colour coded caps for identification in the field
- Can be left dry for long periods
- Ideal for unskilled operatives
- Long lifetime

Product Description

directION electrodes are rugged solid state sensors with built in reference elements that do not require any filling solution or maintenance.

Fully Submersible

directION electrodes are waterproof and submersible. This gives the field operative the ability to cast the probe into the water from awkward sample points, bridges, banks and boats.

Cable length can be stipulated at the time of ordering. Maximum length is 10 metres. Standard products are fitted with 1 metre of cable terminated with a BNC connector.

Laboratory or field use

Though **directION** electrodes have a rugged and waterproof construction, there has been no compromise on technical specification (see table below). Standard Ion selective performance is

surpassed under both laboratory and field conditions.

What meter can I use?

directION electrodes can be used with any conventional laboratory or hand held pH meter with a millivolt display mode. Please stipulate the connector required on your order.

| ORDER NUMBER | directION ELECTRODE | CONCENTRATION RANGE (Mol/L) | LIMITS (ppm) | pH RANGE | TEMP RANGE (°C) | MAIN INTERFERENCES | ISAB |
|--------------|--|---|----------------|-----------|-----------------|---|--|
| 362-75 | Ammonium (NH ₄ ⁺) | 5 x 10 ⁻¹ - 5 x 10 ⁻⁵ | 9000 - 0.09 | 1 - 8.6 | 0 - 50 | K ⁺ , Na ⁺ | CH ₃ COOH |
| 368-75 | Barium (Ba ²⁺) | 10 ⁻¹ - 10 ⁻⁵ | 1.4 - 13,700 | 3 - 10 | 0 - 50 | Sr ²⁺ , K ⁺ , Na ⁺ | CuSO ₄ |
| 375-75 | Bromide (Br ⁻) | 10 ⁰ - 5 x 10 ⁻⁵ | 0.4 - 80,000 | 1 - 12 | 0 - 50 | I ⁻ , CN ⁻ , S ²⁻ | 5M KNO ₃ |
| 373-75 | Cadmium (Cd ²⁺) | 10 ⁻¹ - 1 x 10 ⁻⁵ | 0.1 - 11,200 | 3 - 7 | 0 - 50 | Hg ²⁺ , Ag ⁺ , Cu ²⁺ Pb ²⁺ , Fe ³⁺ | 5M KNO ₃ |
| 361-75 | Calcium (Ca ²⁺) | 10 ⁻¹ - 5 x 10 ⁻⁷ | 4,010 - 0.02 | 3.5 - 11 | 0 - 50 | Ba ²⁺ , Al ³⁺ , Sr ²⁺ | KCl |
| 369-75 | Carbonate (CO ₃ ²⁻) | 10 ⁻³ - 10 ⁻⁷ | 0.008 - 80 | 6.6 - 9.6 | 0 - 50 | SCN ⁻ , I ⁻ , NO ₃ ⁻ NO ₂ ⁻ , CH ₃ COO ⁻ | NaHCO ₂ |
| 364-75 | Chloride (Cl ⁻) | 10 ⁰ - 3 x 10 ⁻⁶ | 35,500 - 1 | 1 - 12 | 0 - 50 | I ⁻ , Br ⁻ , CN ⁻ , S ²⁻ | 5M KNO ₃ |
| 379-75 | Cupric (Cu ²⁺) | 10 ⁰ - 1 x 10 ⁻⁷ | 0.008 - 84,000 | 2 - 7 | 0 - 50 | Hg ²⁺ , Ag ⁺ , S ²⁻ Cl ⁻ , Br ⁻ | 5M KNO ₃ |
| 377-75 | Cyanide (Cn ⁻) | 10 ⁻² - 1 x 10 ⁻⁵ | 0.03 - 260 | 11 - 13 | 0 - 50 | I ⁻ , S ²⁻ | 10M NaOH |
| 365-75 | Fluoride (F) | 10 ⁻¹ - 1 x 10 ⁻⁸ | 1,900 - 0.02 | 4 - 8 | 0 - 50 | OH ⁻ | TISAB |
| 376-75 | Iodide (I ⁻) | 10 ⁰ - 5 x 10 ⁻⁷ | 0.06 - 127,000 | 2 - 12 | 0 - 50 | CN ⁻ , S ²⁻ | 5M KNO ₃ |
| 372-75 | Lead (Pb ²⁺) | 10 ⁻¹ - 1 x 10 ⁻⁵ | 0.2 - 20,800 | 3 - 7 | 0 - 50 | S ²⁻ , Hg ²⁺ , Ag ⁺ Cu ²⁺ , Fe ³⁺ , Cd ²⁺ | 5M NaClO ₄ |
| 374-75 | Mercury (Hg ²⁺) | 10 ⁰ - 1 x 10 ⁻⁶ | 0.2 - 201,000 | 0 - 2 | 0 - 50 | Ag ⁺ , S ²⁻ | 5M NaClO ₄ |
| 360-75 | Nitrate (NO ₃ ⁻) | 10 ⁰ - 7 x 10 ⁻⁶ | 62,000 - 0.4 | 2 - 11 | 0 - 50 | Cl ⁻ , NO ₂ ⁻ | 4M (NH ₄) ₂ SO ₄ |
| 367-75 | Perchlorate (ClO ₄ ⁻) | 10 ⁰ - 2 x 10 ⁻¹ | 0.2 - 99,500 | 0 - 11 | 0 - 50 | I ⁻ , SCN ⁻ , NO ₃ ⁻ | CH ₃ COONa |
| 366-75 | Potassium (K ⁺) | 10 ⁰ - 10 ⁻⁵ | 0.04 - 39,000 | 1 - 9 | 0 - 50 | Cs ⁺ , NH ₄ ⁺ | 4M KCl |
| 371-75 | Silver (Ag ⁺) | 10 ⁰ - 1 x 10 ⁻⁷ | 0.01 - 107,900 | 1 - 9 | 0 - 50 | S ²⁻ , Hg ²⁺ | 5M KNO ₃ |
| 315-77 | Sodium (Na ⁺) | Sat - 10 ⁻⁶ | 1 ppb | 9 - 12 | 0 - 50 | Ag ⁺ , NH ₄ ⁺ , Li ⁺ , K ⁺ | SISAB |
| 378-75 | Sulphide (S ²⁻) | 10 ⁰ - 1 x 10 ⁻⁷ | 0.003 - 32,000 | 13 - 14 | 0 - 50 | Ag ⁺ , Hg ²⁺ | 10M NaOH |
| 380-75 | Thiocyanate (SCN ⁻) | 10 ⁻¹ - 2 x 10 ⁻⁶ | 1 - 5,800 | 2 - 12 | 0 - 50 | I ⁻ , Cl ⁻ , S ²⁻ | 5M KNO ₃ |
| 370-75 | Water Hardness | 2 x 10 ⁻¹ - 5 x 10 ⁻⁵ | - | 4.5 - 10 | 0 - 50 | Ba ²⁺ , Sr ²⁺ , Cd ²⁺ Cu ²⁺ , Na ⁺ , K ⁺ , NH ₄ ⁺ | LiAC |

NOTE:

The **directION** electrodes shown above are rugged solid state sensors with built-in reference electrodes that do not require any filling solution or maintenance. Sentek also manufacture a comprehensive range of conventional mono [ion selective electrodes](#).