

ION-7100 Ion concentration transmitter

Application area

For monitoring wastewater treatment and effluent of semiconductor, solar panel and LCD industries

Features

- ◆ 144*144 Microcomputer Design ion concentration transmitter
- ◆ Waterproof & dustproof proof design, to fit wall/ panel/ pipe in stallation.
- ◆ Automatic sensor clean function with programable time interval and hysteresis.
- ◆ Large LCD display, it can show the operation status and symbols.
- ◆ Automatic calibration; manual/auto. temperature compensation.
- ◆ With password and multi-key design, security protection enhancement.
- ◆ Equipped RS-485 MODBUS RTU protocol, it can connect to the digital system directly.(ION-7100RS serial only)
- ◆ Two programmable output(ION-7100 serialonly)

Parameters

Range	0.00...20000(ppm、mg/l)/ -2000.0...2000.0mV/-10.0...110.0℃
Resolution	1/0.1/0.01(ppm、mg/l)/0.1mV/0.1℃
Accuracy (±1Digit)	±0.06%/±0.02℃ Digit With manual correction function
input resistance	>10 ¹² Ω
Reproducibility	±0.05%/ ±10% of reading (Depends on ISE sensor and sample)
Digital filtering	0...60 seconds adjustable / factory setting 30
Temperature compensation	Automatic recognition with Pt1000/NTC30K or manual
Correction mode	Two or three-point calibration, offset correction (providing three zones Section optional)
Hi/Lo Relay Output	2 sets Hi/Lo programmable,N/OFF, 240VAC/ 0.5A Max
Analog Output	1 or 2 sets of programmable & isolate current DC 0/4~20mA with programable according to DO、Temp. Max. load 500Ω.



Specifications

AC supply	100V...240VAC±10%,50/60Hz
DC supply	20...40VDC
Temp	0...50℃
Dimensions	144mm×144mm×115mm(H×W×D)
Protection	Correspond to IP65(NEMA 4)
Installation	Wall/ panel/pipe mounting
Cut off Dimensions	138mm×138mm (H×W)
Weight	0.8Kg

Ordering Guide

Transmitter

- ◆ ION-7100
- ◆ ION-7100D(20...40VDC)
- ◆ ION-7100RS RS-485
- ◆ ION-7100DRS(20...40VDC) RS-485

Standard

Fluoride ion measurement:

- ◆ MF1221 online chlorine ion selective electrode
- ◆ Bracket

Other ion measurement:

- ◆ Other ISE - electrode
- ◆ Reference electrode
- ◆ Bracket
- ◆ Housing

ION-7300 Ion concentration transmitter

Application area

Widely used in semiconductor, pv, metallurgy, fluorine chemicals Build fluoride, such as industrial waste water, waste gas treatment, emissions monitoring and various Ion monitoring and other fields.

Features

- ◆ 96*96 microprocessor Ion transmitter.
- ◆ Waterproof & dustproof proof design, to fit wall / panel / pipe installation.
- ◆ Automatic sensor clean function with programable time interval and hysteresis.
- ◆ Large LCM display, with operating status and special symbols.
- ◆ With backlight sensor, automatic and manual backlight setting function.
- ◆ Provides the solution ground, it can eliminate the interference from sample of water.
- ◆ Provides digital filter function , can filter out interference value , to make the reading more stable.
- ◆ Automatic calibration; manual/auto. temperature compensation.
- ◆ With password and multi-key design、 security protection enhancement.
- ◆ Equipped RS-485 MODBUS RTU protocol, it can connect to the digital system directly. (ION-7300RS serial only)
- ◆ Two channel isolate current DC 0/4-20mA with programable according to ppm, mg/l, Temp. (ION-7300 serial only)

Specifications

AC supply	100V-240VAC±10%,50/60Hz
DC supply	20-40VDC
Temp	0...50℃
Dimensions	96mm×96mm×148mm(H×W×D)
Protection	Correspond to IP65(NEMA4)
Installation	Wall/ panel/ pipe mounting
Cut off Dimensions	91mm×91mm (H×W)
Weight	0.4Kg



Parameters

Range	0.00...20000(ppm、mg/l)/ -2000.0...2000.0mV/-10.0...110.0℃
Resolution	1/0.1/0.01(ppm、mg/l)/0.1mV/0.1℃
Accuracy (±1Digit)	±0.06%/±0.02℃With manual correction function
Reproducibility	±0.05%/ ±10% of reading(Depends on ISE sensor and sample)
Digital filtering	0...60 seconds adjustable / factory setting 30
Temperature compensation	Automatic recognition with Pt1000/NTC30K or manual
Correction mode	Two or three-point calibration, offset correction (providing three zones Section optional)
Hi/Lo Relay Output	2 sets Hi/Lo programmable,N/OFF, 240VAC/ 0.5A Max
Analog Output	2 sets of programmable & isolate current DC 0/4-20mA with programable according to ppm, mg/l, Temp. Max. load 500Ω.

Ordering Guide

Transmitter

- ◆ ION-7300
- ◆ ION-7300D(20-40VDC)
- ◆ ION-7300RS RS-485
- ◆ ION-7300DRS(20-40VDC) RS-485

Fluoride ion measurement:

- ◆ MF1221 online chlorine ion selective electrode
- ◆ Bracket

Other ion measurement:

- ◆ Other ISE - electrode
- ◆ Reference electrode
- ◆ Bracket
- ◆ Housing

ION-7110 Ammonia concentration transmitter



Parameters

The input measurement variables depend on the type of sensor

ammonia nitrogen: $\text{NH}_4\text{-N, NH}_4^+$ [mg/l] 0.1...1000 mg/l

potassium ion: K^+ [mg/l] 1...1000 mg/l (Optional)

response time: ammonia nitrogen: < 2 min.

potassium ion: < 2 min.

Accuracy: measured values of + 5% + 0.2 mg/l

Repeatability: display value of + 3%

input resistance > $10^{12}\Omega$

Correction mode

Two or three-point calibration, offset correction (providing three zones Section optional)

Hi/Lo Relay Output

2 sets Hi/Lo programmable, N/OFF, 240VAC/ 0.5A Max

Analog Output

2 sets of programmable & isolate current DC 0/4~20mA with programable according to DO、Temp. Max. load 500Ω.

Environment condition

Ambient temperature range -20 ... 50°C (-4 ... 120°F)

Storage temperature 2 ... 40°C (36 ... 100°F)

Protection class IP 65

Process condition

Process temperature range 2 ... 40°C (36 ... 100°F)

Maximum allowable pressure of process pressure: 400 mbar (160 inH₂O)

pH value of medium

• ammonia nitrogen: pH 5...8.3 (No pH compensation)

pH 5 ... 10 (with pH compensation)

• potassium ion: pH 2 ... 12

Application area

The ion selective sensor is installed directly in the activated sludge tank of the sewage treatment plant, Without any sample pretreatment or sample transfer. The whole measuring system includes sensors and transmitters: Sensor containing electrode, Transmitter includes display and operating unit. Sensor for monitoring the concentration of ammonia nitrogen:

- Sludge tank
- The primary settling tank outlet.

Features

- Without sample pretreatment, direct ammonia nitrogen measurement
- Potassium ion measurement is optional, can also compensate for the high concentration of interference
- pH measurement and compensation
- Without reagents, the use of low cost
- Range: 0.1-1000 mg/l $\text{NH}_4\text{-N}$
- Direct installation in the pool, without liquid collector or sample transfer pump
- Compressed air cleaning optional, low maintenance cost
- Every 6 months to replace the coated cap, effectively extend the life of the electrode

Ordering Guide

Transmitter

- ION-7110
- ION-7110D (20...40VDC)
- ION-7110RS RS-485
- ION-7110DRS (20...40VDC) RS-485

See page 23 ION-7110 standard

ION-7120 Nitrate concentration transmitter



Parameters

The input measurement variables depend on the type of sensor

Nitrate concentration: $\text{NO}_3\text{-N, NO}_3^-$ [mg/l] 0.1...1000 mg/l

Chloride ion: Cl^- [mg/l] 1...1000 mg/l

response time: Nitrate concentration: < 2 min.

Chloride ion: < 2 min.

Accuracy: measured values of + 5% + 0.2 mg/l

Repeatability: display value of + 3%

input resistance > $10^{12}\Omega$

Correction mode

Two or three-point calibration, offset correction (providing three zones Section optional)

Hi/Lo Relay Output

2 sets Hi/Lo programmable, N/OFF, 240VAC/ 0.5A Max

Analog Output

2 sets of programmable & isolate current DC 0/4~20mA with programable according to DO、Temp. Max. load 500Ω.

Environment condition

Ambient temperature range -20 ... 50°C (-4 ... 120°F)

Storage temperature 2 ... 40°C (36 ... 100°F)

Protection class IP 65

Process condition

Process temperature range 2 ... 40°C (36 ... 100°F)

Maximum allowable pressure of process pressure: 400 mbar (160 inH₂O)

pH value of medium

• Nitrate concentration: pH 5...8.3 (No pH compensation)

pH 5 ~ 10 (with pH compensation)

• Chloride ion: pH 2 ... 12

Ordering Guide

Transmitter

- ION-7120
- ION-7120D (20-40VDC)
- ION-7120RS RS-485
- ION-7120DRS (20-40VDC) RS-485

Application area

The ion selective sensor is installed directly in the activated sludge tank of the sewage treatment plant, Without any sample pretreatment or sample transfer. The whole measuring system includes sensors and transmitters: Sensor containing electrode, Transmitter includes display and operating unit. Sensor for monitoring the concentration of Nitrate concentration:

- Sludge tank
- The primary settling tank outlet

Features

- Without sample pretreatment, direct Nitrate concentration measurement
- Chloride ion measurement is optional, can also compensate for the high concentration of interference
- Range: 0.1-1000 mg/l $\text{NO}_3\text{-N}$
- Direct installation in the pool, without liquid collector or sample transfer pump
- Compressed air cleaning optional, low maintenance cost
- Every 6 months to replace the coated cap, effectively extend the life of the electrode

Specifications

AC supply	100V-240VAC±10%,50/60Hz
DC supply	20-40VDC
Temp	0...50°C
Dimensions	144mm×144mm×115mm(H×W×D)
Protection	Correspond to IP65(NEMA 4)
Installation	Wall/panel/pipe mounting
Cut off Dimensions	138mm×138mm (H×W)

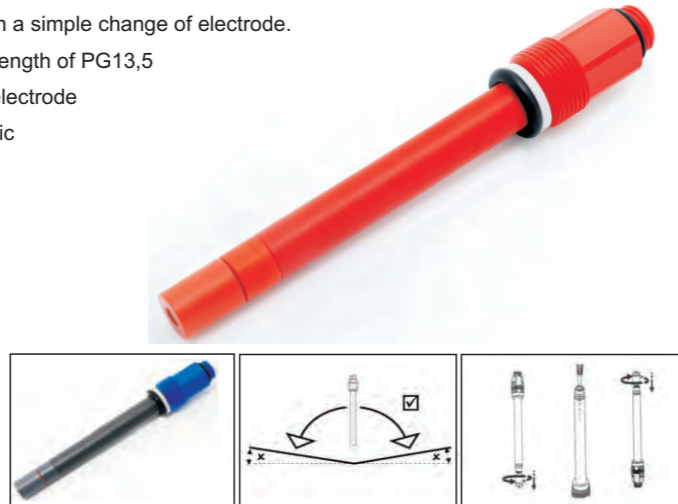
Standard

- NO_3 electrode (filled with new liquid, can be used directly)
- Reference electrode (with temperature)
- Bracket
- Electrode special line
- Electrode extension line

Ion selective sensor and accessories

Ion selective sensor

- High speed measurement, direct, continuous, long-term measurement (without interruption), especially suitable for process control
- Selective measurement, measurement does not require sampling, so that it can greatly reduce the cost of compression
- There is no need for an additional reaction solvent or standard solution, which reduces the cost and reduces the maintenance time.
- The different water quality parameters can be measured with a simple change of electrode.
- Standard installation interface 100mm (GSA), the standard length of PG13,5
- Modular electrode, which ensures longer service life of the electrode
- ISE- electrodes, automatic updates, only films and electrolytic solutions need to be replaced periodically
- Protection level: IP67
- Temperature pressure: 25 °C/1013 KPa
- Error range: Measurement range of 5%
- Plug: Koaxial S7-thread
- texture of material: POM, Glass, Pt-Conductive filament, Viton, PTFE
- size: 100*12mm
- weight: 45g



Electrode model	measuring range
NH4 S-003	0.1ppm-1200ppm
NO3 S-004	0.3ppm-30000ppm
NO2 S-015	0.1ppm-1000ppm
CN- S-008	0.01ppm-1000ppm
So32-	0.5ppm-1000ppm
S2-	0.5ppm-1000ppm
F- S-010	0.05ppm-1000ppm
Cl- S-009	0.5ppm-50000ppm
Br-	0.1ppm-1000ppm
Na+ S-011	0.001ppm-10000ppm
K+ S-005	0.1ppm-1000ppm
Ca2+ S-006	0,01ppm-10000ppm
Hardness	0,01 °dH-50 °dh
Ag2+ S-014	0,02ppm-1000ppm
Pb	0,01ppm-1000ppm

A complete measurement system

- ISE (ion selective electrode) electrode
- Reference electrode or other (such as pH composite electrode)
- Connecting measuring cable
- Bracket
- Measurement controller, such as /ION-7120 ION-7100/ION-7300/ION-7110 and so on
- Replacement cycle :electrolyte (3 to 6 months) , film (6 months), The electrode can be used repeatedly (replacement cycle depends on environment)

Other optional accessories

- Electrode Recovery Kit with replaceable film, electrolyte solution and mounting tool
- Thin film set
- Electrolyte solution 20 ml- titration vessel
- ISE- electrode (filled with new liquid, can be used directly)

Ammonia nitrogen / Nitrate nitrogen / Fluoride ion electrode and fittings

Ammonia ion selective electrode

feature

- There is no need for an additional reaction solvent or standard solution, which reduces the cost and reduces the maintenance time.
- Modular electrode, which ensures longer service life of the electrode
- Protection level: IP67
- Temperature pressure: 25 °C/1013 KPa
- Error range: Measurement range of 5%
- Plug: Koaxial S7-thread
- texture of material: POM, Glass, Pt-Conductive filament, Viton, PTFE
- size/weight: 100*12mm/45g
- Range: 0.1ppm-1200ppm
- Material: Teflon
- model: Nh4 S-003



Housing
MH-03/MH-04

Nitrate ion selective electrode

Feature

- There is no need for an additional reaction solvent or standard solution, which reduces the cost and reduces the maintenance time.
- Modular electrode, which ensures longer service life of the electrode

Specification

- Protection level: IP67
- Temperature pressure: 25 °C/1013 KPa
- Range: 0.3ppm-30000ppm
- Error range: Measurement range of 5%
- Plug: Koaxial S7-thread
- texture of material: POM, Glass, Pt-Conductive filament, Viton, PTFE
- size: 100*12mm
- weight: 45g
- Material: Teflon



MF1221 fluorine ion selective composite electrode

Feature

- The annular liquid junction is not easy to block and absorb, easy to clean
- 3/4 pipe thread for easy to install

Specification

- Test range: 0.20...20000ppm
- Electrode slope: 56±3mV(25 °C)
- pH range: 5.00...10.00pH
- Blank potential > 200mV(Deionized water)
- Electrode rod diameter: 28mm*150mm
- Material: PPS
- Connection mode: 3/4 pipe thread



ION-7110 standard

- NH4 electrode(Can be used directly)
- Reference electrode(With temperature)
- pH electrode
- Bracket
- Electrode special line
- Electrode extension line

Other optional accessories

- Electrode Recovery Kit with replaceable film, electrolyte solution and mounting tool.
- Thin film
- Electrolyte solution 20 ml- titration vessel
- Potassium ion selective electrode
- Chloride ion selective electrode
- PP-100A immersed stent (for glass electrode)
- PP-100B immersion bracket (for plastic electrode)