



PROCHEM

PROCESS CONTROLLERS

*pH
Redox
Specific Ions*

*Conductivity
Salinity / TDS*



*Dissolved
Oxygen*

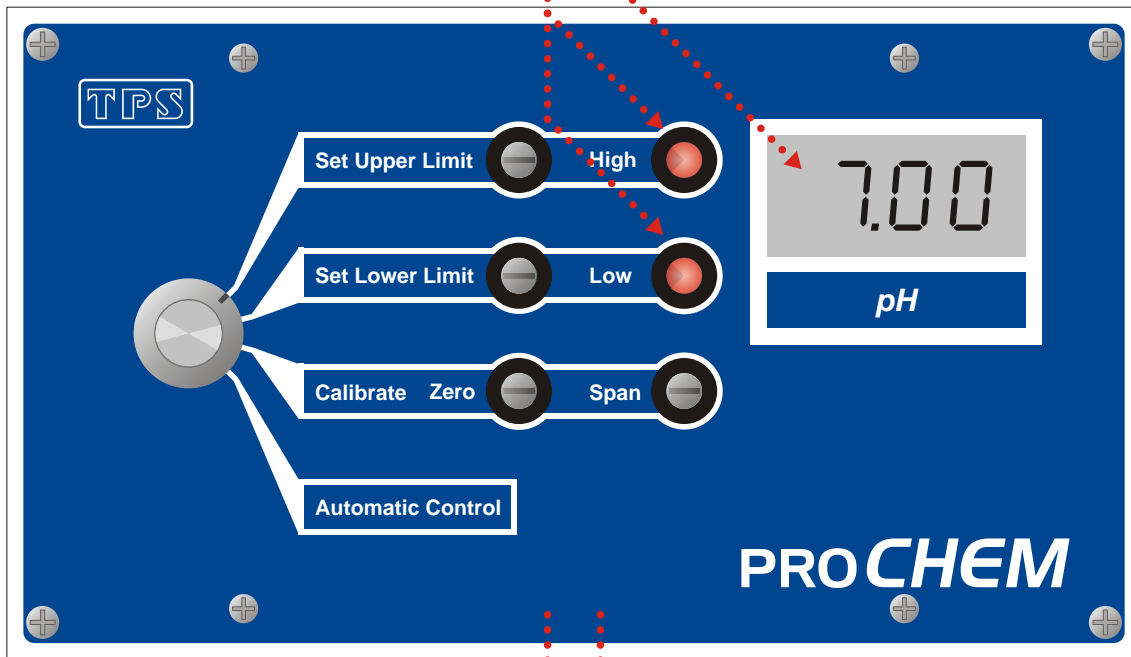
*Sugar D.I.
Temperature*

Alarm LED's

Separate Alarm LED's for the High and Low Set Points provide visual indication of when the control limits are exceeded.

Large Display

The 12.5mm LCD display is easy to read, even from a distance. Switch to **Set Upper Limit** or **Set Lower Limit** to display and set the control limits.



Analogue Outputs

4 to 20 mA and 0 to 1 V outputs can be user-selected and are supplied as standard. A custom 4 to 20 mA output can be factory set, in addition to the usual 4 to 20 mA output for 0 to full scale.

Relay Outputs

The relay outputs are rated to 2 amps at 240 V AC. The limits are factory-set for 'too high' and 'too low' control. They can also be user-set for both to be "too high" or "too low". Adjustable hysteresis increases control flexibility.

PROCHEM Series

The **NEW proCHEM** Series controllers provide an economical answer to most process monitoring, control or recording requirements.

Dual Set Points are provided. The default setup for these are as "Too High" and "Too Low" control points. The user can also re-set them so that they are both "Too High" or both "Too Low" control points. An example of this type of setup is where the **proCHEM** unit has one point set to control the process, and a second point beyond that set to activate an alarm.

Separate LED's indicate when either of the Set Points has been exceeded. The output relays are rated to 240V and are fused at 2 Amps. Higher current devices can be switched with an external contactor.

All **proCHEM** units are easy to install. They are housed in a rugged plastic case which is non corrosive, waterproof and dustproof to IP65.

All controls can be accessed via the hinged, clear cover. The large LCD display is easy to read, even from a distance.

The **proCHEM** series is designed for maximum flexibility. 4 to 20 mA and 0 to 1 V DC outputs are provided as standard.

For even greater output flexibility, ask about the **420 ToolBox**. This module provides such features as reversed current or voltage signal, and optional extra control relay, RS232 interface or pulsed output.

For a total solution to your control requirements, TPS also offer a range of Peristaltic Pumps..

The **proCHEM** series is proudly designed and manufactured in Australia. The TPS Quality System has been certified in accordance with the ISO9001:2000 standard. Since 1968, TPS has built a reputation for excellent support service that is second to none.

General Specifications

Enclosure Polycarbonate, waterproof to IP65

Display 12.5mm LCD

Outputs 4 to 20 mA
(500 Ohms max load)
0 to 1 V DC

Isolation
Galvanic isolation of sensor inputs for all models.

Current and voltage outputs are not isolated.

Power 240V AC, 50/60 Hz
(12V DC optional)

Dimensions 215x190x115mm

Mass
Instrument only Approx 900 g
Full Kit Approx 1.5 kg

Instrument Operating Environment
Temperature 0 to 45 °C
Humidity 0 to 95% R.H.



Specifications and Ordering Information

proCHEM-P pH

Specifications

| | |
|---|---------------------------|
| Range | 0 to 14.00 pH |
| Resolution | 0.01 pH |
| Accuracy | +/-0.01 pH |
| Linearity | +/-0.01 pH |
| Repeatability | +/-0.01 pH |
| Ambient Drift | <0.01 pH per 10 °C change |
| Long Term Drift | <0.1% per year |
| Temperature Compensation Automatic, 0 to 100 °C | |
| Asymmetry Range | +/- 1 pH |
| Slope Range | 80 to 110% |
| Input Impedance | >3x10 ¹² Ohms |
| Common Mode Rejection | 120dB |

Ordering Information

proCHEM - pH 111122

Kit Includes:

| | |
|--------------------------------|--------|
| pH6.88 Buffer, 200mL | 121306 |
| pH4.00 Buffer, 200mL | 121381 |
| Handbook | 130050 |

Options:

| | |
|-----------------------------------|--------|
| Loop-powered remote LCD | 130080 |
| 12V DC Power option | 130072 |

"Dip" mounted sensors and submersible assembly:

| | |
|-------------------------------------|--------|
| Submersible, pH Sensor, 5m. | 111228 |
| Intermediate Junction pH. | 111227 |
| (for use in slurries, sewage etc) | |
| ATC Probe, #316 s/s, 5m. | 111275 |
| Submersible Assembly | 111303 |
| Extended cable / metre | 130040 |

Screw-in sensors and adaptor for 40mm PVC pipe:

| | |
|-----------------------------------|--------|
| Screw-in pH Sensor, 5m | 111244 |
| Screw-in ATC Sensor, 5m | 111265 |
| Screw-in thread adaptor | 111305 |
| Extended cable / metre. | 130040 |

proCHEM-R Redox / ORP

Specifications

| | |
|--|---|
| Range | 0 to +1000 mV (0 to -1000 mV optional) |
| Resolution | 1 mV |
| Accuracy | +/-1 mV |
| Linearity | +/-1 mV |
| Repeatability | +/-1 mV |
| Ambient Drift | <0.02% span / °C |
| Long Term Drift | <0.1% per year |
| Zero Range | +/-100 mV |
| Span Range | 80 to 110% |
| Input Impedance | >3x10 ¹² Ohms |
| Common Mode Rejection | 120dB |

Ordering Information

proCHEM - R. 111124

Kit Includes:

| | |
|-----------------------------------|--------|
| ZoBell Standard | 121309 |
| (200mL each of Part A and Part B) | |
| Handbook | 130050 |

Options:

| | |
|-----------------------------------|--------|
| Loop-powered remote LCD | 130080 |
| 12V DC Power option | 130072 |

"Dip" mounted sensors and submersible assembly:

| | |
|---------------------------------------|--------|
| Submersible, Redox, 5m | 111260 |
| Intermediate Junction Redox | 121267 |
| (for use in slurries, sewage etc) | |
| Earth Rod, #316 s/s, 5m | 121360 |
| Submersible Assembly | 111303 |
| Extended cable / metre | 130040 |

Screw-in sensors and adaptor for 40mm PVC pipe:

| | |
|-------------------------------------|--------|
| Screw-in Redox Sensor, 5m | 111262 |
| Earth Rod, #316 s/s, 5m | 121360 |
| Screw-in thread adaptor | 111305 |
| Extended cable / metre. | 130040 |

proCHEM-I Specific Ions

Specifications

| | |
|---|--|
| Range | 0 to 2.000 0 to 20.00 0 to 200.0 0 to 2000 |
| | In user-specified units (e.g. ppm, ppK, %, Molar etc). |
| Resolution | Concentration equivalent of +/-1 mV from sensor. |
| Accuracy | Concentration equivalent of +/-1 mV from sensor. |
| Linearity | +/- Least significant digit |
| Repeatability | +/- Least significant digit |
| Ambient Drift | <1mV per 10 °C change |
| Long Term Drift | <0.1% per year |
| Zero Range | +/-10 °C |
| Temperature Compensation Automatic, 0 to 100 °C | |
| Asymmetry Range | +/-1 Decade of concentration |
| Slope Range | 50 to 110 % |

Ordering Information

proCHEM - I 111126

Kit Includes:

| | |
|--------------------|--------|
| Handbook | 130050 |
|--------------------|--------|

Options:

| | |
|-----------------------------------|--------|
| Loop-powered remote LCD | 130080 |
| 12V DC Power option | 130072 |

"Dip" mounted ATC sensor and submersible assembly:

| | |
|----------------------------------|--------|
| ATC Probe, #316 s/s, 5m. | 111275 |
| Submersible Assembly | 111303 |
| Extended cable / metre | 130040 |

Screw-in ATC sensor and adaptor for 40mm PVC pipe:

| | |
|-----------------------------------|--------|
| Screw-in ATC Sensor, 5m | 111265 |
| Screw-in thread adaptor | 111305 |

Go to the Sensors section of the TPS Web Site for full details of our range of sensors to suit the proCHEM Series.

www.tps.com.au

PROCHEM-D

Dissolved Oxygen

Specifications

Ranges 0 to 199.9% Saturation
OR
0 to 19.99 ppM (mg/L)
(Factory set)

Resolution 0.1 % Saturation
OR
0.01 ppM (mg/L)

Accuracy +/-0.2% of full scale

Linearity +/-0.1%

Repeatability +/-0.2%

Ambient Drift <0.05% span/°C

Long Term Drift <0.2% per year

Temperature Compensation
Dual automatic temperature compensation system, 0 to 50 °C (sensor limit).

Zero Range +/-10%

Span Range 70 to 130%

Sensor
Polarographic sensor with inbuilt ATC sensor.
Factory set for TPS ED1M or EDYSI dissolved oxygen sensor.

Ordering Information

proCHEM - DO **113122**

Kit Includes:
Handbook 130050

Options:
Loop-powered remote LCD . . 130080
12V DC Power option 130072

TPS ED1M DO₂ sensor and cable (Submersible to 3m max)
ED1M DO₂ Sensor, 123440
(NO CABLE)
5m cable for ED1M 123236
Extended cable / metre 130040

YSI DO₂ sensor and cable
EDYSI DO₂ Sensor, 123204
(NO CABLE)
5m cable for EDYSI 123210
Extended cable / metre 130040

PROCHEM-C

Conductivity

Specifications

Ranges
k=0.1 Sensor 0 to 19.99 uS/cm
0 to 199.9 uS/cm
0 to 1999 uS/cm

k=1.0 Sensor 0 to 199.9 uS/cm
0 to 1999 uS/cm
0 to 19.99 mS/cm

k=10 Sensor 0 to 1999 uS/cm
0 to 19.99 mS/cm
0 to 199.9 mS/cm

Resolution 0.1% of full scale

Accuracy +/-0.2% of full scale

Linearity +/-0.05% of full scale

Repeatability . . +/-0.05% of full scale

Ambient Drift <0.02% / °C

Long Term Drift <0.1% per year

Temperature Compensation
Automatic, 0 to 100 °C

Zero Range +/-5%

Span Range 70 to 130%

Sensors Platinised Platinum
k=0.1, k=1.0 or k=10.

Ordering Information

proCHEM - C **112126**

Standard Kit Includes:
Handbook 130050
Conductivity standard to suit customer-specified range.

Options:
Loop-powered remote LCD . . 130080
12V DC Power option 130072
Custom Conductivity Std 122310

Conductivity Sensors:
k=0.1 Industrial Sensor, 5m . . 112205
k=1.0 Industrial Sensor, 5m . . 112206
k=10 Industrial Sensor, 5m . . . 112207
Extended cable / metre 130040

Flow-through chamber:
Cond flow chamber 112301
1/2" BSP input and output ports

Specifications and Ordering Information

PROCHEM-S Salinity / TDS

Specifications

Ranges

k=0.1 Sensor 0 to 10.00 ppM
0 to 100.0 ppM
0 to 1000 ppM

k=1.0 Sensor 0 to 100.0 ppM
0 to 1000 ppM
0 to 10.00 ppK

k=10 Sensor 0 to 1000 ppM
0 to 10.00 ppK
0 to 100.0 ppK

Resolution 0.1% of full scale

Accuracy +/-0.2% of full scale

Linearity +/-0.05% of full scale

Repeatability . . +/-0.05% of full scale

Ambient Drift <0.02% / °C

Long Term Drift <0.1% per year

Temperature Compensation

Automatic, 0 to 100 °C

Zero Range +/-5%

Span Range 70 to 130%

Sensors Platinised Platinum
k=0.1, k=1.0 or k=10.

Ordering Information

proCHEM - S 112127

Standard Kit Includes:

Handbook 130050
Salinity / TDS standard to suit
customer-specified range.

Options:

Loop-powered remote LCD . . 130080
12V DC Power option 130072
Custom Salinity/TDS Std 122310

Salinity/TDS Sensors:

k=0.1 Industrial Sensor, 5m . . 112205
k=1.0 Industrial Sensor, 5m . . 112206
k=10 Industrial Sensor, 5m . . . 112207
Extended cable / metre 130040

Flow-through chamber:

Cond flow chamber 112301
1/2" BSP input and output ports

PROCHEM-DI Dilution Indicator

Specifications

Range 0 to 50.0 % D.I.

Resolution 0.1% D.I.

Accuracy +/-0.1% D.I.

Linearity +/-0.05% of full scale

Repeatability . . +/-0.05% of full scale

Ambient Drift <0.02% / °C

Long Term Drift <0.1% per year

Temperature Compensation

Automatic, 0 to 100 °C

Sensor Insulated solid brass rods

**Go to the Sensors section of the TPS
Web Site for full details of our range of
sensors to suit the proCHEM Series.**

www.tps.com.au

Ordering Information

proCHEM - D.I. 111122

Standard Kit Includes:

Handbook 130050

Options:

Loop-powered remote LCD . . 130080
12V DC Power option 130072

D.I. Sensor and 5m cable:

Sugar Moisture Sensor 112204
(NO CABLE)
5m cable for Sugar Sensor . . . 130047
Extended cable / metre 130040

PROCHEM-T Temperature

Specifications

Range 0 to 199.9 °C
(sensor limit 120 °C)

Resolution 0.1 °C

Accuracy +/-0.2 °C

Linearity +/-0.2 °C

Repeatability +/-0.1 °C

Ambient Drift <0.02% span / °C

Long Term Drift <0.1% per year

Zero Range +/-10 °C

Ordering Information

proCHEM - T 114122

Kit Includes:

Handbook 130050

Options:

Loop-powered remote LCD . . 130080
12V DC Power option 130072

"Dip" mounted sensor:

Silicon Temp Sensor, 114200
#316 s/s body, 5m
Extended cable / metre 130040

Screw-in sensor and adaptor for 40mm PVC pipe:

Screw-in Silicon Temp. 114201
Sensor, #316 s/s, 5m
Screw-in thread adaptor 111305
Extended cable / metre 130040



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TPS reserves the right to
change this specification
without notice.
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TPS Pty Ltd

4 Jamberoo St., Springwood
Brisbane, AUSTRALIA, 4127.
Phone Australia (07) 32 900 400
International 61 7 32 900 400
Fax Australia (07) 3808 4871
International 61 7 3808 4871
E-mail tps@tps.com.au
Web www.tps.com.au

