Congratulations !

With your new TPS Automatic Conductivity Sensor Replatiniser, you now have the ability to fully maintain your TPS Conductivity sensors.

Please follow these instructions carefully to ensure that your sensors are replatinised correctly.

NOTE

Replatinising Solution is Chloroplatinic Acid, which is a dangerous, highly acidic solution. Take care when handling this solution and avoid contact with skin, eyes or any other part of the body. Correct safety equipment as would be used for any other strong acids should be worn.

An MSDS for Chloroplatinic Acid from the Buffers and Standards section of the TPS Web Site :

http://www.tps.com.au/products/standards

TPS Automatic Replatiniser

Version : 1.1
Date : 11/10/2004
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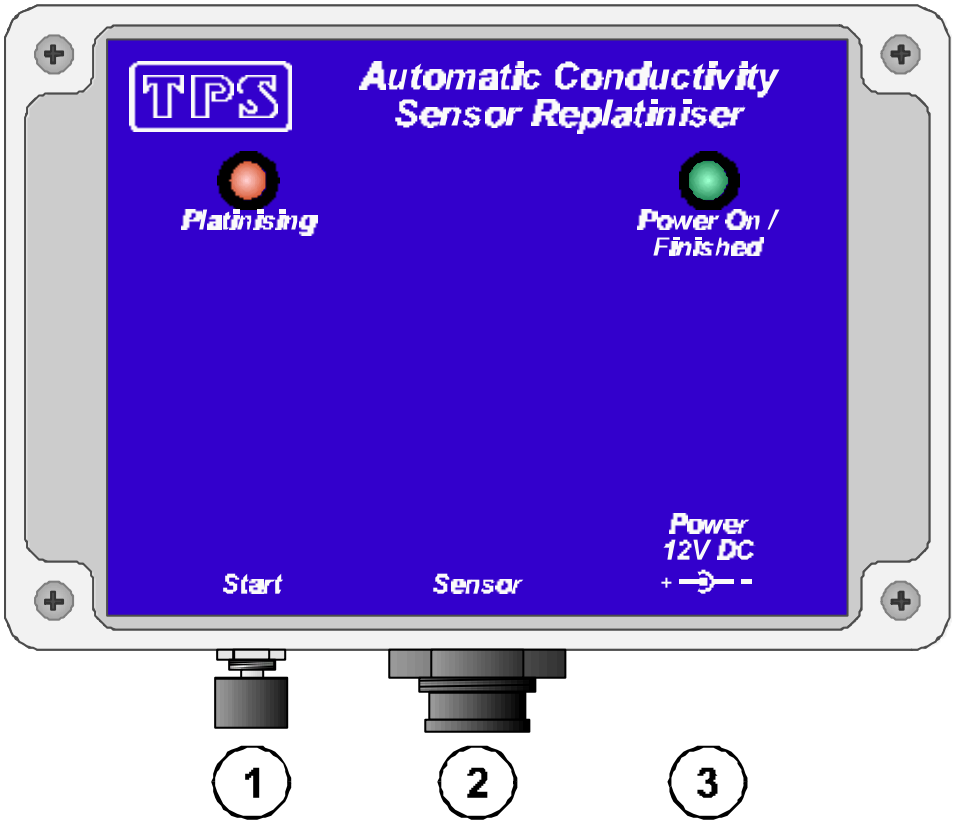
1. Introduction

1.1 Platiniser Illustration



① **Start Button**
Press to start platinising a Conductivity sensor (see section 2).

② **Sensor Socket**
Suitable for WP, Aqua and MC Series Conductivity sensors.

For sensors with connectors to suit other models, an adaptor must be used. See section 1.2 for details.

③ **Power Socket**
Use only a genuine TPS AC/DC adaptor to avoid damage to your Platiniser.

1.2 Unpacking Information

Before using your new Platiniser, please check that the following accessories have been included:

	Part No
1. TPS Automatic Replatiniser	122160
2. Platinising Solution, 20mL	122300
3. 12V AC/DC Power Adaptor, 240V for Australia	130044
4. Platiniser Handbook	130050

The Platiniser's connector is suitable for WP, Aqua & MC Series sensors. Adaptors are available for sensors to suit other models…

1. Platiniser Adaptor for 90 Series, 9 Pin	130149
2. Platiniser Adaptor for labCHEM & smartCHEM Series, 7 Pin	130147
3. Platiniser Adaptor for 900C & 2102A, 6 Pin DIN	130146
4. Platiniser Adaptor for 2100, LC84 & LC81, 5 Pin DIN (also suitable for other meters using the 5 Pin DIN plug)	130145

Power adaptors to suit countries other than Australia..

1. 12V AC/DC Power Adaptor, 220V for Europe/Asia	130065
2. 12V AC/DC Power Adaptor, 240V for UK	130066
3. 12V AC/DC Power Adaptor, 120V for USA	130067

1.3 Specifications

Power	12V DC, via AC/DC Adaptor. Adaptor to can be supplied to suit any country of destination.
Output	60 mA DC (high) or 10 mA DC (low), changing polarity at a frequency to suit the k factor being replatinised. Duration of platinising is automatically adjusted for the k factor being platinised.
Dimensions	125 x 85 x 55 mm
Mass	Instrument only : Approx 200g Full Kit : Approx 1 kg
Environment	Temperature : 0 to 45 ^{O}C Humidity : 0 to 90 % R.H.

2. Replatinising Procedure

1. Clean the sensor by rubbing off any old platinum-black that may still be in place with a nylon scouring pad. DO NOT USE STEEL WOOL.
2. Soak the sensor in a solution of 1 part Concentrated HCl and 3 parts distilled water for approximately 5 minutes.
3. Rinse the sensor well in distilled water.
4. Connect the AC/DC Adaptor to the Platiniser. The green **Power On / Finished** LED will light up to indicate that the unit is switched on. The internal beeper will sound for a few seconds and then fade away when the unit is first switched on.
5. If the sensor is fitted with a removable plastic cover, remove it before platinising.
6. Immerse the sensor in platinising solution so that both plates or wires are fully immersed. For sensors that have a fixed plastic cover, immerse the sensor up to the vent hole.

   If the volume of Platinising solution is too small to immerse the sensor correctly, dilute the solution as required.

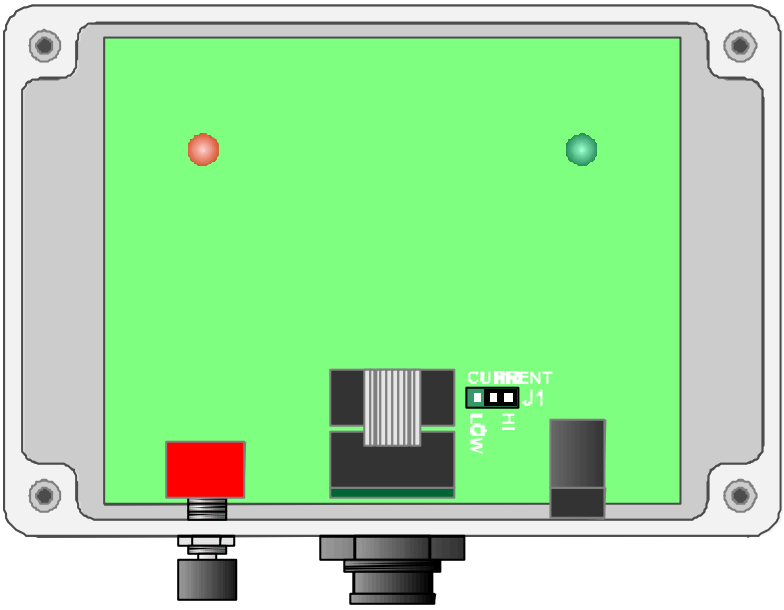
   Platinising solution (part no 122300) is supplied with the Platiniser. Alternatively, platinising solution can be prepared by dissolving 1g of Hydrogen Chloroplatinate (H_2PtCl_{16}) in 30mL of distilled water, and including about 0.01g of Lead Acetate ($(CH_3COO)_2Pb$) and a drop or two of concentrated HCl.

   Platinising Solution is a dangerous, highly acidic solution. Take care when handling this solution and avoid contact with skin, eyes or any other part of the body. Correct safety equipment as would be used for any other strong acids should be worn.
7. Press the **Start** button. The **Platinising** LED will start to blink slowly.
8. When platinising is complete, the **Power ON / Finished** LED will light up and the beeper will sound for a few seconds and then fade away.
9. Remove the sensor from the Platinising solution immediately. Sensors with stainless steel tips may be damaged if left in Platinising solution for extended periods.
10. After platinising, soak the sensor in distilled water for 30 minutes before use.

2.1 Notes Regarding Replatinising

1. Platinising solution can be re-used many times. As long as there is sufficient mass of Platinum dissolved in the solution, it will continue to Replatinise sensors correctly. 20mL of solution, as supplied by TPS, would normally suffice for approximately 30 uses.

2. When replatinising the pipette style TPS Naturopathic sensor, it is necessary to set the Platiniser to LOW output. Remove the plastic lid and locate the HI / LOW jumper (see diagram below). Change the jumper from HI to LOW.



3. Care and Cleaning of Conductivity Sensors

3.1 Care of Conductivity Sensors

The conductivity section of the sensor supplied with TPS instruments consists of two platinum plates or wires that are plated with a layer of "platinum-black". This is quite a soft layer and is required for stable, accurate measurements. In time, the platinum-black layer may wear off in some applications, at which time the sensor will require replatinising (see section 2). You can help to maintain the platinum-black layer by following these simple rules:

1. **NEVER** touch or rub the sensor plates or wires with your fingers, cloth etc.
2. Avoid using the sensor in solutions that contain a high concentration of suspended solids, such as sand or soil, which can abrade the sensor wires. Filter these types of solutions first, if possible.
3. Avoid concentrated acids. If you must measure acids, remove the sensor immediately after taking the measurement and rinse well with distilled water.

Conductivity sensors can be stored dry. Ensure that the sensor is stored in a covered container, to avoid dust and dirt build-up.

3.2 Cleaning Conductivity Sensors.

Platinised platinum Conductivity sensors can only be cleaned by rinsing in a suitable solvent. **DO NOT wipe the sensor wires**, as this will remove the platinum-black layer.

1. Rinsing in distilled water will remove most build-up of material on the sensor wires.
2. Films of oil or fat on the sensor wires can usually be removed by rinsing the sensor in methylated spirits.
3. Stubborn contamination can be removed by soaking the sensor in a solution of 1 part Concentrated HCl and 3 parts distilled water. The sensor should not be soaked for more than approximately 5 minutes, otherwise the platinum-black layer may start to dissolve.
4. If all of these methods fail, then the last resort is to physically scrub the sensor wires, which will remove the contaminant and the layer of platinum-black. Use only a cloth or nylon scouring pad. DO NOT USE STEEL WOOL. The sensor will then need to be cleaned in HCl, as per step 3 and replatinised, as per section 2.

4. Troubleshooting

Fault	Possible Causes	Remedy
Power connected, but **Power On / Finished** LED does not light up.	1. Faulty AC /DC adaptor. 2. Faulty Platiniser	Replace AC/DC Adaptor with a genuine TPS adaptor. Return to TPS for service.
Platinising LED does not light up when **Start** button is pressed.	Faulty Platiniser	Return to TPS for service.
Unit appears to operate correctly, but sensor does not platinise correctly.	1. Sensor has oily or other build-up on plates or wires. 2. Faulty Sensor 3. Faulty Platiniser	Clean the sensor, as per details in section 3.2. Return to TPS for service. Return to TPS for service.

5. Warranty

TPS Pty. Ltd. guarantees all instruments and sensors to be free from defects in material and workmanship when subjected to normal use and service. This guarantee is expressly limited to the servicing and/or adjustment of an instrument returned to the Factory, or Authorised Service Station, freight prepaid, within twelve (12) months from the date of delivery, and to the repairing, replacing, or adjusting of parts which upon inspection are found to be defective. Warranty period on sensors is three (3) months.

There are no express or implied warranties which extend beyond the face hereof, and TPS Pty. Ltd. is not liable for any incidental or consequential damages arising from the use or misuse of this equipment, or from interpretation of information derived from the equipment.

Shipping damage is not covered by this warranty.

Please note

A guarantee card is packed with the instrument or sensor. This card must be completed at the time of purchase and the registration section returned to TPS Pty. Ltd. within 7 days. No claims will be recognised without the original guarantee card or other proof of purchase. This warranty becomes invalid if modifications or repairs are attempted by unauthorised persons, or the serial number is missing.

Procedure for service

If you feel that this equipment is in need of repair, please re-read the manual. Sometimes, instruments are received for "repair" in perfect working order. This can occur where batteries simply require replacement or re-charging, or where the sensor simply requires cleaning or replacement.

TPS Pty. Ltd. has a fine reputation for prompt and efficient service. In just a few days, our factory service engineers and technicians will examine and repair your equipment to your full satisfaction.

To obtain this service, please follow this procedure

Return the instrument AND ALL SENSORS to TPS freight pre-paid and insured in its original packing or suitable equivalent. INSIST on a proof of delivery receipt from the carrier for your protection in the case of shipping claims for transit loss or damage. It is your responsibility as the sender to ensure that TPS receives the unit.

Please check that the following is enclosed with your equipment:

- **Your Name and daytime phone number.**
- **Your company name, ORDER number, and return street address.**
- **A description of the fault. (Please be specific.)**
  (Note: "Please Repair" does NOT describe a fault.)

Your equipment will be repaired and returned to you by air express where possible.

For out-of-warranty units, a repair cost will be calculated from parts and labour costs. If payment is not received for the additional charges within 30 days, or if you decline to have the equipment repaired, the complete unit will be returned to you freight paid, not repaired. For full-account customers, the repair charges will be debited to your account.

- **Always describe the fault in writing.**
- **Always return the sensors with the meter.**