

# twilight

INSTRUMENTOS DE MEDICIÓN INDUSTRIAL

## Detector de Porosidad de Pulso para Tubería, 40 kV PW-0955

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Operator's Handbook  
for  
Compact  
High Voltage  
PULSE CREST METERS



**Calibration Reference Devices for the Compact  
range of Porosity Detectors  
Can be used in accordance with:  
Australian Standard AS3894.1**

ASTM G62, ASTM D5162, ASTM D4787, NACE SP0274,  
NACE TM0186, NACE TM0384, NACE SP0490, NACE SP0188,  
ANSI/AWWA C203, ANSI/AWWA C214, ISO 29601

**CE** CE Marked PCWI Compact Crest Meters comply with the requirements  
of EMC Directives 89/336/EEC EMC and its amending directives.

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## **CREST METER ACCURACY:**

$\pm 3\%$  above 10.0kV and  $\pm 10\%$  below 10kV

(Note: at the time PCWI tested the Crest Meter at the reference temperature & humidity).

Refer to the PCWI Manufacturer's Calibration Certificate provided with the Crest Meter.

Range: 0kV to 40kV

(NOTE: Maximum reference voltage certified by PCWI is 26.3kV)

Recertification available.

## **INTRODUCTION**

Thank you for choosing the PCWI Compact Crest Meter for testing the voltage output of your PCWI Compact or other Porosity (Holiday) Detectors.

PCWI have designed this instrument with care, to provide ongoing efficiency under comprehensive testing. Under reasonable care in operating, the unit will provide many years of trouble free operation.

To complement the unit, PCWI maintains a comprehensive range of test analysis and measuring instruments for the coatings industry as well as providing appropriate Certification, traceable to International Standards.

PCWI, in a continuing desire to achieve the maximum in corrosion detection competence, welcomes user enquiries and recommendations.

Yours sincerely

A handwritten signature in black ink, appearing to read 'P Van Gaal', written in a cursive style.

Paul Van Gaal

## 1.0 SAFETY PRECAUTIONS:



All hand-held high voltage test equipment should be operated by responsible, trained and authorised personnel.

### CAUTION



During verification with a crest meter, a Porosity Detector output can be up to 40,000 volts. Should the operator accidentally make contact with the test electrode, they may experience a mild shock or zap, and in order to avoid this possibility, the wearing of rubber gloves is recommended. Furthermore, the operator should enjoy good health and not suffer from a cardiac condition. **If the operator has a pacemaker, then they should not use this equipment.**

This equipment should only be used for the purpose for which it was designed, ie: checking the porosity, or electrical breakdown, of dielectric or insulating materials.

It is also recommended that testing should be carried out well clear of personnel not involved in the testing procedure, or in such a position whereby the surprise of receiving an electric shock could cause a related accident, if for example, tests being carried out close to moving or rotating machinery, or in such an unstable position that the operator could fall and injure themselves.

It is recommended that the operator should have an assistant, to ensure that unauthorised personnel are kept well clear of the testing area, and generally assist when necessary with the testing procedure. It is also recommended that the Detector not be operated within close proximity of sensitive electronic apparatus, such as computer equipment.

### DANGER

Do not use a crest meter to test equipment in any combustible or flammable atmosphere, as a test voltage can cause an arc or spark to be generated and an explosion could result. Always consult the plant or safety officer before carrying out a test procedure.

When testing tank internals, be certain the tank does not contain solvents remaining from the painting procedure.

## 2.0 OPERATION AND TESTING PROCEDURE

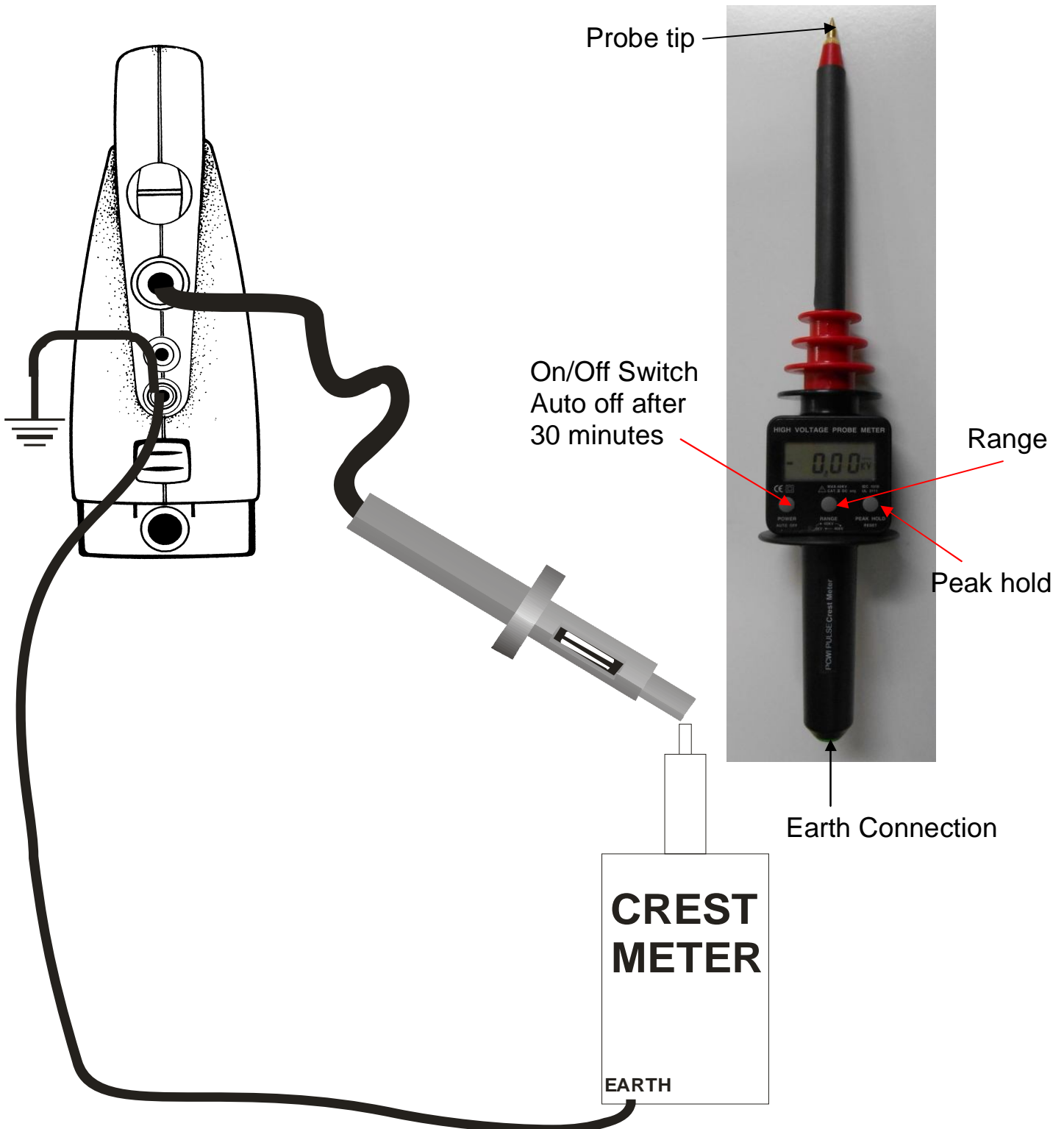
Testing the output of the Detector, and verifying the voltage on the visual display

Set up Detector for test.

Switch on Detector, and set voltage.

Connect crest meter into system, set the Detector's voltage using the crest meter's display.

**Note:** The crest meter will measure and indicate peak voltage.



### 3.0 OTHER PCWI PRODUCTS INCLUDE:

#### Porosity (Holiday) Detectors & Accessories



Porosity detector is a small and light weight unit with battery pack and features: digital display of applied voltage, constant test current, fully adjustable voltage and sensitivity controls. It can be used in most applications including pipeline, steel structures and tank work.

PCWI manufacture brushes and coils to suit your needs. Holiday Detector External Rolling Pipeline Brushes suitable for all High Voltage Porosity Detectors, holiday detectors, spark testers and jeeperers.

Roller wheel mounted, lightweight, rolls easily over joints,. Moves easily around bends, splits for easy fitting. Large 1/2 circle or 1/3 circle brushes also available. Spiral wound brushes for small internal pipes.

#### Brushes & Coils



Holiday Detector Flat Brushes and Holiday/Porosity detector accessories. Flat brass wire brushes 50mm to 60mm, fan brushes and handle extension pieces also available.

See [www.pcwi.com.au](http://www.pcwi.com.au) for more details.





## **4.0 WARRANTY**

Subject to the warranty conditions below this PCWI Instrument is warranted by PCWI International Pty Ltd to be free from defects arising from faulty design, material, or workmanship for a period of 12 months from the date of original purchase by the end user or a maximum period of 15 months from dispatch to authorised distributors.

Probes and leads are warranted for 3 months. They are consumable items, and subject to wear and deterioration during use. The life of these parts can be much extended by keeping them in a dry clean condition, and storing them in suitable protective containers. During use, avoid “scrubbing” the probe along the surface of the work-piece.

### **WARRANTY CONDITIONS**

During the warranty period listed above PCWI or it’s authorised service representative will make good any defects covered by this warranty. PCWI or it’s authorised service representative will decide if there are any defects in design, material or workmanship. This warranty only applies provided the instrument has been used in accordance with the manufacturers operating handbook recommendations. This warranty does not cover damage, malfunction or failure resulting from misuse, neglect, abuse or used for a purpose for which it was not designed and no repairs, alterations or modifications have been attempted by other than PCWI on an authorised service. This warranty applies only to the original user buyer.

This warranty does not cover any service that is needed after an accident, alterations, misuse, fire or floods.

This warranty is the only one given by PCWI and no one has the authority to change, or add to, the obligations and liabilities listed in it.

This warranty does not cover batteries, probe handle brushes (electrodes) and leads which are subject to wear.

During the warranty period PCWI or its authorised service representative will bear the transportation cost of the return of instrument/s repaired under warranty back to the users premises within the country of purchase.

## **HOW TO MAKE A WARRANTY CLAIM**

Defective goods must be returned to PCWI or an authorised service representative at the Purchaser's expense. The goods must be accompanied by the Purchaser's written order describing the defect and authorising PCWI or its authorized service representative to invoice the Purchaser for any charges not covered by the warranty.

The purchaser's order must also include the model and serial numbers of the instrument and address of the distributor and date of purchase.

Upon receipt at the service point the instrument will be examined to determine the nature and cause of the defect. If the defect is covered by the warranty, a repair will be effected at PCWI's or authorised service representative expense. If the defect is not covered by the warranty, PCWI or authorised service representative will quote the Purchaser for a replacement or repair, and will not proceed until written acceptance of the quotation is received.

## **5.0 SERVICE AND MAINTENANCE**

### **AUTHORISED SERVICE REPRESENTATIVE**

To enable speedy "return to service" whether under warranty or otherwise, PCWI have appointed your distributor as a service centre and have provided all relevant information and recommended parts to be carried to assist distributor's technical staff carry out this essential part of the PCWI customer service.

## **CARE AND MAINTENANCE**

This equipment is protected against hostile environments and is designed for prolonged use in the field without any special maintenance, other than routine battery changing. However, the equipment is not totally sealed and appropriate precautions should be taken. Remember, it is a precision electronic instrument and should be treated as such. There are no internal user controls. The equipment should only be operated by qualified personnel. Some organic materials may attack plastic parts and cause early degradation. Contact with such materials should be avoided. Do not operate damaged equipment.

## **SERVICE REPAIRS AND MAINTENANCE**

Repairs not covered by the warranty or carried out after the warranty period, will be charged at the current hourly or set service rate, plus the cost of materials.

Goods for repair must be sent at the Purchaser's expense, and be accompanied by the Purchaser's written order describing the defect and authorising PCWI to invoice the Purchaser for labour, materials and return delivery cost.

**No service or repair will be undertaken until a written order is received.**

### **AUTHORISED SERVICE AGENT:**

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**NOTES:**

# PCWI OFFERS

## **Strong technical support**

In-house development and manufacturing enables us to provide strong technical support and a quick response to enquiries and orders.

## **Market and product knowledge**

We understand technical specifications demanded by industry and recognise customer requirements are specific in relation to testing and measuring instruments.

## **Calibration laboratory**

PCWI's in-house laboratory supports testing for a range of instruments operating in accordance with ISO/IEC 17025. All certification is Traceable to National & International Standards of Measurement.

## **Quality systems certified to ISO9001**

PCWI's Quality Management System is certified to ISO9001 and audited by SAI Global.

## **Warranties and after sales service**

PCWI provides 12 months warranty for its Detectors with detailed operator instruction handbooks and after sales service. An extension of this PCWI service is provided by your local distributor.



Office: 13 Alhambra Avenue  
CARDIFF NSW 2285  
Newcastle AUSTRALIA

Phone: (02) 4954 3900  
Intl: +61 2 4954 3900  
Fax: (02) 4954 3999

Postal: PO Box 900  
HUTER REGION MC NSW 2310

Email: [sales@pcwi.com.au](mailto:sales@pcwi.com.au)  
Web: [www.pcwi.com.au](http://www.pcwi.com.au)



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INSTRUMENTOS DE MEDICIÓN INDUSTRIAL



LLÁMANOS

+52(81) 8115-1400 / +52 (81) 8173-4300

LADA Sin Costo:  
01 800 087 43 75

E-mail:  
[ventas@twilight.mx](mailto:ventas@twilight.mx)

[www.twilight.mx](http://www.twilight.mx)