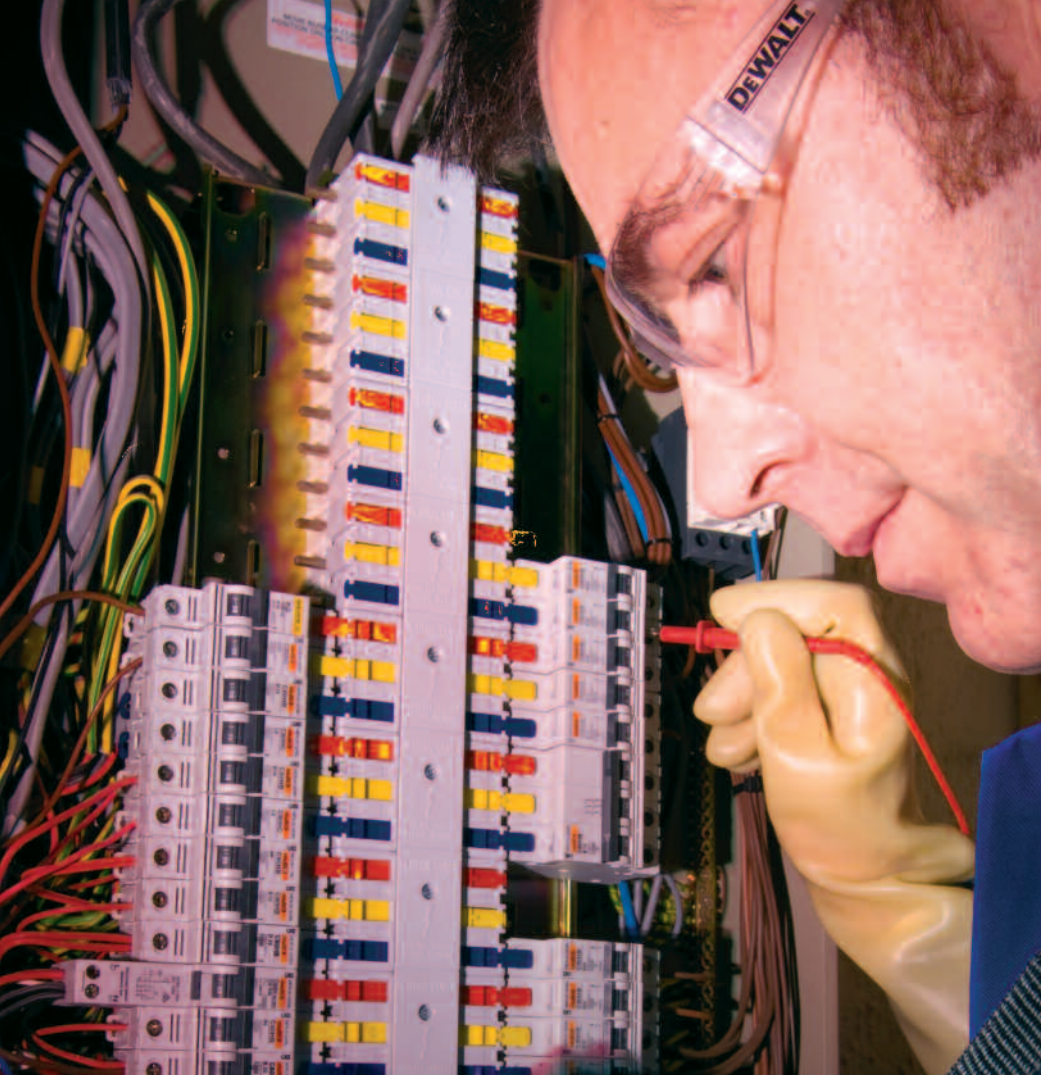


# Electrical test equipment for high and low voltage systems





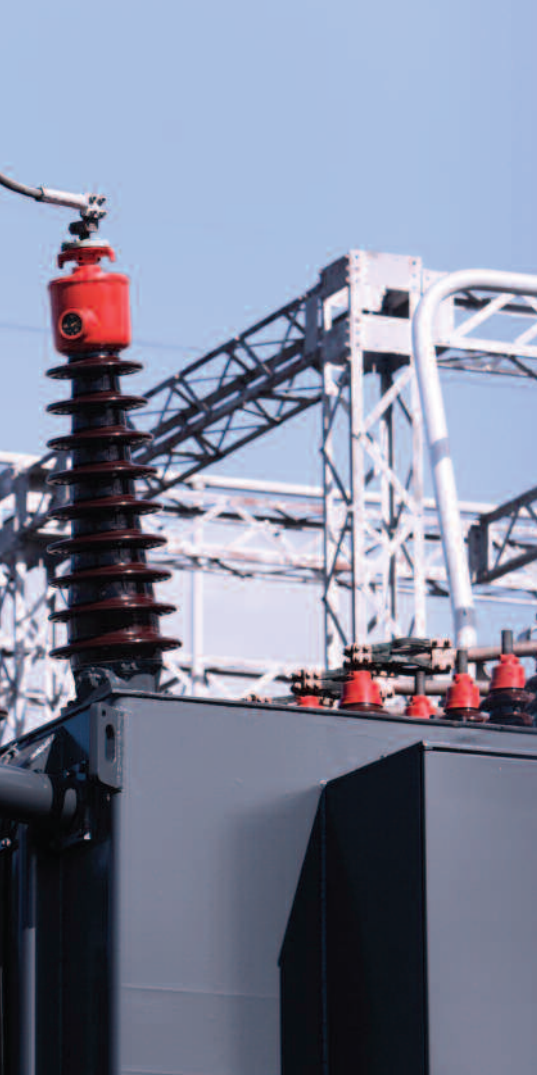
# Contents

## Electrical Test Tools

PowerTest 1557	1
IRT 1557	3
ERT 1557	5
PowerCheck 1557	7
DO7	9
DO7 Plus	11

## High Voltage Test Tools

HV Indicators	13
HV Phasing Units	15
Halo Hook	17
Type L Plus	18
SDR 11	19
SDR 35	20
AGL5	21
LLT	22
Proving Units	23
World Leading Electrical Test Solutions	24



# Leading the world in electrical test equipment for high and low voltage systems

At Seaward Group, we have over 70 years' experience in the design and manufacture of innovative electrical test instrumentation.

Today, our first-class range of industrial test and measurement equipment serves a wide variety of testing and precision measurement applications meeting many international standards for both low and high voltage electrical installations.

Customers worldwide rely on the quality of our low voltage and high voltage test tools to assure the safety and performance of the whole electrical system from distribution and overhead cables, right down to the domestic plug socket in your house or business premises.

The range includes multi and single function installation testers, high voltage indicators and phasing units, soft discharge rods, ammeters and a host of accessories.

An international service and calibration operation and free technical support line mean that our customers are offered a complete solution to their test and measurement needs.

# PowerTest 1557

## Multi-Function installation tester with integral probe

The PowerTest 1557 is a robust multi-function installation tester with integral probe, allowing the instrument to be held and the results to be read at the same time for both safety and convenience.

The PowerTest 1557 is also very fast, performing non-trip earth loop, line loop, PFC and PSC tests with one press of a button in under 5 seconds.

The lightweight, handheld and battery powered PowerTest 1557 is supplied in a durable carrying case with a 2 year warranty, 6 x AA alkaline batteries, test lead set, shrouded safety plugs, shrouded safety test probes and a red cordless shrouded safety test probe.

### Key Features:

- Fast non-trip loop test in 5 seconds
- Measures earth loop, line loop, PFC and PSC with one press of a button
- Integral probe makes reading results easy and safe
- Auto RCD test
- Robust with long battery life

### Ideal for:

- Electrical Contractors
- Training Institutions
- Electrical Engineers
- Power System Engineers

Part No: 328A910

### Find out more:



[www.seaward.co.uk/powerTest1557](http://www.seaward.co.uk/powerTest1557)  
Tel: +44 (0) 191 587 8741



## Technical Specification

### TESTS

#### Earth Continuity

Test Current	>200mA
Display Range	0.00ohm - 199ohm
Resolution	0.01ohm maximum
Test Lead Compensation	Null lead resistance 0.00ohm - 10.00ohm
Live Circuit Detection	Test inhibit if >30V detected

#### Insulation Resistance

Test Voltage	100V, 250V, 500V
Display Range	0.05Mohm – 199Mohm
Resolution	0.01Mohm maximum
Live Circuit Detection	Test inhibit if >30V detected

#### Loop/Line Impedance

Supply Voltage	195 - 253V/340-440V,45Hz-65Hz
Test Current	15mA (non tripping for RCD protected circuits)
Display Range	0.01ohm - 2000ohm
Resolution	0.01ohm maximum
Loop Impedance	Phase to Earth
Line Impedance	Phase to Neutral/Phase to Phase
PFC/PSC Range	0 – 26kA

#### RCD Trip Time

Supply Voltage	195 – 253V, 45 – 65Hz
Test Currents	10, 30, 100, 300, 500mA
Trip Time Ranges	0ms – 2000ms at 1/2 I $\Delta$ n 0ms – 300ms at I $\Delta$ n general 0ms – 500ms at I $\Delta$ n selective 0ms – 40ms at 5x I $\Delta$ n
Auto Test	Auto sequence for 1/2 I $\Delta$ n, I $\Delta$ n and 5x I $\Delta$ n at 0° and 180°
RCD Type	General (G), Selective (S), Pulsed (A), AC (AC)

#### RCD Trip Current (Ramp Test)

Supply Voltage	195 – 253V, 45 – 65Hz
Test Currents	10, 30, 100, 300, 500mA
Ramp Current Range	1/2 I $\Delta$ n to 1.1 I $\Delta$ n

#### Voltage/Frequency Measurement

Display Range	0 – 440V
Resolution	1V
Frequency Measuring Range	45 – 65Hz

#### ADDITIONAL INFORMATION

Compliance	IEC 61010-1 300V CAT III, EN 61557
Weight & Dimensions	0.95kg / 26cm x 10cm x 5.5cm
Power Supply	6 x AA Alkaline Batteries (supplied) 6 x AA NiMH Rechargeable Batteries (optional)

#### ACCESSORIES

##### Hardware

PowerCheck 1557 (369A910)

# IRT 1557

## Insulation resistance and continuity tester

The IRT 1557 is a handheld insulation resistance and continuity tester with an easy to use rotary switch for selecting tests.

The IRT 1557 measures earth continuity insulation resistance at 250V, 500V and 1000V and voltages up to 1000VAC or DC.

The insulation resistance measurement features automatic discharge of capacitive circuits and provides an automatic warning if accidentally connected to live circuits.

The IRT 1557 includes voltage measurements up to 1000VAC or DC and has a safety rating of 600V CAT III / 1000V CAT II. It is supplied as standard with one each of 1.5m black and red test lead, one each of black and red crocodile clip, and a carry case.

### Key Features:

- Handheld with integral probe for easy and safe results reading
- Automatic discharge of capacitive circuits
- Dual safety rating
- Continuous test mode
- Robust with long battery life
- Clear large LCD display

### Ideal for:

- Electricians
- Telecomms Engineers
- Power System Engineers
- Electrical Contractors

Part No: 365A910

### Find out more:



[www.seaward.co.uk/irt1557](http://www.seaward.co.uk/irt1557)  
Tel: +44 (0) 191 587 8741



## Technical Specification

### TESTS

#### Insulation Resistance

Display Range	0.001Mohm - 1999Mohm
Analogue Bar Graph	0ohm - infinity
Test Voltage	250v; 500v; 1000v
Nominal Current	1mA minimum per EN 61557
Audible/Visible Warning	Inhibited if 30 V AC or DC at inputs

#### Continuity

Display Range	0.00ohm - 19.99ohm
Open Circuit Test Voltage	4V DC nominal
Test Current	200mA,
Audible and Visible Warning	Inhibited if 30 V AC or DC at inputs

#### Resistance

Display Range	0ohm - 2000ohm
Test Current	25µA nominal
Audible and Visible Warning	Inhibited if 30 V AC or DC at inputs

#### Voltage

Display Range	0V - 1000V DC/AC to 400Hz
Analog Bar Graph	0 - 1000V
Audible/Visible Warning	30 V AC or DC at inputs

### ADDITIONAL INFORMATION

Safety Rating	IEC 61010-1, 600V CAT III / 1000V CAT II
Weight & Dimension	0.8kg / 26cm x 10cm x 5.5cm
Compliance	EN 61557-1, -2, -4, -10

### ACCESSORIES

#### Hardware

PowerCheck 1557 (369A910)

# ERT 1557

## Advanced earth resistance tester with internal memory

The ERT 1557 is a versatile professional instrument, ideal for testing earth systems and lightning protection installations at the time of installation or periodically. Earth measurements can be made using ground spikes or a combination of current clamps making the ERT 1557 ideal for a multitude of applications; including measuring earth resistance, the resistance of individual earthing rods, lightning grounding installations and determining soil resistivity.

The ERT 1557 has advanced electronic measuring circuitry which offers accurate measurement even in situations where high levels of external noise can influence readings.

Earth resistance measurement is carried out using 2, 3 and 4-wire methods or a combination of current clamps.

The ERT has an internal memory for 500 test results which you can download to your PC. Its user-friendly features include a large rotary dial for test selection, large LCD and simple push button test activation. The unit is supplied with four earth spikes and full test lead set. The ERT is one of the most competitive earth resistance testers on the market.

It is supplied as standard with one each of 5m black and green test lead, one each of 20m red and blue test lead, USB to MiniDIN Lead Assembly and 4 x test spikes.

### Key Features:

- Current clamp measurement
- 2, 3 and 4-wire measurement methods
- Earth resistance and soil resistivity measurement
- Internal memory for 500 test results for data management

### Ideal for:

- Telecomms Engineers
- Power Systems Engineers
- Electricians
- Electrical Contractors

Part No: 362A910

### Find out more:



[www.seaward.co.uk/ert1557](http://www.seaward.co.uk/ert1557)  
Tel: +44 (0) 191 587 8741





## Technical Specification

### TESTS

#### Earth Resistance 2, 3 and 4 wire method

Display Range	0.00ohm - 50.0kohm
Measuring Frequency	125 Hz +/- 1 Hz
Measuring Current	<20mA effective
Measuring Voltage	<50V effective sine wave

#### Earth Resistance using current clamp

Display Range	0.0ohm - 2.00kohm
Measuring Frequency	125 Hz +/- 1 Hz
Measuring Current	<20mA effective
Measuring Voltage	<50V effective sine wave

#### Specific Earth Resistance (p)

Display Range	0.00ohm – 1999kohm
Measuring Frequency	125 Hz +/- 1 Hz
Measuring Current	<20mA effective
Measuring Voltage	<50V effective sine wave

### ADDITIONAL INFORMATION

Weight & Dimensions	0.8kg / 26cm x 10cm x 55mm
Memory	500 memory locations
Communication	USB
Compliance	EN 61557-1, -5, IEC61010-1, 300V CAT II

### ACCESSORIES

ERT Current Clamp (278A923)

# PowerCheck 1557

## Advanced comprehensive verification checkbox

The PowerCheck 1557 is an extremely rugged and comprehensive verification checkbox suitable for use with all multi-function and single function installation and portable appliance testers.

This rugged unit fully checks the earth continuity, insulation resistance, RCD trip time, RCD trip current, loop, PE conductor current, touch current and flash tests of your test instrumentation to ensure accurate measurement and correct operation between calibration intervals.

This simple to use instrument is built into a rugged enclosure capable of withstanding the most demanding use and conditions and is supplied with comprehensive guidance and record keeping sheets.

Suitable for use on earth continuity or earth bond testers up to 25A, the PowerCheck 1557 also verifies loop impedance or RCD testers on RCD protected circuits - without tripping the RCD.

### Key Features:

- Rugged and robust portable unit
- Does not trip building RCDs
- Compatible with all installation and PAT testers
- Confirms the performance of testers between calibration intervals

### Ideal for:

- Electricians
- Service Engineers
- Electrical Contractors

Part No: 369A910

### Find out more:



[www.seaward.co.uk/powercheck1557](http://www.seaward.co.uk/powercheck1557)  
Tel: +44 (0) 191 587 8741



## Technical Specification

### TESTS

#### Earth Continuity Verification

Test Current	In >200mA indication
Test Voltage	4V < Un > 24V indication
Test Resistances	0.5ohm and 2ohm

#### Insulation Resistance Verification

Open Circuit Test Voltage:	250V < Un < 375V indication 500V < Un < 750V indication 1000V < Un < 1500 indication
Test Current	In >1mA into 1000ohm/V
Max Test Current	Ik <2mA
Test Resistances	0.25Mohm, 0.5Mohm, 1.0Mohm

#### Earth Loop Verification

Test Values	Loop, Loop+1ohm, Loop+180ohm
-------------	------------------------------

#### RCD Verification

Trip Current	10mA, 30mA, 100mA
Trip Times	20ms, 40ms, 500ms
Test Current multiplier	1/2Δn, IΔn and 5 IΔn verification

#### Voltage Verification

Test Voltage	240V AC rms test output
--------------	-------------------------

### PAT FUNCTIONS

#### Earth Continuity Verification

Test Resistances	0.2ohm and 2ohm
------------------	-----------------

#### Insulation Resistance Verification

Test Resistances	500kohm, 1Mohm and 2Mohm
------------------	--------------------------

#### PE Conductor Current

Test Currents	0.1mA, 0.25mA and 0.5mA
---------------	-------------------------

#### Flash Test current

Test Currents	0.5mA, 1mA and 1.5mA
---------------	----------------------

### ADDITIONAL INFORMATION

Power Supply	230V AC ±10%
Weight & Dimensions	1kg / 21cm x 14.5cm 8.5cm

# DO7

## Rugged digital microhmmeter for low resistance measurement

The DO7 digital microhmmeter is a practical instrument for low resistance measurement, ideal for use in the workshop, field or test facilities of the utilities industry. It is of rugged construction, contained in a sealed ABS plastic case with lid and carrying handle.

The DO7 digital microhmmeter features rechargeable batteries for real portability and more than one hour of continuous operation at the lowest ranges (10A), and twenty hours for all others. In addition, the internal charger will boost charge to 90% of full charge, switching automatically to a trickle maintenance charge.

It is supplied as standard with one set of test leads and a mains cord.

### Key Features:

- High accuracy from 600 microhms to 60ohms ranges
- 10A measuring current
- LED display for daylight viewing
- Mains / rechargeable battery operation

Part No: 930119

### Find out more:



[www.seaward.co.uk/do7](http://www.seaward.co.uk/do7)  
Tel: +44 (0) 191 587 8741



## Technical Specification

### TESTS

Range	Resolution	Typical Current	Accuracy at 20°C ±5°C, 1 Year	Temp Coefficient/°C
60Ω	10mΩ	1mA	±(0.15% Rdg +0.05% FS)	40ppm Rdg + 30ppm FS
6Ω	1mΩ	10mA	±(0.15% Rdg +0.05% FS)	40ppm Rdg + 30ppm FS
600mΩ	100μΩ	100mA	±(0.15% Rdg +0.05% FS)	40ppm Rdg + 30ppm FS
60mΩ	10μΩ	1A	±(0.15% Rdg +0.05% FS)	40ppm Rdg + 30ppm FS
6mΩ	1μΩ	10A	±(0.2% Rdg +0.01% FS)	40ppm Rdg + 30ppm FS
600μΩ	0.1μΩ	10A	±(0.2% Rdg +0.2% FS)	40ppm Rdg + 250ppm FS

### ADDITIONAL INFORMATION

#### Measurement

4 Terminal Kelvin / Thomson principle eliminates errors due to lead resistance. Open circuit measurement voltage = 2V dc

#### Display

0.8" LED 6000 count with automatic decimal point and polarity indication

#### Ranges

6 push button selected with LED indication

#### Terminals

6mm binding posts accept spade tags and 4 mm banana plugs

#### Working Temperature

0°C to 40°C rel. humidity 80% max. non-condensing

#### Storage Temperature

-20 to +50°C

#### Mains Supply

100 / 120 / 220 / 240 Volts  
+10% - 13% 47Hz to 63Hz. max 80VA

#### Safety

EN 61010-1 Protective Class 1

#### Dimensions

343mm x 327mm x 152mm (W D H) approx

#### Mass

8kg approx

#### Protection

415 Vrms maximum at input terminals

#### Calibration

Digital, security key protected

#### Battery

Sealed lead acid, rechargeable cells giving a minimum of 1 hour of continuous measurement on the lowest 10 amp ranges and 20 hours on all other ranges. Internal charger with battery state indicator

#### Average

Automatic average and display of measurement with forward and reverse current

### DO7 OPTIONS

DO7-RS	Remote start plug
HS01	Duplex handspikes with 3 metre lead length
HS01-RS	Duplex handspikes with 3 metre lead length with remote start button
HS02	Duplex handspikes with 3 and 15 metre lead length
HS02-RS	Duplex handspikes with 3 and 15 metre lead length with remote start button
LS03	Lead set with 3 metre leads terminated in large Kelvin clips type KC3
LS04	Lead set with 3 metre and 15 metre lead length terminated in large Kelvin clips type KC3
LS05	Lead set with 4 x 1 metre leads terminated in banana plugs, 4 x crocodile clips, 4 x test probes and 2 x Kelvin clips type KC1 in miniature Kelvin clips type KC2
MTS2	Calibration standard
RSL01	RS232 cable

# DO7 Plus

## Rugged digital microhmmeter for low resistance measurement with data logger and temperature compensation

The DO7Plus is a 10A microhmmeter, which provides outstanding levels of accuracy and versatility. Suitable for a wide range of uses in manufacturing maintenance, power utilities and motor rewind applications where a cooling curve is required to plot peak resistance. Sealed in an IP67 case (when closed or IP53, lid open) it is ruggedly constructed to ensure durability.

This microhmmeter has a display length of 60,000 counts and auto averaging of forward and reverse measurement which removes thermal emf differences. A large LCD display provides full detail of measurement and the operator can control

measurements and store test results using the sealed QWERTY keypad. Test results can be displayed on the screen or downloaded to a PC for further analysis.

It is supplied as standard with a power supply unit, support and driver CD-Rom, calibration certificate, standard lead pack LS05, USB lead and RS232 lead.

### Key Features:

- Full cooling curve facilities built in
- Rugged, durable and easily portable
- Real time graphical plotting
- Storage of 1,000 tests downloadable via USB or RS232

Part No: 551A910

Find out more:



[www.seaward.co.uk/do7plus](http://www.seaward.co.uk/do7plus)  
Tel: +44 (0) 191 587 8741



## Technical Specification

### TESTS

Range	Current	Resolution	FSV	Uncertainty
6.0000 mΩ	10 A	100 nΩ	60 mV	0.05% Rdg +0.01%FS
60.000 mΩ	1 A	1 μΩ	60 mV	0.05% Rdg +0.01%FS
600.00 mΩ	100 mA	10 μΩ	60 mV	0.05% Rdg +0.01%FS
6.0000 Ω	10 mA	100 μΩ	60 mV	0.05% Rdg +0.01%FS
60.000 Ω	1 mA	1 mΩ	60 mV	0.05% Rdg +0.01%FS
600.00 Ω	100 μA	10 mΩ	60 mV	0.05% Rdg +0.01%FS
6.0000 kΩ	100 μA	100 mΩ	600 mV	0.05% Rdg +0.01%FS

### ADDITIONAL INFORMATION

#### Measurement

4 terminal Kelvin / Thompson principle eliminates errors due to lead resistance

#### Display

60,000 count + sign LCD graphics panel with backlight select display value of °C or °F

#### Ranges

7 resistance ranges

#### Terminals

4mm safety sockets

#### Working Temperature

0 deg C to 40 deg C

#### Storage Temperature

-20 deg C to +50 deg C

#### Safety

Conforms to EN 61010-1:2001 50V Cat 3

#### Dimensions

358mm X 269mm X 155mm (W D H) approx

#### Mass

6kg (instrument only)

#### Calibration

Digital password protected, manual or via remote interface

#### Battery

Internal, fixed NiMh battery pack, Gas gauge circuits to monitor battery capacity. Internal automatic FAST / TRICKLE battery charger. DC input from 9V to 36V.

#### Mains Supply

External mains psu 90V – 253V, 47Hz to 63Hz with interchangeable plugs.

### DO7 PLUS OPTIONS

LS03-P	Lead set with 3 metre leads and terminated with large Kelvin clips type KC3
LS04-P	Lead set with 3 metres and 15 metres lead length terminated in large Kelvin clips type KC3
HS01-P	2 x Duplex handspike with 3 metre lead length
HS02-P	Duplex handspikes with 3 and 15 metre lead length
CH01	Concentric handspikes 3M lead length
C02	1 metre cable clamp with metal base for the precise measurement of 1 metre cable samples 0.1...100mm <sup>2</sup>
CO2A	1 metre cable clamp with metal base for the precise measurement of 1 metre cable samples 1...1000mm <sup>2</sup>
PT02-DO7 Plus	PT100 temperature probe with 1 metre lead

# HV Indicators

## Portable, neon and digital potential indicators for confirming voltage on earthed neutral systems

The KD1E range of high voltage indicators confirm the presence of voltage on earthed neutral electrical systems. Conforming to the G9 recommended creepage and safety standards, each model features high-grade PVC tubing and incorporates encapsulated resistor chains. For additional safety and peace of mind, each unit is compatible for use with a PH3 proving unit for checking the voltage indicator before and after it is used.

Available with either digital readout or neon indication and the option of flat or domed contact electrodes.

The KD1E units are supplied as standard with a carry case and operating instructions. The KD1E/15D and KD1E/33D also include a battery charger and proving unit.

### Key Features:

#### Digital Readout

- Use as a potential indicator to determine presence of voltage or as a voltmeter
- Robust display housing
- No switches
- Provides direct reading of voltage measurements
- Low battery indicator
- Supplied with battery charger
- Specifically designed carrying case for unit and accessories

Unit	System Voltage*	Features	Part No.
KD1E/15D	15KV max	Resolution-10V	109A910
KD1E/33D	33KV max	Resolution-100V	109A911

\*Earthed neutral system

#### Neon Indication

- Duplicate neon indicators within shock resistant sleeves
- Permanently connected earth cable
- Hand guards on all elements
- Direct access to vertical or horizontal metal clad switch gear
- UK Electricity Council Approval list G9

Unit	System Voltage*	Features	Part No.
KD1E	1KV - 11.5KV		113A916
KD1E/KAD	1KV - 11.5KV	KAD Audio Alarm	113A915
KD1E/19	1.5KV - 19KV		113A914
KD1E/19S	1.5KV - 19KV	AC Voltage only	113A913
KD1E/22	3KV - 22KV		113A912
KD1E/33	3KV - 33KV		113A911

### Find out more:



[www.seaward.co.uk/hvindicators](http://www.seaward.co.uk/hvindicators)  
Tel: +44 (0) 191 587 8741

Neon Indication



Digital Readout



## Technical Specification

### TESTS

Indicator Type	Neon Indicator					Digital Reading	
Indicator Type	KD1E	KD1E/19	KD1E/19S	KD1E/22	KD1E/33	KD1E/15D	KD1E/33D
Maximum System Voltage	11kV	19kV	19kV	22kV	33kV	15kV	33kV
Maximum Voltage to Earth	6.6kV	11kV	11kV	12.5kV	19kV	8.6kV	19kV
Threshold Voltage	300V	300V	300V	300V	300V		
Measuring Range						0.00kV-8.6kV	0.00kV-19.0kV
Resolution						10V	100V
Sensitivity	AC/DC	AC/DC	AC Only	AC/DC	AC/DC	AC/DC	AC/DC
Circuit Current (IEC 61234-2)	2.3mA nominal @ 6.6kV	0.7mA nominal @ 11kV	0.9mA nominal @ 11kV	3.5mA nominal @ 12.5kV	1.1mA nominal @ 19kV	0.5mA nominal @ 8.6kV	1.1mA nominal @ 19kV
Dielectric Leakage Current (IEC 61234-2)	7µA nominal @ 13.8kV	11µA nominal @ 22.8kV	12µA nominal @ 22.8kV	12µA nominal @ 26.4kV	17µA nominal @ 40kV	9µA nominal @ 18kV	17µA nominal @ 40kV
Length (mm)	330	330	330	665	670	600	600
Diameter (mm)	25	25	25	25	25	25	25
Handle Length (mm)	105	105	105	90	250	235	235
Hand Guard Height (mm)	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Contact Electrode Type	Domed	Flat	Flat	Domed	Flat	Domed	Domed

Extension Rods	1.5m Straight	90°	120°
Maximum System Voltage	33kV	15kV	33kV
Dielectric Leakage Current	140µA nominal @ 40kV	50µA nominal @ 18kV	130µA nominal @ 40kV
Length	150cm	78cm	78cm
Diameter	2.5cm	2.5cm	2.5cm
Contact Electrode Type	"V" form	Domed	Domed

### ACCESSORIES

Unit	Features	Part No.
PH3	■ Proving unit for proof testing high voltage indicators	112A913 (domed) 112A921 (flat nose)
	■ High voltage output 1200V -1500DC	
	■ Self test facility	
	■ Avoids use of known supply points or bulky test equipment	
Bent End Adaptors	■ 90° or 120°	141A900 – 90° 141A912 – 120°
	■ Suitable for use on vertical type switchgear	
Extension Rod	■ 1.5m extension rod for use on overhead lines	141A901
	■ Suitable for use with KDIE/15D, KDIE/33D, PR15D and PR33D	

# HV Phasing Units

## Phasing rods for use on systems up to 3kV, 11kV or 15kV

The PR11 provides a means of phase comparison at the point of paralleling two circuits, without the interposition of voltage transformers or secondary wiring earthed neutral systems. A neon type instrument, it is designed for use on earthed neutral systems up to 11kV. It is supplied as standard with a carry case and operating instructions.

The PR15D / PR33D units enable phase angle comparison on earthed neutral systems up to 15kV and 33kV respectively.

The digital reading instruments provide voltage measurements and are supplied with a detachable earth lead, allowing the digital leg to be used as a voltage indicator, independently from the phasing leg.

The PR15D and PR33D are supplied as standard with a PH3 proving unit, PSU100 battery charger, 2 x 1.5m straight extension rod, 3m earth lead and a carry case.

### Key Features:

#### PR15D / PR33D

- Provides a means of phase angle comparison and indication of phase angle voltage at the point of intended paralleling of two circuits on neutral earthed systems. Both units are digital instruments
- Chart provides a means of checking phase angle difference of circuits paralleled
- Kit comprises two elements with resistor chains, one with digital indicator and the second a phasing rod

Unit	Voltage*	Features	Part No.
PR15D	15kV max	Resolution-10V	109A912
PR33D	33kV max	Resolution-100V	109A913

\*Earthed neutral system

#### PR11

- For use on 1kV to 11.5kV systems
- PVC hand guards on handles of elements
- Neon indicator enclosed in shock resistant sleeve
- Direct areas possible to all types of switch gear
- Complies with UK Electricity Council Engineering recommendation G9

Part No: 113A910

### Find out more:



[www.seaward.co.uk/phasingunits](http://www.seaward.co.uk/phasingunits)  
Tel: +44 (0) 191 587 8741

PR11



PR15D/PR33D



## Technical Specification

### TESTS

Indicator Type	Neon Indication	Digital Reading			
		PR15/D Digital Leg	PR15/D Phasing Leg	PR33D Digital Leg	PR33D Phasing Leg
Indicator Type	PR11	PR15/D Digital Leg	PR15/D Phasing Leg	PR33D Digital Leg	PR33D Phasing Leg
Maximum System Voltage	11kV	15kV	15kV	33kV	33kV
Maximum Voltage to Earth	6.6kV	8.6kV	8.6kV	19kV	19kV
Threshold Voltage	1.65kV (nominal)				
Measuring Range		0.00kV - 8.6kV		0.00kV - 19.0kV	
Resolution		10V		100V	
Sensitivity	AC/DC	AC/DC		AC/DC	
Circuit Current (IEC 61234-2)	0.9mA nominal @11.5kV	0.5mA nominal @15kV	0.5mA nominal @15kV	0.9mA nominal @33kV	0.9mA nominal @33kV
Dielectric Leakage Current (IEC 61234-2)	25µA nominal @13.58kV	7µA nominal @ 18kV	7µA nominal @ 18kV	23µA nominal @ 40kV	17µA nominal @ 40kV
Length	33cm	60cm	67cm	60cm	67cm
Diameter	2.5cm	2.5cm	2.5cm	2.5cm	2.5cm
Handle Length	10.5cm	23.5cm	24cm	23.5cm	24cm
Hand Guard Height	23.5cm	23.5cm	23.5cm	23.5cm	23.5cm
Contact Electrode Type	Domed	Domed	Domed	Domed	Domed

### ACCESSORIES

- 1 x Proving unit
- 1 x Battery charger
- 2 x Overhead line extensions (1.5m)
- All leads and instructions
- Supplied with carrying case

# Halo Hook

## Ammeter for overhead powerlines on systems up to 36kV

The Halo hook is a portable open core current transformer for accurately measuring high voltage conductor current flow in a range of 0 to 2000 amps and is suitable for use on system voltages of up to 36kV.

The instrument is applied using appropriate insulated operating poles, which quickly and simply affix to the base of the instrument with a 'universal spline' attachment. Hooking the Halo around the conductor, the peak reading of the rms current can be stored on a large clear LCD display and retained until reset.

Typical applications include spot load surveys, phase balancing on primary and secondary circuits and monitoring of current flow through high voltage fuses to establish their integrity. The rugged design makes this instrument ideal for field use and is used by power utilities throughout the world. Padded carrying case and full instructions included.

### Key Features:

- Lightweight 1.28 kg
- Take spot checks quickly and easily
- Moulded plastic head for conductors up to 5.8cm in diameter
- For use on overhead or underground applications
- Peak hold and track modes
- Auto-ranging LCD display
- True RMS reading
- Display 3.5 digit LCD
- Max. Amperes: 1999 Min. Amperes: 0.1
- Display response time: 3 seconds to full scale
- 3% off reading  $\pm$  1 digit accuracy:
- Temperature Range: 0°F – 122°F (-18°C - 50°C)
- Auto shut off
- Operating humidity range: 80% RH at 120°F
- Maximum voltage: 36kV AC (phase to phase)
- Replaceable 9V alkaline battery - 40+ hours continuous operation
- Membrane type, tactile response control panel
- Dimensions core opening: 5.8cm x 9.4cm

Part No: 205A910

### Find out more:



[www.seaward.co.uk/halohook](http://www.seaward.co.uk/halohook)  
Tel: +44 (0) 191 587 8741



# Type L Plus

## Large jaw clamp meter with continuous readout and store function

The lightweight Type L Plus large jaw current clamp meter is designed for the measurement of current in large diameter conductors and fuses. Its 100mm jaw opening allows for use in most difficult situations, and is suitable for porcelain fuse carriers in distribution systems.

It has high levels of insulation providing maximum safety and protection to the user. It has a measurement range of 0A to 2000A and values are shown on the large 3.5 digit LCD display.

The unit is easily controlled with two functional buttons and an OFF button. The TRACK button enables a continuous readout, whilst STORE holds the current value by freezing the display, making it ideally suited for monitoring maximum demand in electrical distribution networks.

It is supplied as standard with a carry case and operating instructions.

### Key Features:

- 3.5" digit LCD display with 1.2cm high characters
- 0 – 2000 amps measurement range
- 50 – 600 volts AC 50 HZ voltage range
- 10cm x 14cm internal jaw dimensions
- 0°C - +40°C operating temperature range
- - 20°C - +°C storage range
- 9 volt PP3 IEC number 6LF22 battery
- 3% accuracy of full scale on all ranges for a conductor positioned at the centre of the jaws

Part No: 275A910

Find out more:



[www.seaward.co.uk/typelplus](http://www.seaward.co.uk/typelplus)  
Tel: +44 (0) 191 587 8741



# SDR 11 HV Discharge Rod

Portable device used for the safe damp discharge of cables or equipment under test

This instrument will allow you to conduct the safe damp discharge of the residual charge on the cable / equipment by limiting the discharge current.

Each model features high grade glass fibre tubing and incorporates encapsulated resistor chains.

It is supplied as standard with earthing wire (10 sq.mmx 5mtr), yellow green wire and carry case.

## Key Features:

- Safe HV discharge rod for soft damp discharge of cables and / or equipment under test
- Supplied with flexible cable with heavy duty brass clamp for easy earth connection
- Robust single pole device
- No switches
- Suitable for voltages to 11kV
- Supplied with cushion soft carrying case

## Technical Specifications

- Discharge Voltage: 11kV AC/DC max
- Peak Discharge Current: 1.1A for 100ms
- Bleeder Resistance: 10K ohm
- Discharge Capacitance: 10  $\mu$ F
- Leakage Current at 35 KV AC: <50  $\mu$ A
- Discharge Energy: 3675J
- Cooling: Neutral
- Total Size: 32mm x 750mm
- Weight: 2.2 kg (Net)
- Safety: IEC/EN-61010-32, IEC 1230, EMC Not Applicable
- Temperature: -5°C to 70°C

Part No: 401A912

Find out more:



[www.seaward.co.uk/sdr11](http://www.seaward.co.uk/sdr11)  
Tel: +44 (0) 191 587 8741



# SDR 35 HV Discharge Rod



## Portable device used for the safe damp discharge of cables or equipment under test

This instrument will allow you to conduct the safe damp discharge of the residual charge on the cable / equipment by limiting the discharge current.

Each model features high grade glass fibre tubing and incorporates encapsulated resistor chains.

It is supplied as standard with earthing wire (10 sq.mmx 5mtr), yellow green wire and carry case.

### Key Features:

- Safe HV discharge rod for soft damp discharge of cables and / or equipment under test
- Supplied with flexible cable with heavy duty brass clamp for easy earth connection
- Robust single pole device
- No switches
- Suitable for voltages to 35kV
- Supplied with cushion soft carrying case

### Technical Specifications

- Discharge Voltage: 35kV AC/DC max
- Peak Discharge Current: 3.5A for 100ms
- Bleeder Resistance: 10K ohm
- Discharge Capacitance: 6  $\mu$ F
- Leakage Current at 35 KV AC: <50  $\mu$ A
- Discharge Energy: 3675J
- Cooling: Neutral
- Total Size: 32mm x 950mm
- Weight: 2.2 kg (Net)
- Safety: IEC/EN-61010-32, IEC 1230, EMC Not Applicable
- Temperature: -5°C to 70°C

Part No: 401A910

### Find out more:



[www.seaward.co.uk/sdr35](http://www.seaward.co.uk/sdr35)  
Tel: +44 (0) 191 587 8741



# AGL 5

Voltage detector designed for use on systems up to 5kV including offshore, remotely operated vehicles and airfield ground lighting systems

The AGL-5 is a two pole voltage detector designed specifically for use on offshore systems, remotely operated vehicles (ROV) or airfield ground lighting (AGL) systems up to 5kV. The instrument indicates the presence of voltages greater than 50V AC/ 70V DC and up to 5000V AC or DC.

The unit is totally encapsulated in a high impact rugged enclosure and is IP64 rated. The ultra-bright high intensity

red LED indicators and a polarising filter making it clearly visible in all working environments.

The AGL-5 is supplied as standard with a PH3-LLT proving unit for proof testing before and after use and a protective carry case.

## Key Features

- Suitable for system voltages up to 5kV
- High visibility indicators

## Technical Specifications

### AGL-5 Two-Pole Voltage Detector

- Working Voltage 5000V DC max
- Threshold Voltage 50V AC/70V DC
- Circuit Current <3.5mA
- Indicator 2 ultra-bright red LED
- Compliance IEC 61243-2 and IEC 61243-3

### PH3-LLT Proving Unit (included)

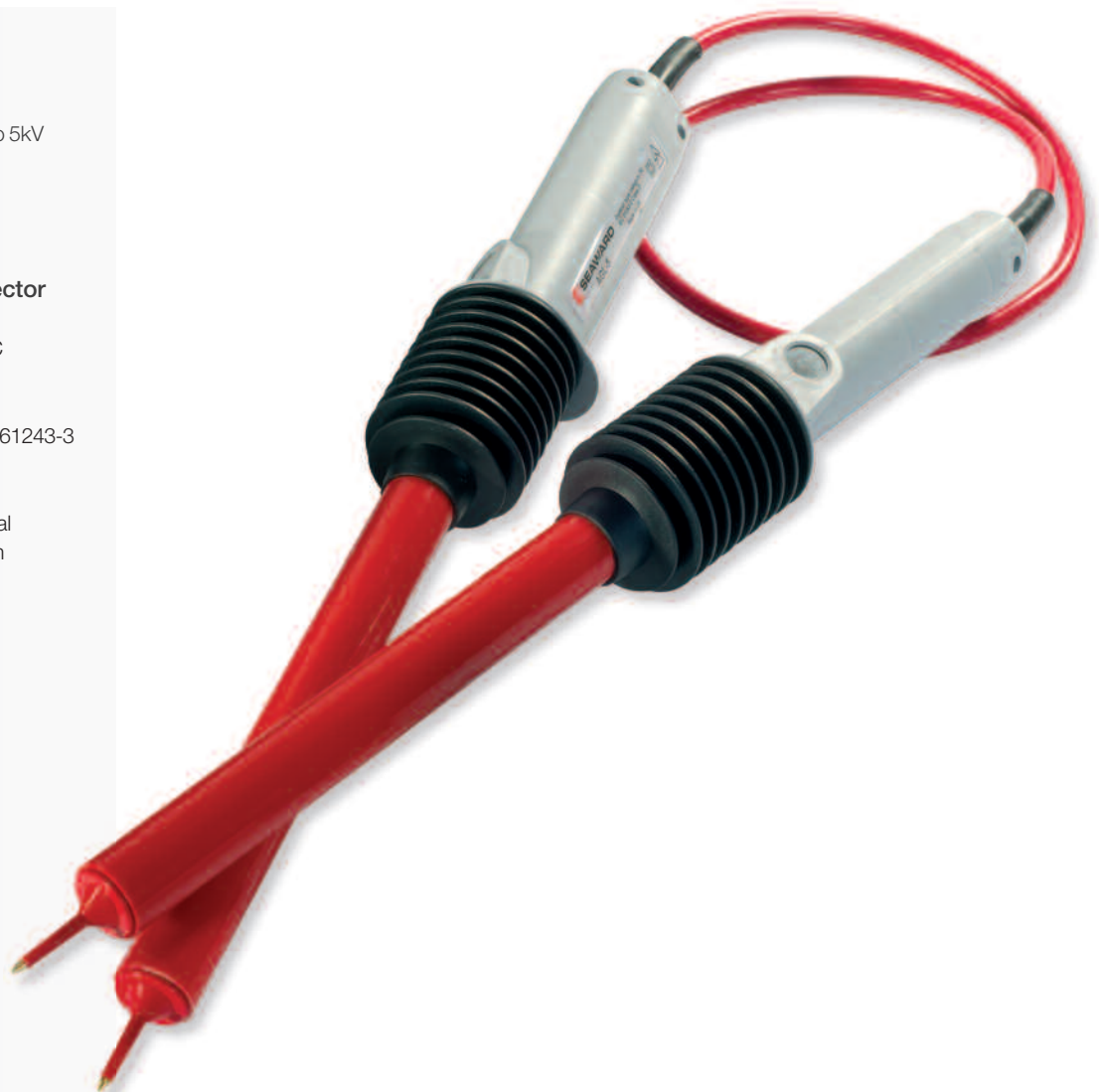
- Output Voltage 500V DC nominal
- Output current 0.45mA into 2kohm
- Two non-touchable terminals
- Neon 'active' indicator
- Compliance BS EN 61010-1

Part No: 374A910

Find out more:



[www.seaward.co.uk/agl5](http://www.seaward.co.uk/agl5)  
Tel: +44 (0) 191 587 8741





# LLT

## Voltage detector for live line testing on systems up to 1100V DC

The Seaward LLT live line tester is a voltage detector ideal for live line testing on systems up to 1100V DC, and is encapsulated in a high impact rugged enclosure with high-visibility cable. The unit is fitted with high-intensity red LED indicators and a polarising filter making it clearly visible, even in direct sunlight.

Designed specifically for live line applications, the LLT high voltage indicator ensures conductor rails have been isolated from the power supply before maintenance or inspection work commences on rail track systems.

The LLT and PH3-LLT proving unit are approved by NetworkRail – Certificate of Acceptance No. PA05/03345.

It is supplied as standard with a carry case and operating instructions.

### Key Features

- Suitable for live line testing up to 1100V DC
- High intensity LED indication
- Compliance BS EN61243-3

### Technical Specification

- Working Voltage 1100V DC max
- Threshold Voltage 200VAC/300VDC
- Circuit Current <10mA
- Indicator 3 ultra-bright red LED
- Compliance BS EN61243-3

LLT Part No: 114A922

### PH3-LLT Proving Unit (optional accessory)

- Output Voltage 500V DC nominal
- Output current 0.45mA into 2kohm
- Two non-touchable terminals
- Neon 'active' indicator
- Compliance BS EN 61010-1

PH3-LLT Part No: 112A925

### Find out more:



[www.seaward.co.uk/llt](http://www.seaward.co.uk/llt)  
Tel: +44 (0) 191 587 8741



# Proving Units

## Compact proving units for potential indicators, test lamps and multimeters

The PH3 is a highly portable, battery powered unit for proving high voltage indicators, live line testers and digital potential indicators. This proving unit produces a DC output voltage for confirming the operation of voltage indicators before and after use. Designed for use with the KD1E series, or other instruments with domed or flat contact electrodes.

It is supplied as standard with carry case and operating instructions.

The PPX and PP1 are compact proving units provide a nominal 240 volt DC output at approximately 20 milliamps. These instruments are ideal for all types of voltage indicators including LCD, LED and filament bulb type. Supplied with a rugged carrying case with the PPX incorporating a belt clip. These proving units are simple and convenient for use in the field and are powered by 4 x AA alkaline cells.

### PH3

#### Key Features

- Nominal 1500V DC output
- Neon indicator to show output is active
- Very portable and compact
- Powered by 1 x PP3 9V cell (not included)

PH3 for domed electrodes

Part No: 112A913

PH3 Flat Nose Part No: 112A921

PH3-LLT Part No: 112A925

### PPX and PP1

#### Key Features

- Nominal 240V DC output
- Supplied with rugged carry case
- PPX supplied with convenient belt clip
- Powered by 4 x AA alkaline cells (not included)
- It is supplied as standard with carry case and operating instructions.

PPX Part No: 112A910

PP1 Part No: 112A911

Find out more:



[www.seaward.co.uk/provingunits](http://www.seaward.co.uk/provingunits)

Tel: +44 (0) 191 587 8741





# World Leading Electrical Test Solutions

Seaward Group provides electrical test and measurement instruments and services. Our products meet the demands of all types of safety legislation and standards. We are an international market leader in a number of highly technical market sectors. We pride ourselves on high quality product design and manufacturing.

We believe in putting you, the international customer, at the heart of everything we do. Our multi-lingual customer services department, overseas technical support centres and global distribution network all help us to excel.

Rigel Medical, a Seaward Group company, currently holds The Queen's Award for Enterprise, one of the most prestigious awards that a UK-based company can achieve.

**Seaward**



PAT, installation and high voltage test and measurement solutions

[www.seaward.co.uk](http://www.seaward.co.uk)

**Clare**



Test solutions for electrical manufacturers and hire companies

[www.clare.co.uk](http://www.clare.co.uk)

**Cropico**



High precision resistance and temperature measurement instruments

[www.cropico.com](http://www.cropico.com)

**Rigel**



Advanced solutions for testing biomedical equipment

[www.rigelmedical.com](http://www.rigelmedical.com)

**Solar**



Safe, efficient test solutions for PV installers

[www.sewardsolar.com](http://www.sewardsolar.com)

**Calibrationhouse**



Taking care of your test and measurement equipment

[www.calibrationhouse.com](http://www.calibrationhouse.com)


Our six brands operate to the same high standards; innovating and enhancing electrical safety testing in their individual markets.

[www.seaward-group.com](http://www.seaward-group.com)

Seaward, Bracken Hill, South West Industrial Estate,  
Peterlee, County Durham, SR8 2SW United Kingdom

**Tel:** +44 (0) 191 586 3511 **Fax:** +44 (0) 191 586 0227

**Email:** sales@seaward.co.uk **Web:** www.seaward.co.uk

 @SeawardGroup  Find Seaward Group on LinkedIn

