PIPELINE INSPECTION COMPANY LTD.

SPY®

SPY®

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Jeepmeter

Operating Instructions
SPY®, Jeepmeter
MODEL JM, PJM, DCPJM

Safety Disclaimer

Only trained and responsible personnel should operate any high voltage equipment. Warning labels should be prominently displayed prior to and during testing. These units are designed to operate at and maintain a current output well below that which is required to cause injury. However, should the operator accidentally touch the test electrode or ground while the equipment is activated, he may experience a mild shock. In order to minimize this possibility, the operator may wear rubber or plastic gloves. Non-conductive footware is also recommended. If rubber or plastic gloves are used, their effectiveness is limited to the degree to which they do not have damage to their protective surface. Usage of the equipment is confined to checking for defects in insulating materials.

It is recommended that testing should be conducted well clear of personnel not involved in the testing procedure. Personnel involved in testing should always be aware of the safety limitations imposed by their environment. It is recommended that the operator should have an assistant to ensure that unauthorized personnel are kept clear of the testing area.

Danger: Do not use inspection equipment of this type in any combustible or flammable atmosphere as a test voltage will cause an arc or spark, and an explosion could result. When operating in any potentially hazardous area, the plant or site safety officer should be consulted before proceeding with a test.

EMI Disclaimer

WARNING.... This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

NOTE.... Holiday detectors create a spark during their normal course of operation when a defect in the pipe coating is found. This spark will cause radio interference. During the device's passive or search mode, it qualifies as a class A product.

Warranty

Pipeline Inspection Co., Ltd., hereafter referred to as (SPY,) warrants that SPY® Model 7X5/9X5/1X5 Series Holiday Detectors and Jeepmeters shall, under normal use and service, be free from defects in material and workmanship. SPY®'s entire warranty obligation shall be limited to, at SPY®'s option, the repair or replacement free of charge to the buyer of any defective equipment or parts thereof which prove to be defective in material and workmanship under normal use and service.

Claims for defective parts must be made in writing within twelve (12) months after shipment of the equipment from the works of SPY®. Fast wearing and consumable parts including, but not limited to, electrodes and ground cables, are expressly excluded from the warranty. SPY® shall have the option to require return of a claimed defective part to SPY®'s plant in the U.S.A., freight prepaid by buyer for examination to establish buyer's claim.

Except with SPY®'s prior written approval, SPY® shall not be liable (a) for the cost of repairs, alterations or replacements or any expense connected therewith made or incurred by the buyer or its designees, or (b) for defects resulting from alterations or repairs made by others than SPY® or its approved representatives.

SPY® shall not be liable for damages, including but not limited to direct, special, indirect or consequential, resulting from the handling, or use, whether alone or in combination with other products, or any SPY® equipment or third party designed or manufactured equipment, including without limitation, any loss or damage sustained or caused by the operation and use of the equipment which is improperly operated or its successful operation is impaired by natural elements after its delivery to the buyer.

The foregoing warranty is exclusive and in lieu of all other warranties whether written, oral or implied (including without limitation, any warranty of merchantability or fitness for purpose).

EC Declaration of Conformity

Manufacturer of Equipment:
Pipeline Inspection Co. Ltd.
1919 Antoine Houston, Texas 77055 USA
Phone: 713.681.5837
Fax: 713.681.4838
Email: sales@picltd.com

Authorized Representative in the EC Community:
Pipeline Induction Heat LTD
The Pipeline Centre Farrington Road
Rossendale Road Industrial Estate
Burnley, Lancashire BB11 5SW
England, United Kingdom
Attn: Michael Burnley

Description of Equipment:
Jeepmeter
Model JM

Jeepmeters are devices that are used to measure and display the output voltage of a Holiday Detector. These devices operate as volt meters when measuring the output of the D.C. type outputs. When measuring pulse output voltages these devices operate as "Crest-Type" voltmeters.

Harmonized Standards tested to:
IEC 801-2: 1991 Electrostatic discharge
IEC 801-3: 1984 Radiated RF Immunity
IEC 801-4: 1988 Electrical Fast Transients
EN 55022: 1995 Radiated Emissions

Specifications: Successful completion of these tests was defined as correctly returning to proper indication upon completion of each attempted disruption of indication.

SPY®

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CAUTION!

This meter is used to measure low energy high voltage. Operator may be subject to electrical shock if meter is not properly grounded and/or operated in accordance with instructions and procedures prescribed below.

Principles of Operation

The SPY® JeepMeter series of Crest voltmeters are instruments designed to provide accurate and reliable measuring of the crest value of high voltage non-sinusoidal waveforms. The output waveform of holiday detectors typically has this type of shape and therefore prevents the use of conventional RMS voltmeters.

The Model JM enables the operator to measure DC or pulse voltages. Holiday detectors output both types of waveforms depending on the type of coating they are being used on. For example, the SPY® 725 holiday detector is a pulse only output used for inspecting tapes, extruded coatings, coal tar enamels and sometimes thin film epoxy coatings and has a voltage range of 1 to 15kv. The SPY® 715 holiday detector is a DC/pulse output used for thin film epoxy coatings and has an output voltage range of 1 to 5kv. The detector output is DC unless there is moisture on the pipe surface, in which case it automatically switches to a fast pulse.

STEP 3: Turn the meter dial to the positive (+) position and turn the detector on for DC output voltage reading. If the meter should deflect to the left side of the scale, IMMEDIATELY turn the dial to the (-) position and read the meter setting.

STEP 4: AFTER determining voltage reading, turn OFF detector, turn meter dial to "OFF" center position and disconnect meter.

CAUTION!

DO NOT TOUCH electrode or H.V. cable when detector is on.

GENERAL

This is an accurate, dependable meter, which should be kept in its case, in the OFF position and in a cool, dry place when not in use. Extreme heat or moisture can cause damage or false readings.

Long life and reliability is only warranted if the instrument is properly handled, cared for and operated in accordance with procedures as prescribed by Pipeline Inspection Company, Ltd.

DCPJM Operating Instructions

SPY® DC POCKET JEEPMETER

For Holiday Detectors with output of 1-5kv, direct current (DC) only.

CAUTION!

This meter is used to measure low energy high voltage. Operator may be subject to electrical shock if meter is not properly grounded and/or operated in accordance with instructions and procedures prescribed below.

To Start Operations

To start operations – This meter requires NO batteries. It obtains its energy from the voltage of the holiday detector being measured.

STEP 1: With the holiday detector turned OFF, connect the high voltage lead of the meter (red wire) to the red jack on top of the meter and to the voltage output or electrode of the holiday detector. The meter switch should be in the center "OFF" position.

STEP 2: The preferred (primary) method is to connect the ground lead (black wire) to the green jack on bottom of the meter and to the bare metal of the pipe. This takes into account all ground path losses which may vary due to soil & moisture conditions and measures actual working voltage of the detector.

NOTE... (Secondary) The meter ground may be connected to the detector ground for measuring detector output voltage only. This does not take into consideration ground path loss.

JM Operating Instructions

To Start Operations

JM

STEP 1: Test the battery by placing the power switch to the "ON" position. The light indicates good battery. If the light flickers or does not come on, replace batteries as described in the battery procedure. Place the power switch to "OFF" position after the battery condition has been checked.

STEP 2: Connect the high voltage (red) test lead to the input terminal on top of the JeepMeter. For the pulse type detector, use pulse input terminal on top of porcelain insulator. For DC type, use the DC input terminal on left rear top of JeepMeter case.

STEP 3: Connect the other end (clip) of the high voltage test lead to the high voltage output electrode or metal electrode wand connector on detector.

STEP 4 : Connect the ground (black) test lead to the ground input terminal on right rear top of JeepMeter.

STEP 5 : Connect the other end (clip) of ground test lead to bare metal of the pipe if possible, otherwise to the detector ground. (Connecting to the bare pipe gives a more accurate reading of the actual working voltage impressed on the coating.)

CAUTION!

To PREVENT DAMAGE to the JeepMeter, input pulse/DC switch must be properly positioned.

STEP 6 : Set the input switch to pulse or DC position to match which input terminal is being used.

STEP 7 : After, and ONLY AFTER, double checking that all connections in Steps 1 through 6 are correct–place the JeepMeter power switch to "ON" position.

STEP 8 : After the digital readout settles out to zero, power on the holiday detector by pushing the detector "ON" button then read output voltage directly on the JeepMeter digital display.

To Stop Operations

STEP 1: Turn OFF detector.

STEP 2: Turn power "OFF" on jeepmeter.

STEP 3: After steps 1 and 2 are complete, disconnect test leads and secure jeepmeter.

BATTERY OPERATIONS

The Model PJM pocket jeepmeter operates using one (1) 9-volt alkaline battery. A battery access cover is located on rear of jeepmeter case.

GENERAL

The SPY® Model PJM Pocket Jeepmeter is calibrated at the factory with accuracy within five% at 75°F and 50% humidity. In the unlikely event adjustments or recalibration is required, the meter should be returned to the factory.

Humidity – Under high humidity and/or heat conditions, erroneous readings could be obtained. It is highly recommended that the voltmeter be kept dry and cool at all times.

This is an accurate, dependable test instrument. Long life and reliability is only warranted if the voltmeter is properly handled, cared for and operated in accordance with procedures as prescribed by Pipeline Inspection Company, Ltd.

NOTE: The meter ground may be connected to the detector ground for measuring detector output voltage only. This does not take into consideration ground path losses.

STEP 6: After double checking that all connections in Steps 1 – 6 are proper, turn pocket jeepmeter power switch to "ON".

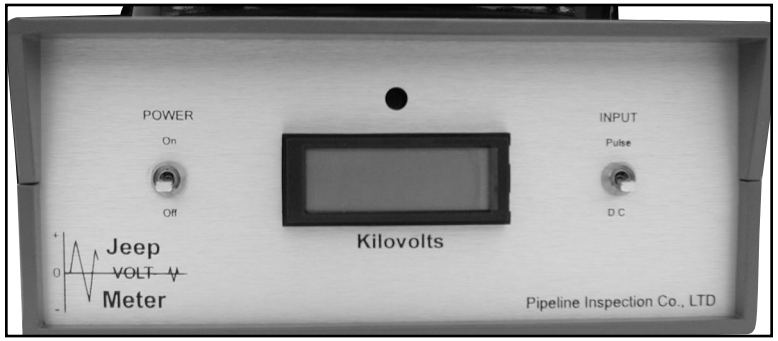
STEP 7: Push "ON" button on detector and read voltage output.

CAUTION!

HOLD PJM IN HAND or at least 12 inches away from pipe or any large metal object to obtain accurate readings.

DO NOT TOUCH electrode or H.V. cable when detector is on.

NOTE: This unit has a 20KV maximum.



CAUTION!

DO NOT TOUCH the electrode or H.V. cable when the detector is powered on.

To Stop Operations

STEP 1: Power off the detector by pushing the detector "OFF" switch as far as it will go.

STEP 2: Place the power switch of the JeepMeter to the "OFF" position.

STEP 3: After, and ONLY AFTER, Steps 1 and 2 are complete, disconnect all test leads and secure unit by placing meter inside the carrying case.

Batteries

The Model JeepMeter operates using two (2) nine-volt alkaline batteries. These batteries are located in a rear compartment of the voltmeter.

General

The SPY JeepMeter is calibrated at the factory with an accuracy of +/- five percent. In the unlikely event adjustments or recalibration is required, the JeepMeter should be returned to the factory.

Humidity : Under high humidity conditions, erratic readings could be obtained. It is highly recommended that the voltmeter be kept dry at all times.

Operations: This is an accurate, dependable electronic meter. Long life and reliability is only warranted if the voltmeter is properly handled, cared for and operated in accordance with procedures as prescribed by Pipeline Inspection Company, Ltd.

PJM Operating Instructions

CAUTION!

This meter is used to measure low energy high voltage. Operator may be subject to electrical shock if meter is not properly grounded and/or operated in accordance with instructions and procedures prescribed below.

To Start Operations

STEP 1: Test battery by activating power "ON" switch; light indicates good battery. If light flickers or does not come on, replace battery as described under procedures. Turn power switch to "OFF" position after battery condition is satisfactory.

STEP 2: Connect high voltage (red) test lead to input jack (red) on top (H.V. insulator) of jeepmeter.

STEP 3: Connect other end (clip) of high voltage (red) test lead to electrode or metal electrode wand connector on detector.

STEP 4: Connect ground (black) test lead to ground (green) input jack on base of meter.

STEP 5: The preferred (primary) method is to connect other end (clip) of ground (black) test to bare metal of the pipe. This takes into account all ground path losses which may vary due to soil or moisture conditions as it measures working voltage.