

Models 780 • 785 • 790



PORTABLE HOLIDAY DETECTORS

Accurate, Reliable Inspection of Any Coating, Onshore or Offshore

Infinitely Adjustable Voltage
Output Voltage Automatically Regulated
Rugged Ergonomic Design
Easy installation Battery
Horn and Light for Holiday Indication

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“SPY®” Model offers three new “SPY®” Model Holiday Detectors that combine our field proven cases, probes and electrode configuration with leading-edge circuitry.

Infinite Voltage Setting allows you to set the voltage exactly to the level you desire for the coating you are inspecting. Not 6 settings, not 20...any setting you desire over the complete range of each detector model. Whatever the pipe size, 2 inches through 60 inches, whatever the coating—somatic, tar, asphalt, extruded coats and tapes or thin film epoxy coatings—you have at your control the exact voltage setting required.

Automatically Regulated Voltage keeps your voltage constant! Over a range of 2 in. through 60 in. pipe the detector output voltage automatically adjusts under the working load to the voltage levels you set. Now you can forget compensations for pipe size, or moisture on the pipe—the detectors automatically make these adjustments.

Interchangeable batteries easily slip into position with a snap that announces positive contact and a secure lock in position. Two batteries and a universal charger are part of the package. For continuous service, one battery is kept charging (approx. 8 hours) while the other powers the unit.



Models JM, PJM, DCPJM

SPY® Jeepmeters – check holiday detector voltage to assure absolute highest accuracy and efficiency. Deluxe digital Model JM measures both DC and pulse voltages. Pocket Models DCPJM and PJM are perfect for every day field use.



SPY®



Models 780·785·790

Models 780, 785 and 790

The new generation SPY 780, 785 and 790 holiday detectors upgrade the proven reliability of our earlier models 715, 725 and 735 to speed and improve your operations.

Improved control

- Easy carry top handle
- Comfortable ergonomic rear handle
- Shoulder strap

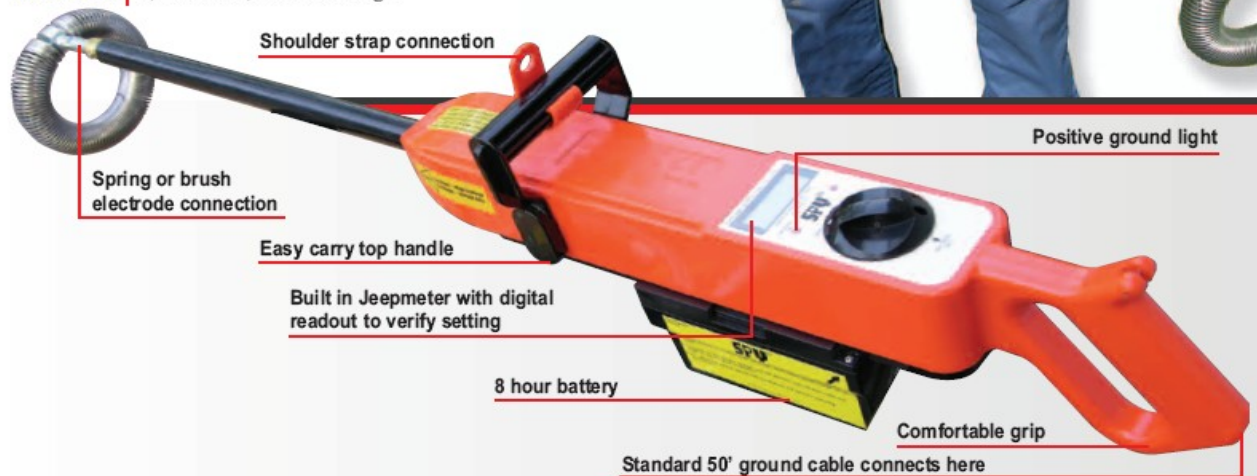
Faster set up/smoothier operations

- Integral Jeep Meter to verify voltage setting
- Positive ground light /OK to commence Jeeping
- More audible alarm for heavy equipment environments

Proven reliability

- Lightweight durable construction with proven circuitry
- Infinite specific voltage adjustments on the fly.
- Automatic compensation for moisture (780 only)

Model 780	1,000 to 5,000 volt range (thin film only)
Model 785	1,000 to 15,000 volt range
Model 790	5,000 to 35,000 volt range



Carrying/Shipping Case: Molded ABS plastic construction assures secure weather-proof protection for detector and components. Parts are cushioned in a molded insert. Full-length piano-type hinge, rugged catches.

Weights: Average domestic shipping weight (dependent on electrode size): 35 lbs. Export air shipping weight: about 50 lbs.

Electrode Types



Conductive Neoprene
Hand Paddle



Flat Conductive
Neoprene Brush



Flat Steel Brush



Flat Brass Brush



Pig Type
Conductive Neoprene
Internal Electrode



Full Circle Steel Brush



Half Circle Steel Brush



Half Circle Conductive
Neoprene Brush

Electrode Connector: For spring electrodes the connector has a sealed ball bearing in the end to permit the electrode to roll freely. Simple wing nut connection for brush and other type electrodes.



Voltage Setting Suggestions

COATING	THICKNESS	VOLTAGE	APPLICABLE DETECTORS
Paints, Epoxy	1 - 10 Mils	67 DC (.5mm -.25mm)	670, 673 (67-AC) w/wet sponge electrode
Fusion bonded epoxies	10 - 30 Mils (.25mm -.75mm)	1600 - 3000	715, 915, 725, 925, 115, 121, 780, 785
Rosscote, Tarsol, Protogol UT310L, etc.	15 - 30 Mils (.38mm -.75mm)	2400 - 3000	715, 915, 725, 925, 115, 121, 780, 785
Coal tar on concrete	16 - 60 Mils (.41mm -1.52mm)	2000 - 10000	725, 925, 121, 125, 780, 785, 790
Vinyl ester	21 - 40 Mils (.53mm - 1.02 mm)	3000 - 4000	715, 915, 725, 925, 115, 121, 780, 785
Polyester/Fiberglass	50 - 60 Mils (1.27mm-1.52mm)	3000 - 6000	725, 925, 115, 121, 780, 785, 790
	90 - 125 Mils (2.29mm-3.18mm)	8000 - 10000	725, 925, 125, 790, 121 785, 790
Tapes	Polyken	6000 - 8000	725, 925, 125, 790, 121, 785
	Greenline	6000	725, 925, 125, 790, 121, 785
	Tapecoat	10000	725, 925, 125, 790, 121, 785
	Polygard (1000 or RDX50)	8000 - 12000	725, 925, 125, 790, 121, 785
Extruded, heatshrink	Xtrucoat	8000 - 14000	725, 925, 125, 790, 121, 785
	Pritec - 60 Mil (1.52mm)	14000 - 15000	725, 925, 125, 790, 121, 786
Coal tar, Asphalt, Enamels, Yellow jacket, Other heavy coatings	3/32" - 2.3mm (94 Mil)	12500	725, 925, 125, 790, 121, 785
	5/32" - 3.9mm (156 Mil)	15000	725, 925, 125, 790, 121, 785
	3/16" - 4.8mm (187 Mil)	17000	735, 125, 790, 121, 785
	1/4 " - 6.35mm (250 Mil)	20000	735, 125, 790, 121, 785
	1/2 " -12.7 mm (500 Mil)	25000	735, 125, 790, 121, 785
	5/8 " -15.9 mm (625 Mil)	30000	735, 790, 121, 785
3/4 " -19.0 mm (750 Mil)	35000	735, 790, 121, 785	

NACE Specification Equations

Thin Film Epoxies

$$V = 525 \times \sqrt{T} \quad (T, \text{ in Mils})$$

OR

$$V = 3294 \times \sqrt{T} \quad (T, \text{ in mm})$$

EXAMPLE: Epoxy, 0.016" thick
 .016" = 16 Mils
 $\sqrt{16} = 4$
 $V = 525 \times 4 = 2,100 \text{ volts}$

Asphalt/Coal Tar

$$V = 1250 \times \sqrt{T} \quad (T, \text{ in Mils})$$

OR

$$V = 7843 \times \sqrt{T} \quad (T, \text{ in mm})$$

EXAMPLE: Coal Tar, 1/8" thick
 1/8" = 0.125" = 125 Mils
 $\sqrt{125} = 11.2$
 $V = 1250 \times 11.2 = 14,000 \text{ volts}$

$V =$ Test Voltage

$T =$ Thickness

$\sqrt{\quad} =$ Square Root

1 Mil = .001 inches