



VAHiLA



**VAHILA RFID ELECTRONIC DISK MARKER
MADE IN INDIA**



**COMPANY
PROFILE.**





RFID Electronic Disk Marker



Technical Details:

- Marker Type: Round disk
- Diameter: 5.25" (133 mm) *OR 220mm*
- Thickness: 0.65" (16.5mm) *OR 28 mm*
- Detection Range: 5 feet (1.5m)
- Frequency: Based on application.

Standard Packaging:

Carton Size Inch (LxWxH) (mm)	Qty. Per Carton	Weight Lbs (kgs)
5.7 x 5.7 x 7.5 (145 x 145 x 190)	10	2.64 and 6 kg (1.20 and 264)
11.8 x 11.8 x 7.9 (300 x 300 x 200)	40	11.55 (5.25)

VAHILA RFID ELECTRONIC DISK MARKER

ORDERING INFORMATION:

Color	Utility	Frequency (Khz)	Part Number
Red	Power	169.80	PWR 110 R
Blue	Portable Water	145.70	WAT 200 R
Green	Waste Water	121.60	SWG 300 R
Orange	Telephone	101.40	TEL 400 R
Yellow	Gas	83.00	GAS 500 R
Orange/Black	CATV	77.00	CTV 600 R
Purple	General Purpose	66.35	GEN 700 R

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Orange/Black	CATV	77.00	CTV 600
Purple	General Purpose	66.35	GEN 700



Technical Specifications:

VAHILA RFID ELECTRONIC DISK MARKERS are comprised of coil – a precision tuned passive circuit positioned and fused between two High Density Polyethylene (HDPE) casings. The fused HDPE casing provides superior hermetically water tight and dust tight seal that is both impact and puncture resistant when buried underground to a depth of 5' (1.5M) over the utility to be marked. All impact and ingress protection properties have been tested by Underwriters Laboratories (UL). The HDPE casing is color coded with molded in identification indicating frequency and utility type.

Electrical:

Dipole

Detection Field:

up to 5' (1.5 M)

Detection Range:



Dimensions / Fixing Arrangement:

Case Diameter:

5.25" (133mm) and 220 mm

External Mounting:

(2) 1/8" dia. (3.14mm) mounting holes/tabs

Optional Mounting:

(1) 1/8 " dia (3.14mm) at the center of casing on request, for direct flush mounting on inside of utility non-metallic manhole cover or can be field drilled on site as required.

Water resistance

Water Ingress protection::

i) Housing- Welded, hermetically sealed/water tight & pressure tested to 1 bar
ii) Ingress Protection per **IEC 60529 IP68**, tested at **UL Underwriters Laboratories**
iii) Immersion water test for 30 days, Pass

Thermal Shock:

Conditioning at -5o C for 2 hours and immediate immersion in boiling water (95oC / 203oF) for 10 minutes (constitute 1 cycle).
No stress cracking or ingress failure, Pass 3 Cycles

Water absorption:

< 0.5%, as per **ASTM D570**

Mechanical

Compression Test

Withstand load > 1000 kgs (10,000 N) over the marker disk & deflection <0.25" (6mm) – No cracking or structural failure

Crush Strength

Withstand >30 Kg (300 N) applied load with a 0.187" point (4.75mm) radius & deflection <0.25" (6mm) – No cracking or structural failure
Withstand >300 kg (3000 N) uniformly distributed load with 1.5" (40mm) aggregate – No cracking or structural failure

Puncture Resistance

Withstand >20 Kg (200 N) force applied with a 1/64" point (0.4mm) radius & deflection < 0.25 " (6mm) – No cracking or structural failure

Impact Resistance

Withstand 20 foot (6m) drop on concrete – No cracking or structural failure
Impact Protection as per **IEC 62262:2002 & 60068-2-75:1997** to **IK09** (10 Joules) tested at **UL Underwriters Laboratories**

CHEMICAL

HDPE is a proven material for underground burial applications and has good resistance to non-oxidizing acids, alkalis and solvents like diesel fuel, gasoline, alcohol and motor oil.

OUTDOOR EXPOSURE

U V resistance (as per ASTM G154).

Withstand 1-year direct sunlight exposure simulated storage with no degradation of material physical properties.

THERMAL

Operating conditions:

-30o C (-86 o F) to +65 o C (149 o F)

Storage conditions:

-30 o C (-86 o F) to +70 o C (158 o F)

* All tests derived from industry actual usage needs and derived from Bell Core and other documents that apply to buried enclosures/components made of HDPE.

* All tests done at room temperature unless otherwise specified.

* Criteria for Pass/withstand, when signal detection Db has no change before and after tests.

* IP68 & IK09 tested at All other tests performed at recognized laboratories & Durotek Labs

* Life of the marker 40 years

* Tensile stress yield point 33 Mpa



RFID Electronic Disk Marker



- ▶ **VAHILA RFID ELECTRONIC Disk Markers** are used to electronically mark underground utilities to prevent accidental damage or incidental contact and facilitate easy location and service of vital underground assets.
- ▶ **VAHILA RFID ELECTRONIC Disk Markers** are primarily suitable for direct burial over the utility to be marked up to a depth of 5'(1.5m). The marker can be accurately detected even if level of marker is 60° offset with respect to ground level.
- ▶ **VAHILA RFID ELECTRONIC Disk Markers** can be rigidly screwed on to the inner side of all standard non-metallic manhole covers using provided integral mounting tabs or by using the optional hole location provided in the centre of the marker casing. Each without requiring any additional brackets & their associated costs.
- ▶ **VAHILA RFID ELECTRONIC Disk Markers** are available for marking all standard utilities & are compatible with industry standard marker locators.



Features:

- ▶ Hermetically fused rugged HDPE casing. Provides high ingress protection to IEC IP68. Superior impact resistance rating IEC IK09 (10 Joules) tested at
- ▶ Frequency and color to match specific utility
- ▶ Completely passive product with long service life
- ▶ Locating and Service of:
 - Vital underground utilities
 - Marking buried structures, splices
 - Locating buried pipe joints, service points
 - and drops
 - Cable paths, fiber optic installations
- ▶ 10 Digit Hexadecimal RFID System



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