

# EM Proximity Sensor

## Maximize EM Performance. Simplify Deployment.

Traditional EM antenna deployment can meet limitations with signal attenuation due to formation resistivity, depth, surface contact, surface noise etc.

The Black Diamond Proximity Sensor allows effective sub-surface antenna placement to counter the drawbacks of traditional antennas. The truck-mounted solution enables deployment of the antenna to a precise depth in an adjacent well and connection to customer EM detection system.

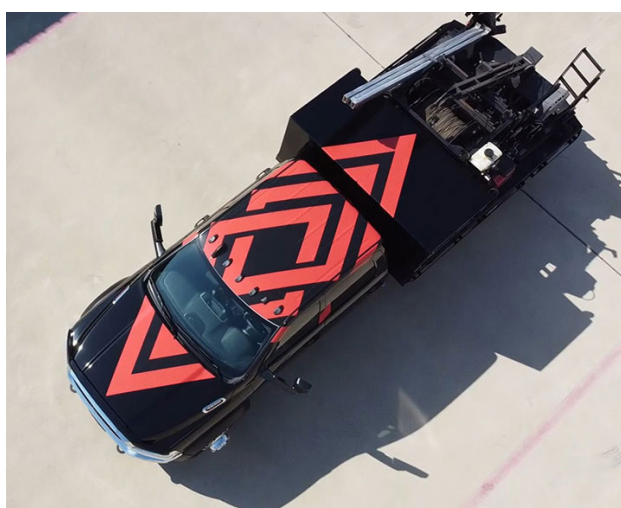
Placing the antenna downhole, in close proximity to the EM transmitter, enhances signal detection by removing all the drawbacks of traditional surface antennas.

Rapid, precision-controlled deployment of the antenna ensures accurate placement in the adjacent well. The subsequent cable head assembly and connection process takes less than 30 minutes, providing a fast and efficient setup. A simple splice to the customer antenna cable enables seamless connection to the surface decoder system.

With the Black Diamond EM Proximity Sensor, you gain an industry-leading solution for reliable EM signal enhancement, ensuring uninterrupted communication in even the most demanding environments.

## Features and Benefits

- **Rapid Deployment** – Truck-mounted system allows full depth deployment in <3 hours.
- **Minimal Footprint** – After deployment truck can be removed thus requiring minimal space.
- **Universally Compatible** – Works with any EM system to support a variety of drilling operations.
- **Deep Placement** – Achieves maximum depth capability of more than 9,500 feet.
- **Precision Installation** - Accurate depth control ensures optimal performance.
- **Enhanced Signal Strength** – Overcomes attenuation challenges, improving EM tool performance in difficult formations such as salt zones.
- **Reduces Electrical Noise** – Minimizes interference caused by surface operations, ensuring clearer signal reception.
- **Extended Reach** – The antenna can be placed in wellbores up to 1.5 miles away, optimizing signal capture for superior downhole data transmission.
- **Problematic Geology Bypass** – Removes the signal deterioration effects of highly resistive or highly conductive formations.



## Cable Specifications

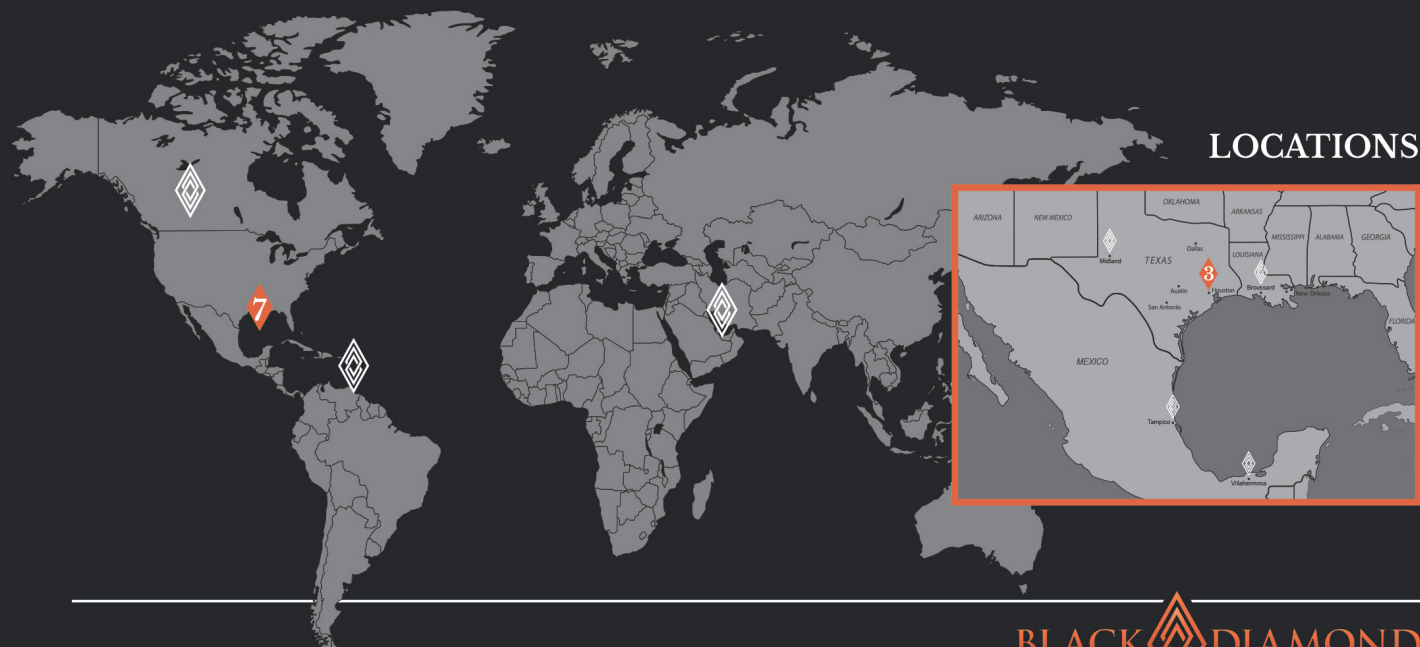
Cable Type	Type 1	Type 2
Cable Type	7/32" Monoconductor	
Conductor AWG Rating	16	
Maximum Depth	9,600 ft	12,500 ft
Deployment Speed	3,133 ft/ hr	
Temperature Rating	500 °F (260 °C)	
Voltage Rating	1,200 VDC	
Insulation Resistance (500VDC)	1,500 MΩ / Kft	50,000 MΩ / Kft
Conductor Resistance	4.1 Ω / Kft	
Conductor Capacitance	58 pf / ft	69 pf / ft
Maximum Working Tension	2,800 lbf	3,355 lbf
Breaking Strength	5,600 lbf	6,100 lbf

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## LOCATIONS



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#### **BLACK DIAMOND CONROE**

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#### **BLACK DIAMOND MWD**

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#### **BLACK DIAMOND WEST TEXAS**

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