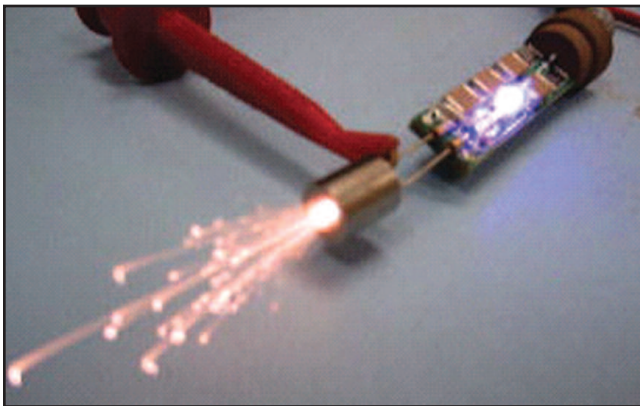


## **RED® RF Safe Detonators**

### *The Industry Leader in Perforating Safety*

Perforating safety has long been a driving force within our industry since the introduction of explosives to well completion methods. The rapid proliferation of wireless communication devices potentially increases the possibility of accidental detonation while working with electrically initiated explosives. To meet the demand for increased operating safety, JRC developed the Rig Environment Detonator (RED)®. The heart of this ultra- safe detonator is the Semiconductor Bridge (SCB). The SCB is a device designed to ignite energetic materials when subjected to a fast discharge current pulse. As a plasma generator for igniting explosives, the device has no equivalent in terms of reliability. When subjected to intense radio frequency (RF) energy, the device will continuously dissipate up to 5 watts of power without inadvertent ignition. When the SCB is combined with the patented firing/safety circuit\*, they comprise an electroexplosive device that has an incredibly high immunity to RF energy, stray voltage and static charge buildup.



CN06296

#### **Top Fire RED**

The Top Fire RED is used with Top Fire perforating systems, and with Tubing and Casing Cutters.

#### **Capsule RED**

The Capsule RED is a high-pressure detonator used in an exposed environment common with capsule

guns and string shots. It is rated at 15,000 psi (103 MPA).

#### **Thermal RED**

The Thermal Igniter RED is used to ignite gas generating power charges such as chemical casing cutters or packer setting tools.

#### **Block RED**

The Block RED is used with bottom-fire hollow carrier gun systems, both port plug and scalloped types. It will disable when submerged in fluid.

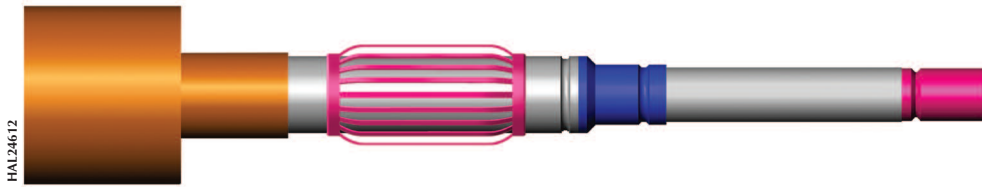
#### **Features**

- Multiple versions with complete line of adapters to run with all industry standard hardware
- Fires with either Positive or Negative VDC
- Does not use primary explosives
- Rated 375° F (190° C) for one hour
- Tested RF safe by four industry-recognized testing agencies: Franklin Applied Physics (U.S.), Sandia National Laboratories (U.S.), ERA Technology Ltd. (U.K.), and DNB Engineering Inc. (U.S.)
- Immune to D.C. voltage hazards up to 120 V.
- Tested safe against electrostatic discharge hazards
- U.N. Shipping Classification 1.4S

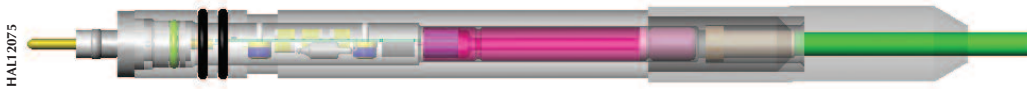
#### **Benefits**

- Allows many normal rig operations, such as RF communications, welding, and cathodic protection to continue uninterrupted during perforating.
- Does not require special surface firing panels or downhole firing units
- Provides significant savings compared to EFI/EBW systems
- A simple, economical, “offshore safe” substitute for Resistorized hot-wire Detonators , EBW, and EFI Detonators

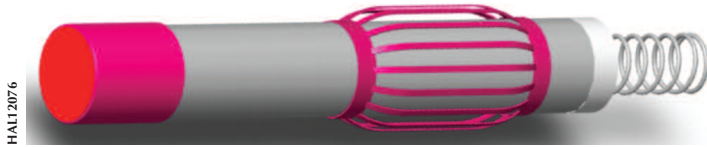
\* Patent# 5,503,077



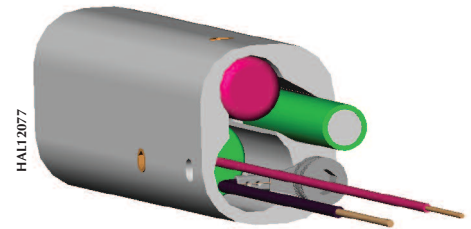
Top Fire RED® Detonator (101272595)



Capsule RED Detonator (101272600)



Thermal Igniter RED GO™ Style Detonator (101320910)



Block RED Detonator (101272580)

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 Dyce, Aberdeen Ph 1224 795174

**Distributor of JRC Products:**

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 Enerjetex Technology, LLC.  
 Broussard, LA Ph 337-837-2681  
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