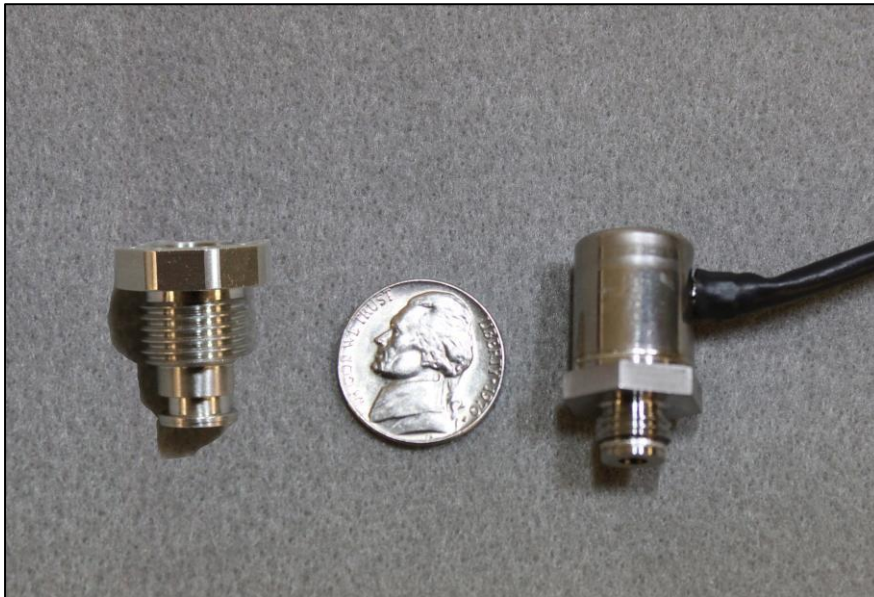


## Rocket Motor Initiator and Through Bulkhead Initiator



### Features

- MIL-STD-1901A compliant design
- Output tuned to application
- Available outputs from 400 PSI to 1300 PSI in 10 cc vessel
- Demonstrated ability to initiate rocket motors
- Post firing pressure integrity greater than 5000 PSI
- Hermetically sealed
- Wide operating temperature range
- Full lot and serialization control
- Manufactured in state-of-the-art ISO 9001 facility
- Designed to work in conjunction with Excelitas' Blue Chip® Detonator

### Applications

- Single pulse rocket motors
- Multiple pulse rocket motors
- Designed to work in conjunction with Excelitas ISDs and can be located in a remote location away from the ISD

*The rocket motor initiator, in conjunction with the through bulkhead initiator, is designed to work with Excelitas Blue Chip® Detonators and Ignition Safety Devices.*

Excelitas' patented rocket motor initiators and through bulkhead initiators are designed to work in a variety of applications, including many existing applications that do not have MIL-STD-1901A-compliant initiators. The initiator is designed to work in conjunction with Excelitas' low energy, low profile Blue Chip® Detonator.

Excelitas' patented rocket motor initiator consists of a firing circuit that is covered and sealed, and is connected to an Ignition Safety Device (ISD) via a three-wire cable and connector. The through bulkhead initiator consists of a stainless steel housing fabricated to proprietary dimensions to ensure proper energy transfer as well as maintain isolation against back pressure. The energetic materials loaded into the initiator are HNS II and BKNO<sub>3</sub>. The initiator is welded closed with an etched closure disc to maintain a hermetic seal and to open in a controlled, defined manner when initiated. The initiator is not damaged with applied voltages up to 500 volts. It functions when a sufficiently high voltage is applied. When mated with Excelitas' initiator electronics assembly, the through bulkhead initiator can be located remotely from the ISD in order to accommodate any variety of packaging constraints.

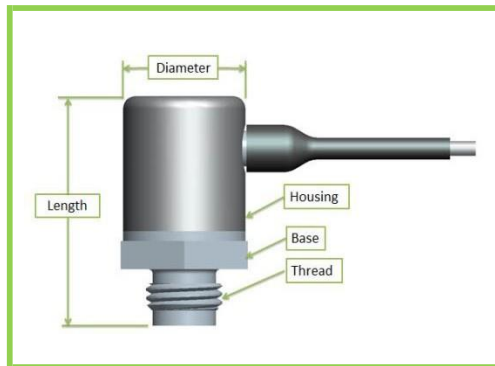
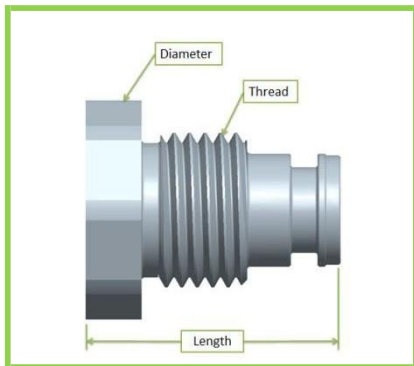
# Rocket Motor Initiator and Through Bulkhead Initiator

## Current Through Bulkhead Initiators<sup>3</sup>

Parameter	Minimal	Maximal	Units
Output into 10 cc pressure vessel	400	1300	PSI
Time to first pressure	0.1	0.5	Millisecond
Time to peak pressure	2	15	Millisecond
Length	10.5	23.5	mm
Diameter	14.0	20.0	mm
Thread	3/8" - 24	9/16" - 18	

## Current Rocket Motor Initiators<sup>1,2,3</sup>

Parameter	Minimal	Maximal	Units
Output into 10 cc pressure vessel	400	1300	PSI
Time to first pressure	0.1	0.5	Millisecond
Time to peak pressure	2	15	Millisecond
Length (Housing + Base)	26.5		mm
Diameter (Housing)	15.5		mm
Wire length	As required	As required	
Thread	3/8" - 24	9/16" - 18	



**Figure 1, far left:**  
Through Bulkhead Initiator

**Figure 2, left:**  
Rocket Motor Initiator

<sup>1</sup>US Patent 9,534,875  
<sup>2</sup>US Patent 10,161,725

<sup>3</sup>Other designs are possible.

## About Excelitas Technologies

Excelitas Technologies provides innovative, customized optoelectronics and advanced electronic systems to a global customer base of leading OEMs seeking high-performance, market-driven technology solutions. From aerospace and defense applications to industrial, safety and security, medical, analytical instrumentation and clinical diagnostics applications, Excelitas Technologies is committed to enabling our customer's success in their end-markets. Excelitas Technologies has approximately 6,700 employees in North America, Europe and Asia.

**Excelitas Technologies**  
Energetic Systems  
1100 Vanguard Blvd.  
Miamisburg, OH, 45342 USA  
Tel: (+1) 937.865-3800  
Toll Free: (+1) 866.539.5916  
Fax: (+1) 937.865.5170

**Excelitas Technologies**  
Power Supplies  
1330 East Cypress Street  
Covina, CA 91724 USA  
Tel: (+1) 626.967.6021  
Toll-free: (+1) 800.363.2095  
Fax: (+1) 626.967.3151

**Excelitas Technologies**  
Frequency Standards & Switching  
35 Congress Street  
Salem, MA 01970 USA  
Tel: (+1) 978.745.3200  
Toll free: (+1) 800.950.3441  
Fax: (+1) 978.745.0894

**Excelitas Technologies**  
International Sales Office  
Bat HTDS BP 246,  
91882 Massy  
Cedex  
France  
Telephone: +33 (1) 6486 2824

For a complete listing of our global offices, visit [www.excelitas.com/locations](http://www.excelitas.com/locations)

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