# r i m e
## iris
### downhole technologies
### ultra rugged gamma module

**iris** is **rime's** integrated gamma module that provides survivability and operational capability in the most challenging drilling applications. **iris** is built using a high quality sodium iodide (NaI) crystal scintillator, a ruggedized high temperature rated photomultiplier tube (pmt) and **rime's proteus** gamma controller board.

**iris** features several improvements when compared to other gamma modules, including a proprietary full envelope radial, axial and torsional shock isolation system that protects the scintillator and pmt against damage caused by high g impacts and vibration. **iris** also incorporates all pass through wires internally in the module to eliminate damage to exposed wiring and increases the mechanical stiffness of the module.

the use of the **proteus** gamma controller board allows **iris** to provide several advanced features not available in other gamma modules, including the ability to adjust the performance and gain of the system in four distinct ways and the ability to have digital thermal calibration of the gamma output.

**iris** is form factor compatible with industry standard gamma modules and can be used in many mwd systems seamlessly. the standard output is a negative going 5v ttl signal, however custom output formats can be supported upon request, including serial, i2c, spi and can.

**iris** also has built in environmental monitoring and memory logging capabilities including the ability to store gamma ray counts, shock and vibration data, and multiple system voltages and temperature onto the on board non-volatile memory for post-run analysis.

**iris** is tightly integrated with **rime's pulser interface program** through **rime's pulser interface box**, and together these support tools provide access to testing utilities, configuration and memory logging.

- integrated gamma module

- ultra rugged electrical and mechanical design

- full envelope axial, radial and torsional shock isolation

- industry standard form factor

- highly configurable

- 175°C temperature rated

- extensive memory logging

- limited qmix support

## specifications

| | |
|---|---|
| nominal length | 16.475" (418.47 mm) |
| makeup length | 15.575" (395.61 mm) |
| chassis o.d. | 1.450" (36.83 mm) |
| recommended housing i.d. | 1.500" +0.010"/-0.000" (38.10mm +0.254mm/-0.000mm) |
| scintillator dimensions | 0.75" x 5.00" (19.05mm x 127 mm) |
| operating voltage range | 20-30VDC |
| power consumption | 15mA @ 28v @30°C |
| operating temperature | 32° to 347°F (0° to 175°C) |
| shock rating | 1000g, 0.5ms, ½ sine, 10 times, all three axes |
| vibration rating | 5-30Hz@1in double amplitude, 30-500Hz 20grms all axes |
| memory | 8MB non volatile memory with event and statistical data logging |
| uphole electrical interface | 15 pos panel mount pin plug connector, floating (mdm-15ph-003f or equivalent) |
| downhole electrical interface | 15 pos panel mount socket receptacle connector, non floating (mdm-15sh-003b or equivalent) |

## patents

patent pending—the product or products described in this document and their features may be covered by multiple patents or may currently be in the patent application process.

## pinout

| | |
|---|---|
| 1 | gnd |
| 2 | thru |
| 3 | thru |
| 4 | vbat |
| 5 | rbus/qbus |
| 6 | pulse |
| 7 | flow |
| 8 | gamma |
| 9 | thru |
| 10 | thru |
| 11 | thru |
| 12 | thru |
| 13 | thru |
| 14 | thru |
| 15 | thru |

16.475
14.675

iris by rime

⌀1.450