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### CII High Reliability Space Relays

#### Product Testing



TE's CII High Reliability Space Relay products begin as relays manufactured to MIL-Spec requirements. They then receive additional processing and testing to particular customer specifications.

All operations and processes are documented as required by MIL-STD-790. Each operation and process has an accompanying route sheet that allows tracking of all materials and processes associated with an order. For those who require additional information, we can serialize, track and document the data for individual relays.

In addition to quality audits throughout the manufacturing process,

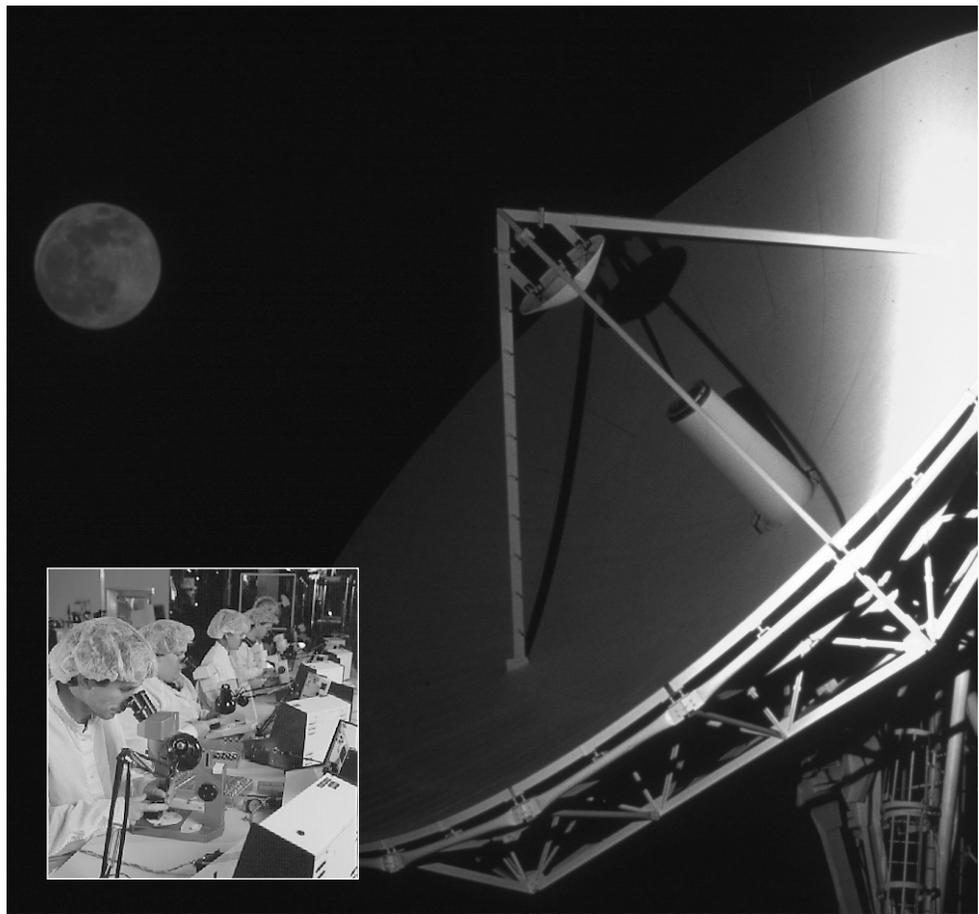


our High Reliability Space relays are extensively tested to

assure that your High Reliability standards and requirements are met or exceeded.

Our High Reliability Space Relay products are tested 100% for Group A parameters and then subjected to additional testing including: PIND, Small Particle Cleaning, Random, Vibration, and X-Ray. Group B and C testing is done for lot integrity based on MIL-R-39016. These test profiles are tailored to your individual requirements.

Destructive testing is often performed, based on the actual application of the device. On a "standard" QPL relay, this testing is performed periodically, and performance is assumed for the period of manufacture. In the High Reliability Space



Relay, this performance is proven for each relay lot based on the testing and documentation of each serialized relay.



#### Clean Room

All of our High Reliability Space Relay products are manufactured in a temperature and humidity controlled environment utilizing a clean room area for sub-assemblies. All final assembly, intermediate testing, small particle cleaning, pre-cap inspection, and sealing is

performed in an integrated, Class 1000 clean room that is temperature and humidity controlled in accordance with Federal Standard 209E. Temperature, humidity and air particle counts are monitored for precise control to ensure the integrity of the internal relay environment.

## CII High Reliability Space Relays (Continued)

### Products

#### ■ Half Size Non-Latching

Available in 2, 4 and 6 Form C configurations, low level to 5 amp switching.

#### ■ Half Size Latching

Available in 2 and 4 Form C configurations, low level to 2 amp switching.

#### ■ One Fifth Non-Latching

2 Form C, low level 2 amp switching.

#### ■ TO-5/.100 Grid

Available in 2 Form C, round and square outlines, low level to 1 amp switching, military qualified, optional spreader and mounting pads, ground pins, internal diodes, transistors, and hybrid assemblies.

### Services

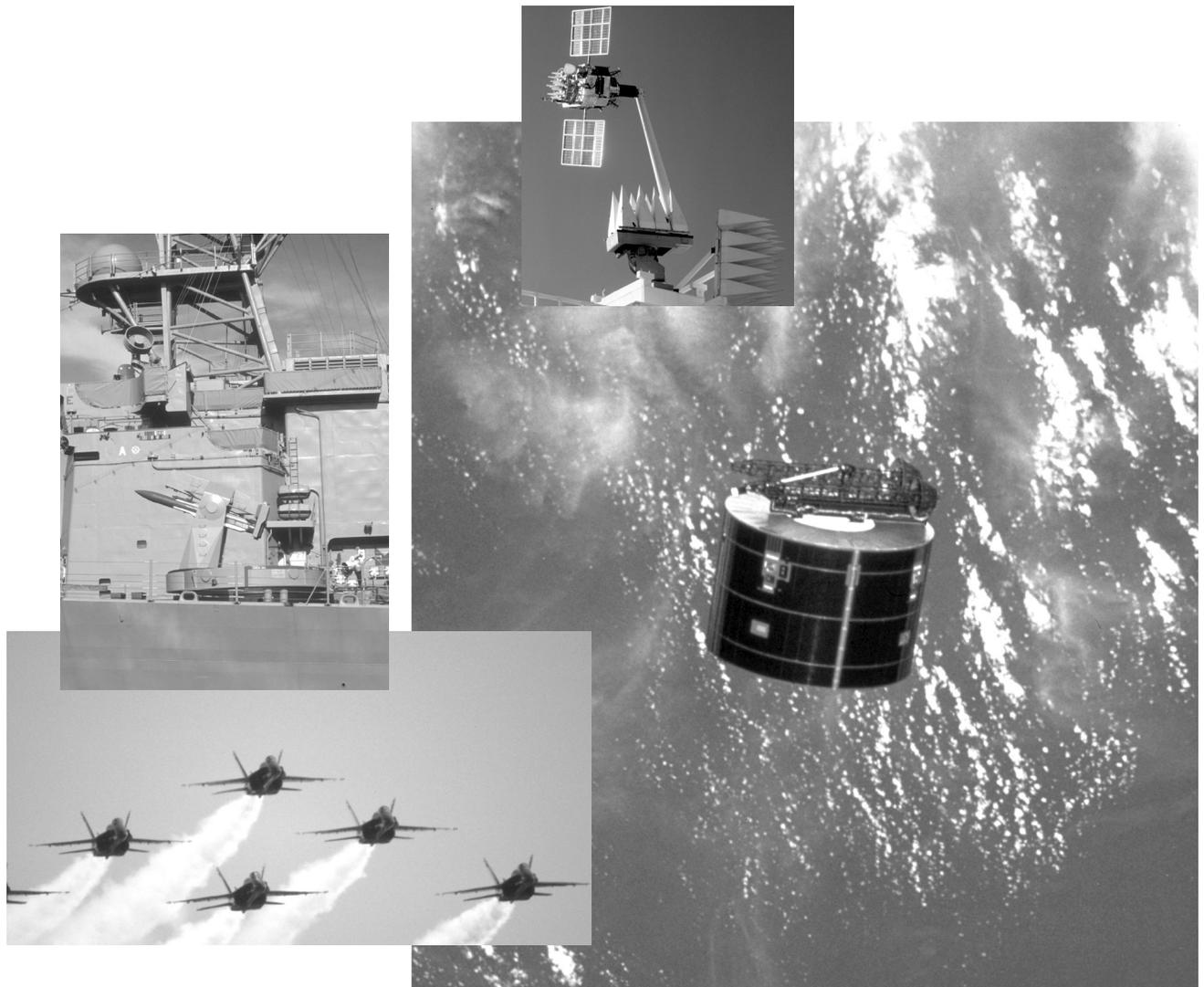
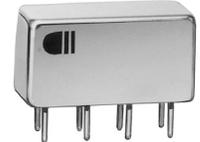
Our engineering staff, with over 100 years of combined experience in aerospace and High Reliability mil-spec relays, will help you find the right product for your needs. Our High Reliability Space Relays Department experts are cross-trained within their respective cells to achieve maximum quality and consistency. In addition, team and SPC training utilizing ISO 9000 concepts is given regularly.



### Applications

- Space Satellites (telecommunications)
- Weather Tracking
- Surveillance
- Infrared Observation Instrumentation
- Missile Systems
- Torpedo Guidance Circuits

CII High Reliability Space Relays customers include ITT's HIRS/3 and AVHRR/3 instruments designed for the Polar Orbiting Environmental Satellite (POES) and McDonnell Douglas's Delta Launch II and III Vehicles.



## KILOVAC Space Relays

The KILOVAC brand of lightweight relays and contactors handle high-power DC or high-voltage DC requirements for the space industry.

They are available hermetically sealed, with a variety of electrical configurations, power ratings, voltage ratings, and mounting styles to make your electrical system more reliable and capable.

The photo to the right shows “representative samples” of our KILOVAC brand relays and contactors for space applications.

Contact TE Connectivity for more information.



Products shown in photo as listed below:

### Back Row - 270Vdc Space-Rated Contactors:

**AP150X** — 150A

**AP90X** — 90A

**AP350X** — 350A

### Middle Row - Space-Rated Contactors:

**MAP200** —

Available in Form X (Electrically Held) and Form P (Latching) configurations.

Available in Vertical-Mount (shown) and Horizontal-Mount configurations.

**MAP100** —

Available in Form X (Electrically Held) and Form P (Latching) configurations.

Available in Horizontal-Mount (shown) and Vertical-Mount configurations.

### Front Row - Space-Rated Relays:

**AP10** — 10A, 270Vdc

Available in Form A (SPST-NO) and Form B (SPST-NC) configurations.

Available in Panel-Mount (shown), PCB-Mount, and Chassis-Mount (unpotted).

**K41R** — 5kVdc

SPDT-Latching configuration (SPST-Latching as well as SPST-NO, SPST-NC, and SPDT Electrically-Held configurations also available)

**AP44P** — 15A, 270Vdc

SPST-Latching