



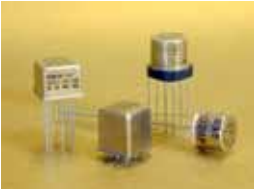
## High Performance Relays, Contactors, Solenoids and Power Distribution Units

**iS** Rayfast

**TE**  
connectivity

# Relays, Contactors, Solenoids and PDUs for High Performance Applications

## SIGNAL RELAYS



### CII TO-5 and .100 Grid Low Signal Relays

- Miniature hermetically sealed relays
- Non-latching, single-coil latching and dual-coil latching designs
- Through hole and gull-wing surface mount terminals
- High frequency models capable of switching up through 6 GHz
- Excellent isolation, insertion loss and VSWR
- MIL-PRF-28776 and MIL-PRF-39016 qualifications products available

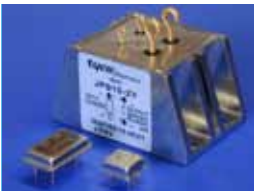
## MID-RANGE RELAYS



### CII Mid-Range Relays

- 5-50 A relays in compact or standard size cases
- Balanced force design with permanent magnet drive
- Terminal styles include socket pins and hook solder terminals
- Numerous mounting options
- Hermetically sealed, welded construction
- MIL-PRF-6106 and MIL-PRF-83536 qualifications products available

## SOLID-STATE RELAYS



### Solid-State Relays and Power Controllers

- Various models have switch ratings ranging from 90 mA up to 25 A
- AC, DC and bi-directional output
- Available for panel or PC board mounting
- Some types incorporate circuit protection and other functions
- Most are qualified to MIL-PRF-28750D or associated DSCC drawings

## TIME DELAY RELAYS



### Time Delay Relays and Sensors

- Solid state timing circuitry with either electromechanical or solid state output
- Sensors for voltage, frequency or phase
- Most types offer a variety of enclosures and mounting options
- Customized models available with tighter timing or sensing tolerance
- Several models qualified to MIL-PRF-83726

## ROTARY RELAYS



### Rotary Relays for High Shock and Vibration Naval Applications

- Contacts will not chatter when relay is subjected to 2000 ft-lb shock blows
- Panel mount relays are often used aboard combat naval vessels
- Contact arrangements from 4PDT up through 24PDT
- Rated to carry maximum currents of up to 10 A
- AC and DC coils

## CRYSTAL CAN RELAYS



### CII 1/5, 1/2 and Full Size Crystal Can Relays

- Hermetically sealed in 1/5 size, 1/2 size or full size crystal cans
- Terminals are arranged on .200" grid (1/2 and full size) or .150" grid (1/5 size)
- Plain case or choice of various mounting brackets or mounting studs
- Non-latching and latching designs
- Choice of straight pins or solder hooks
- MIL-PRF-5757 and MIL-PRF-39016 qualified products available

## TE CONNECTIVITY - A NEW POWERFUL SOURCE

TE Connectivity has extensive capabilities in the design and manufacture of relays, contactors, solenoids and power distribution units for demanding, high performance applications. Whether you need commercial off-the-shelf products, components that must meet stringent military specifications or highly specialized, custom-designed products, look to TE to meet your requirements.

Among our brands are some of the more respected names in the high performance switching industry:

- CII military and aerospace relays, sensors and custom solenoids
- HARTMAN aerospace power relays, contactors, sensors and power distribution units
- KILOVAC high voltage relays, contactors, protective relays and power distribution units

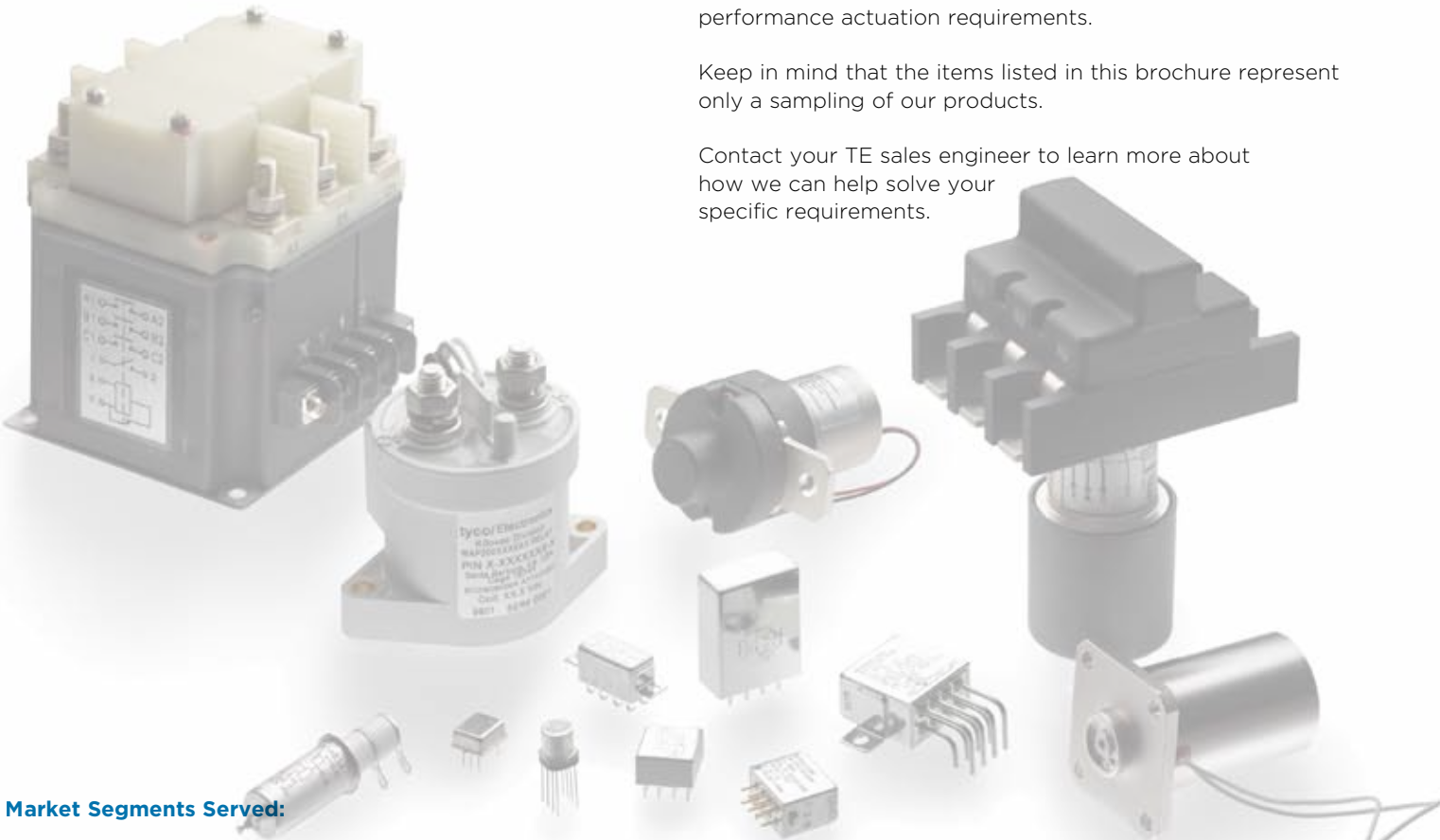
This brochure provides an overview of our product line. It includes products with switching capabilities from dry circuit up through 2000 A. Some relays are capable of switching up to 6 GHz signals, while others can handle voltages up to 70 kV. Other types combine solid state circuits with electromechanical or solid state outputs to create timers, sensors, monitors and controllers.

And they are specifically designed for operation in extremes of temperature, shock, vibration and altitude. We also work closely with our customers to design, build and qualify lightweight power distribution units that combine relays, contactors, circuit breakers, sensors, monitors and other products into compact, cost-effective modular solutions.

Our solenoids are also designed and manufactured on a custom basis to precisely meet your demanding high performance actuation requirements.

Keep in mind that the items listed in this brochure represent only a sampling of our products.

Contact your TE sales engineer to learn more about how we can help solve your specific requirements.



### Market Segments Served:



# Relays, Contactors, Solenoids and PDUs for High Performance Applications

## HV RELAYS



### KILOVAC High Voltage Relays

- Voltage isolation to 70 kV
- Current carrying capability to 110 A
- Service life to 10 million cycles
- Various contact forms available
- Flange, panel and PC board mounting styles
- Optional coils, mountings and terminals

## DC RELAYS AND CONTACTORS



### KILOVAC Lightweight DC Relays and Contactors

- Make and break current ratings from 5 to 300 A
- For switching from 28 to 1800Vdc
- Small, lightweight, hermetically sealed units have gas or vacuum dielectric
- Wide variety of mounting and termination styles
- Contacts available in Form A, Form B, Form C and latching arrangements

## SPACE-QUALIFIED RELAYS AND CONTACTORS



### KILOVAC High Reliability Relays and Contactors for Space Applications

- High voltage relays rated for isolation to 15 kV
- 5, 10 and 15 A power switching relays for make and break applications
- Contactors for high current power switching to 150 A
- Latching and non-latching models
- Lightweight, hermetically sealed construction

## 28 VDC CONTACTORS



### HARTMAN Lightweight 28 Vdc Contactors

- Main contact ratings to 1000 A
- Available with a variety of auxiliary contact arrangements
- SPST and SPDT main contact forms
- Standard, reverse current and automatic dropout types
- Hermetically or gasket sealed models in conventional or bus bar mounting

## 270 VDC CONTACTORS



### KILOVAC Lightweight Contactors Designed to Switch 270 Vdc and 650 A

- Interrupt currents up to 2000 A
- Voltage isolation from 5 to 1800 Vdc
- One- or two-pole models with normally open or normally closed main contacts
- Non-position sensitive, hermetically sealed models for side or bottom mounting
- Available with a variety of auxiliary contact arrangements
- Latching and non-latching types

## AC CONTACTORS



### HARTMAN AC Contactors

- Main contact ratings to 800 A; arrangements to 4PDT
- Available with a variety of auxiliary contact arrangements
- Side stable, latching and center off models
- Hermetically or gasket sealed
- More compact, lighter weight models as well as traditional designs
- Plug-in types, designed for ease of maintenance, are available

# Relays, Contactors, Solenoids and PDUs for High Performance Applications

## SPACE-QUALIFIED DC CONTACTORS



### HARTMAN DC Contactors for Space Applications

- Lightweight construction with hermetically sealed panel mount enclosure
- Main contact ratings of 100 A at 28 Vdc or 35 Vdc
- Main contact arrangements to 2PDT, double break
- 2PDT auxiliary contacts
- Efficient magnetic latching design with self-deenergizing coil

## CUSTOM SOLENOIDS



### CII Custom-Designed, Linear Motion, Tubular High Performance Solenoids

- From 0.5" (12.7 mm) diameter models producing only a few ounces (<1 N) of force at very short strokes, to 3" (76.2 mm) diameter models capable of 100 lb (445 N) force at 1" (25.4 mm) strokes
- Push, pull or combination motion is available
- Broad range of coil, termination, plunger options

## SENSORS AND MONITORS



### HARTMAN and KILOVAC Sensors, Monitors and Protective Relays

- Overcurrent, undercurrent and over/undercurrent sensors and indicators
- Overvoltage, undervoltage and over/undervoltage sensors and monitors
- Overfrequency, under frequency and over/underfrequency sensors
- Phase loss/rotation sensors and ground power monitors
- Time delay versions available

## PDUs



### Customized Lightweight Power Distribution Units

- For primary and secondary power distribution
- Modular systems consist of various plug-in and bus bar line-replaceable modules (LRMs) installed on a panel mounting system or backplane
- LRMs may be contactors, circuit breakers, sensing units, ELCUs, etc.
- Backplanes, designed as a fault-free zone with no moving parts, are intended as a permanent installation on the mother vehicle
- Optional current/voltage sensing, fuses, circuit breakers, power monitors, etc.
- Weight-saving and space-saving designs reduce OEM labor requirements and ease maintenance
- Optional integration of generator control units and logic control units





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