

# HARTMAN Smart AC Contactors

Intelligent Contactors for
Critical Aerospace Applications

# HARTMAN Smart AC Contactors

Intelligent Power Protection Products



One of the most important trends today for military and aerospace contactors is the integration of more electronic intelligence to provide protection against abnormal events by rapidly detecting system faults and isolating them autonomously.





**INTELLIGENT SENSING**

- Current
- Voltage
- Phase rotation
- Frequency
- One turnkey package for sensing, trip protection, and remote power switching

**REDUCE SWaP**

- Reduced power consumption
- Small, lightweight solutions ranging from 5 KVA to 150 KVA and beyond

**RELIABLE**

- High fidelity sensing embedded within a reliable power switching package
- Broad spectrum of functions such as over-current, over/under voltage, and phase imbalance
- Rapid detection and isolation of disruptive faults keep main bus power online
- Mitigation of nuisance tripping with proper filtering of capacitive inrush

## Smart Solutions

In recent years, the aerospace industry has been moving away from traditional 115 VAC/400 Hz power systems to 230 VAC. These changes make it critical that faults are identified and isolated faster than ever. TE Connectivity (TE) has a pedigree at these higher voltages and can integrate smart solutions into these contactors, as well.

## From Sensing to Intelligent Prediction

Contactor design is evolving to provide enhanced and increasingly intelligent monitoring of conditions. The level of fault protection for smart contactors—i.e., those with electronic sensing—can even be selected by the user or application to tailor protection for each individual load. Such selections can be accomplished through connector pin programming. This allows the smart contactor to be configured to the power level of the application.

## SWaP is Critical

HARTMAN smart AC contactors bring intelligence to aircraft power distribution while also reducing SWaP—size, weight, and power consumption. Space is always at a premium, and weight savings translate into better fuel economy, longer flight range, and increased cargo capacity. Similarly, lowering power consumption throughout the distribution can save weight and space. Less power dissipation allows for lighter, more efficient systems.

**TE Components . . . TE Technology . . . TE Know-how . . .**

AMP | AGASTAT | CII | HARTMAN | KILOVAC | MICRODOT | NANONICS | POLAMCO | Raychem | Rochester | DEUTSCH SEACON Phoenix | LL ROWE | Phoenix Optix | AFP | SEACON

Empower Engineers to Solve Problems, Moving the World Forward.

## Today's Contactors Bring Smarter Operation to Power Management

### Electrical Load Control Units (ELCUs) and Remote Control Current Circuit Breakers (RCCBs)

15 A to 175 A ELCUs offer the following important functions:

- Current sensing with integrated current transformers
- Voltage sensing
- Differential current protection
- Over-current trip protection
- Hard-fault protection
- Remote reset
- MIL-STD-461 EMC environments
- Can be scaled up to power levels of 150 KVA and beyond

### Additional Fault Detection and Protection

While sensing overcurrents is generally the prime task required of a smart contactor, other faults can be sensed. These include:

- Loss of phase and phase rotation
- Differential feeder fault
- Ground fault

### Power Distribution and Management . . . The Smarter Way

As your power distribution needs evolve and you require more than just a contactor, we can integrate all of this smart connectivity into a power distribution panel created specifically to meet your application requirements. We draw on decades of experience to achieve reliable performance in a small, lightweight solution.



Custom power distribution panels provide an engineered solution for power distribution management.

### Design Smarter, Faster with TE

Whatever your needs for power management and protective functionality, we will work with you to create an easy to implement solution. We offer an exceptional breadth of AC contactors to meet your needs, rated for power levels from 5 KVA to 150 KVA and beyond. In addition, our extensive experience in power distribution enables us to provide custom-designed, application-specific power panels.









Remote Controlled Circuit Breakers with $I^2T$ or multiple point trip protection ruggedized for harsh environments in a small, lightweight package that performs to specification.



Electrical load control units (ELCUs) provide $I^2T$, differential, phase imbalance, and over/under voltage and frequency protection.



TE has strong pedigree taking smart protection beyond secondary load levels to primary power in excess of 90 KVA.



TE also integrates smart connectivity with autonomous trip functionality into double throw packages for reliable protection of dual sources or loads.



## LET'S CONNECT

We make it easy to connect with our experts and are ready to provide all the support you need. Just call your local support number or visit te.com to chat with a Product Information Specialist.

## Technical Support

te.com/support-center

| | | | |
|---|---|---|---|
| North America | +1 800 522 6752 | Asia Pacific | +86 400 820 6015 |
| North America (Toll) | +1 717 986 7777 | Japan | +81 044 844 8180 |
| EMEA/South Africa | +800 0440 5100 | Australia | +61 2 9554 2695 |
| EMEA (Toll) | +31 73 624 6999 | New Zealand | +64 (0) 9 634 4580 |
| India (Toll-Free) | +800 440 5100 | | |

# te.com/smartcontactors

AMP, AGASTAT, CII, DEUTSCH, HARTMAN, KILOVAC, LL ROWE, MICRODOT, NANONICS, POLAMCO, Raychem, SEACON, TE, TE Connectivity and the TE connectivity (logo) are trademarks of the TE Connectivity Corporation. Other products, logos, and company names mentioned herein may be trademarks of their respective owners.

While TE Connectivity (TE) has made every reasonable effort to ensure the accuracy of the information herein, nothing herein constitutes any guarantee that such information is error-free, or any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. The TE entity issuing this publication reserves the right to make any adjustments to the information contained herein at any time without notice. All implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose are expressly disclaimed. The dimensions herein are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice.

Consult TE for the latest dimensions and design specifications.

© 2017 TE Connectivity Corporation All Rights Reserved.

**1-1773930-5 07/17**