

### ECBT2.E235076

## Connectors for Use in Data, Signal, Control and Power Applications

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### **Guide Information**

#### HARTING ELECTRIC GMBH & CO KG

E235076

WILHELM-HARTING-STRASSE 1 32339 ESPELKAMP, GERMANY

Series R15.

Han Brid-#-#-Bus, Series Han 4A, Han 12 HsC, Han A, Han D, Han DD, Han Dav, Han Distributor, Han E, Han EE, Han EAV, Han ES, Han ES-AV, Han HC Modular, Han HSB, Han 6 HsB, Han HVE, Han HVES, Han K 4/0, Han K 4/2, Han K 4/8, Han K 6/6, Han K 6/12, Han K 6/36, Han K 8/24, Han Q 5/0 PCB Adaptor, Han Vv20, Han X Series Han-Brid, Han DD PCB Adaptor, Han ESS, Han K 3/0, Han K 3/2, Han Q 5/0 and Han Q 8/0, HAN Q 17/0 followed by M or F.

Series Staf.

Han-Modular Series, Han C-Module, Han DD-Module, Han E-Module, Han Multi-contact-Module and Han Pneumatic-Module, Han Dummy Module, Han Pneumatic Module (6 mm tubes) and Han Modular Hinged Frame. Han Axialscrew Module 40A, Han Axialscrew Module 100A, Han Dummy Module, Han Pneumatic Module.

Series PG13, 5/M20 and PG9 with HARAX Termination.

Series HAN 3A with HAREX termination.

Series M12, M12-L, M12-S, M8, M8-S with HAREX termination.

Marking: Company name or trademarks and series or catalog designation on device or carton.





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## ECBT2.GuideInfo Connectors for Use in Data, Signal, Control and Power Applications

# Connectors for Use in Data, Signal, Control and Power Applications - Component

The devices covered under this category are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. THE FINAL ACCEPTANCE OF THE COMPONENT IS DEPENDENT UPON ITS INSTALLATION AND USE IN COMPLETE EQUIPMENT SUBMITTED TO UNDERWRITERS LABORATORIES INC.

### **GENERAL**

This category covers single and multipole connectors for factory assembly to copper conductors or printed wiring boards for use in data, signal, control and power applications within and between electrical equipment. These connectors may employ crimp terminals, solder terminals, quick-connect terminals, insulation displacement or insulation piercing terminals, pressure terminal connectors, wire-binding screws, or other terminals that are intended for factory wiring.

Where only the catalog or series designation are indicated in the individual Recognitions, the ratings and Conditions of Acceptability are contained in the Recognition Report.

Ratings — Unless otherwise noted in the individual Recognitions, these devices have not been evaluated for current interruption (making or breaking a mated connection under load), nor for connection to branch circuit receptacle outlets. Devices without a specified electrical rating have not been tested for current carrying capability and should be evaluated in the end-use product. Devices covered under this category are eligible for assigned ratings up to 200 A and up to 600 V ac or dc. Devices with assigned electrical ratings have been investigated for their current-carrying capability under conditions representing the manufacturer's intended use with operating temperatures not exceeding the connector's insulating material or terminated conductors.

Unless otherwise noted in the individual Recognitions, conductor secureness testing has been performed on crimp contacts at 20 lbf for 18 AWG or larger conductors and 8 lbf for smaller conductors using stranded copper conductors.

Unless otherwise specified in the individual Recognitions, the connections between an insulation piercing or insulation displacement terminal and the conductors of a flexible cord, ribbon cable or wire have not been evaluated. The electrical and mechanical properties of the connection should be subjected to testing based upon the requirements for the end-use product.

The connections between a printed circuit board or solder terminal and the traces on a printed wiring board or the conductors of a flexible cord, ribbon cable or wire have not been evaluated. The electrical and mechanical properties of the connection should be subjected to testing based upon the requirements for the end-use product.

Clips, flanges, screws or other mounting hardware have not been evaluated for their ability to secure the connector in place and should be evaluated in the end-use product.

Unless otherwise noted in the individual Recognitions, these devices have not been evaluated for use in equipment

grounding applications.

**Spacings** — Unless otherwise specified in the individual Recognitions, spacings through air or over surfaces are 1.2 mm minimum for a device rated 250 V or less, and 3.2 mm minimum for a device rated more than 250 V.

**Hybrid Device** — A device employing dedicated contacts of two or more rating designations.

Insulating Materials — The insulating materials used in devices rated less than 8.3 A and less than 30 rms (less than 42 peak) have been evaluated for their Relative Thermal Index (Electrical and Mechanical without impact). In addition to Relative Thermal Index, devices rated 8.3 A - 200 A, 30 - 600 V have been evaluated for Flame Rating. The maximum operating temperature for any connector shall not exceed the rated operating temperature that is based on the Relative Thermal Index of the material.

Devices marked with a flammability class have demonstrated compliance with the applicable flame class as described in UL 94, "Tests for Flammability of Plastic Materials for Parts in Devices and Appliances."

### CONDITIONS OF ACCEPTABILITY

Consideration is to be given to the Conditions of Acceptability specified in the individual Recognitions when the components are employed in the end-use equipment.

### REQUIREMENTS

The basic standard used to investigate products in this category is UL 1977, "Component Connectors for Use in Data, Signal, Control and Power Applications."

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