



Pushing Performance

# HARTING News

## InnoTrans 2010

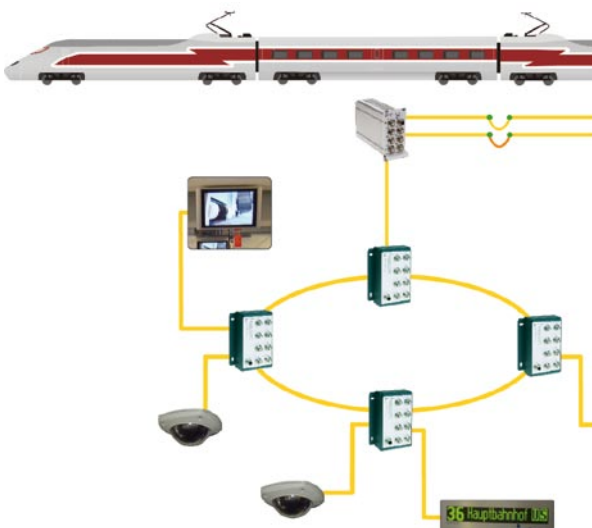


# Network systems for the transportation industry

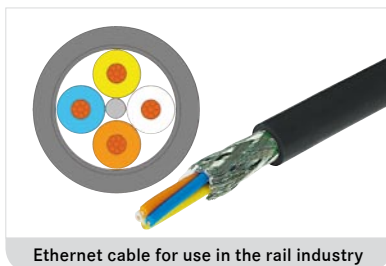


## Ethernet networks / backbones for rail vehicles and busses (e1) with active and passive components from HARTING

- Managed / unmanaged Ethernet switches with IP 20, IP 40 and IP 65 protection
- Interfaces suitable for railway applications: M12, SC, ST, RJ45, Han-Quintax®, Han® GigaBit module
- Network components in compliance with IEC 61375
- Customized wagon-to-wagon cable



## Ha-VIS EtherRail®



Ethernet cable for use in the rail industry

### Ha-VIS EtherRail® data cable suitable for routing within, on and between rail vehicles.

- Can carry Fast Ethernet 100Base-T in accordance with IEEE 802.3
- Fire protection in compliance with EN 45 545 Parts 1, 2 and 5
- Highly resistant to temperatures (-40 °C to +90 °C) because of radiation cross-linking process
- Meets fire protection levels 1 to 4 in compliance with DIN 5510
- RoHS-compliant and halogen-free LSZH
- Sturdy cable with star-quad construction: specially designed for HARTING Han-Quintax® modules for wagon-to-wagon coupling and for Han® M12 Crimp connectors for the interior of the rail wagon
- Assembled and moulded M12 systemcable



Customized wagon-to-wagon cable

## Han® HC modular series from 250 to 650 A



Han® HC 250 and Han® HPR housings

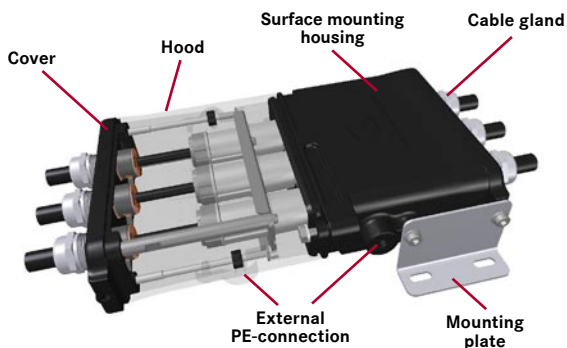
**HARTING offers a wide, constantly evolving product range for power transmission tasks within railway applications. The one-piece crimp-contact Han® HC Modular 250 is an innovation joining the high power range.**

- Compact: up to four HC 250s fit in the dimensions of the Han® 16 HPR
- Versatile: the HC350 is suitable for a wide variety of applications
- Large-scale: HC 650 up to 240 mm<sup>2</sup> conductor cross-section
- Resistant to vibrations in accordance with IEC 61373 Class 1B
- With either crimp connection or axial screw connection
- Tool recommendations on request

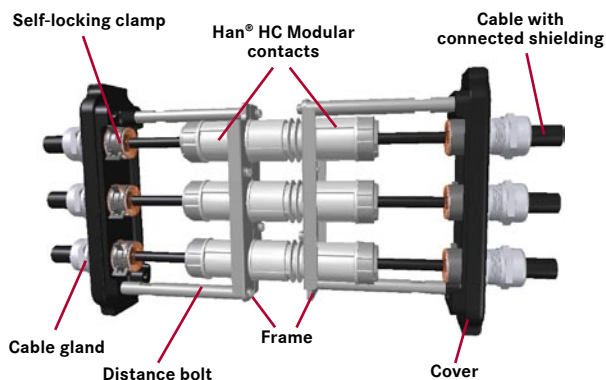


Han® HC 350 insulator base and crimp contact

## 650 A power connector

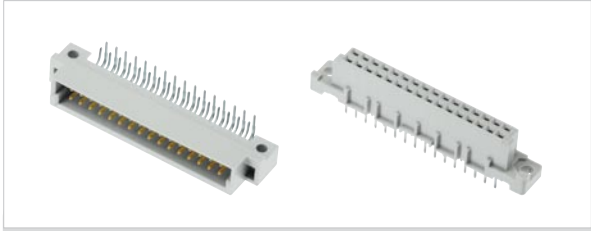


The two-part power connector significantly simplifies the assembly process and offers improved quality check for increased safety.



- Han® HPR: Size 24 B
- Degree of protection: IP 68
- Contacts: Han® HC Modular 250 - 250 A / 2000 V  
Han® HC Modular 350 - 350 A / 4000 V  
Han® HC Modular 650 - 650 A / 4000 V

## DIN 41612 with NFF 16-101 and 16-102 classification F1, I2



DIN Signal male and female PCB connectors

The new HARTING connectors set a new benchmark; they comply with DIN 41612 and IEC 60 603-2 while also meeting the requirements of all hazard classes specified in NFF 16-101 and NFF 16-102.

- Classification F1, I2 in accordance with NFF 16-101 and 16-102
- Maintaining the same electrical characteristics
- Identical article number with additional digits (222)



D20 housing with NFF classification F1, I2  
Suitable for DIN Power



DIN Power male and female PCB connectors

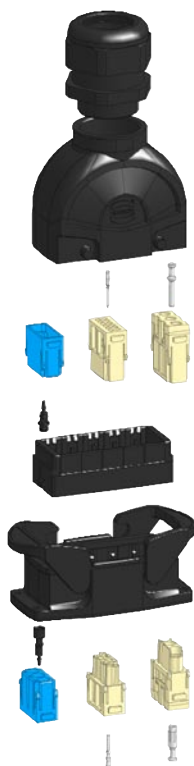
## Han-Eco<sup>®</sup> plastic housing



Han-Eco<sup>®</sup> 24 B with Han Modular<sup>®</sup> inserts

**The robust plastic housing is lightweight and thus supports the rail industry requirement for increased energy efficiency.**

- Housing made from high-strength plastic
- Suitable for use with protective-insulated devices and machines in accordance with protection class II
- IP 65 protection
- Optional PE connection
- Flammability in accordance with UL 94 V0
- Sizes 6 B, 10 B, 16 B and 24 B
- Suitable for all modules in the Han<sup>®</sup> Modular series
- Add-on housing with integrated support frame
- "Click & Mate" mounting requires no tools





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[www.HARTING.com](http://www.HARTING.com)