



Pushing Performance  
Since 1945



PEOPLE. POWER. PARTNERSHIP.

## HARTING Han<sup>®</sup> S

---

Safe and error-free connections  
in energy storage systems

# HARTING Han® S

## Solution overview and compliance to standards







# HARTING Han® S

## Key features and advantages







In line with the market trends for energy storage systems, Han® S was developed as a front mounting solution for high power transmissions with flexibility and safety. This single pole connector family can work with rated currents up to 200 A at a voltage of 1500 V, while assuring safe installations with finger safe contacts with different termination types (bolt or busbar) and visible control of the locking status. Moreover, the product is vibration proof and available in different colours, complete with a mechanical coding system that makes misconnections impossible.

Besides the fact of holding the brand-new approval UL 4128, Han® S provides important additional features currently not existing in the segment. As a matter of a fact, Han® S assures safe and error-free connections with high flexibility.

### Han® S complies with all relevant standards for energy storage systems

-  **IEC 60664-1 (VDE 0110-0)**  
Principles, requirements and tests
-  **IEC 61984 (VDE 0627)**  
Connectors, safety requirements and tests
-  **UL 1977 (in release processing)**  
Standard for component connectors for use in data, signal, control and power applications
-  **UL 4128**  
Outline of investigation for intercell and intertier connectors for use in electrochemical battery system applications
-  **UL 1973**  
Standard for batteries in use in stationary, vehicle auxiliary power and light electrical rail
-  **UL 9540**  
Standard for energy storage and equipment



-  High power transmission in a compact design: rated currents up to 200 A at a voltage of 1500 V due to an effective contact resistance of less than 0.3 mΩ
-  Safe installations due to visible control of the locking status, finger protected contacts, mechanical & colour coding system and shock & vibration resistance
-  Easy (dis) assembly due to (un) screwing the contact of the screw mounted housing from the front. Easy mating through a self-opening single lever
-  High flexibility due to different mounting possibilities and contact terminations as well as 360° positioning for cable entry
-  Complies with all relevant energy storage standards, including the brand-new UL 4128
-  Free of lead and halogens

For more information refer to our homepage: [www.HARTING.com/hans](http://www.HARTING.com/hans)

# HARTING Han® S

## Technical characteristics

### Inserts/electrical data acc. to DIN EN 60664-1 and DIN EN 61984

|  |   |
|--|---|
| <b>Number of contacts</b>                                  | 1                                       |
| <b>Rated current</b>                                       |   |
| - Han® S 120   | 120 A                                   |
| - Han® S 200   | 200 A                                   |
| <b>Rated voltage</b>                                       | 1500 V                                  |
| <b>Rated impulse voltage</b>                               | 8 kV                                    |
| <b>Pollution degree</b>                                    | 2                                       |
| <b>Insulation resistance</b>                               | ≥ 10 <sup>8</sup> Ω                     |
| <b>Contact resistance</b>                                  | ≤ 0.3 mΩ                                |
| <b>Limiting temperatures</b>                               | -40 °C ... +125 °C                      |
| <b>Number of mating cycles</b>                             | ≥ 500                                   |
| <b>Degree of protection</b><br>acc. to IEC/EN 60529        | Touch safe male and female contacts     |
| - mated condition  | IP40                                    |
| - unmated condition  | IP20 (1500 VDC, 1000 VAC)               |
| <b>Coding system</b>                                       | Mechanical & colour                     |
| <b>Locking system</b>                                      | Single lever (with visible status)      |
| <b>Vibration and shock resistance</b><br>acc. to IEC 61373 | Category 1, class B                     |
| <b>Cable entry</b>   | Angled, available rotation through 360° |

# HARTING Han® S

## Technical characteristics

### Inserts/electrical data acc. to DIN EN 60664-1 and DIN EN 61984

|   |  |
|---|--|
| <b>Cable outer diameter</b>                         |  |
| - Han® S 120  | 5.5 -12.5 mm   |
| - Han® S 200  | 6.4 -14.6 mm   |
| <b>Cable gland tightening torque</b>                |  |
| - Han® S 120  | 1.5 Nm   |
| - Han® S 200  | 2.5 Nm   |
| <b>Contact termination (hood)</b>                   | Crimp (conductor cross-section 10 ... 50 mm <sup>2</sup> ) |
| - cable stripping length                            | 22 mm  |
| - suitable tools/crimp-dies                         | refer to the Han® S Assembly Instructions                  |
| <b>Contact termination (housing)</b>                | Bolt/busbar  |
| - recommended tightening torque                     |  |
| • Han® S 120  | 4 Nm*  |
| • Han® S 200  | 11 Nm*   |
| <b>Fixing screws (housing)</b>                      | M3, 6 mm long, flat headed (acc. to ISO 7380-2)            |
| - recommended tightening torque                     | 0.5 - 0.8 Nm   |
| <b>Colour (hood/housing)</b>                        |  |
| - black   | RAL 9005 (jet black)                                       |
| - red   | RAL 3001 (signal red)                                      |
| - blue  | RAL 5015 (sky blue)  |
| <b>Material (hood/housing)</b>                      | Polyamide (PA)   |
| <b>Material (contacts)</b>                          | Copper alloy   |
| <b>Material flammability class</b><br>acc. to UL 94 | V-0  |

\* for bulkhead mounted housings, the use of a counter wrench is mandatory if applying more than recommended tightening torque.

# HARTING Han® S

## Components and part numbers

| Han® S 120   |        |  |  |
|--|--------|--|--|
| Identification/part no.                                      | Figure | Drawings   |  |
| Rubber sleeve  |        | Cable outer diameter 5.5 – 7.0 mm<br>09 93 000 8220          |  |
|  |        | Cable outer diameter 6.8 – 8.8 mm<br>09 93 000 8221          |  |
|  |        | Cable outer diameter 8.6 – 10.6 mm<br>09 93 000 8222         |  |
|  |        | Cable outer diameter 10.5 – 12.5 mm<br>09 93 000 8223        |  |
| Contact  |        | 120 A female crimp contact,<br>silver plated                 |  |
|  |        | 10 mm <sup>2</sup> conductor cross-section<br>09 93 000 8260 |  |
|  |        | 16 mm <sup>2</sup> conductor cross-section<br>09 93 000 8261 |  |
| 25 mm <sup>2</sup> conductor cross-section<br>09 93 000 8262 |        |  |  |


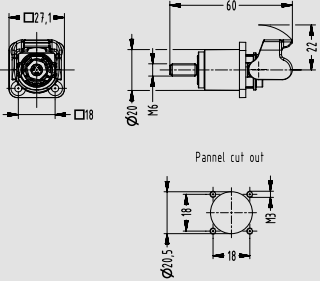

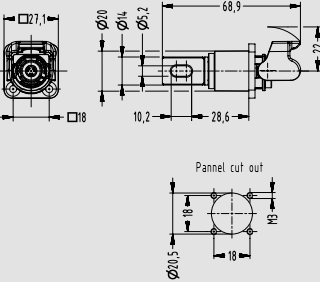
# HARTING Han® S

## Components and part numbers

| Han® S 120              |        |  |
|-------------------------|--------|--|
| Identification/part no. | Figure | Drawings   |
| Hood                    |        | <b>Angled hood,</b><br>10 ... 25 mm <sup>2</sup> conductor cross-section<br>contact, incl. cable gland |
|                         |        | Black<br>09 93 001 1501  |
| Red<br>09 93 001 1502   |        |  |
| SMH/Bolt                |        | <b>Screw mounted housing,</b><br>incl. male contact with<br><b>M6 bolt</b> termination                 |
|                         |        | Black<br>09 93 001 1101  |
| Red<br>09 93 001 1102   |        |  |

# HARTING Han® S


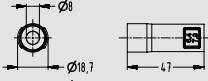
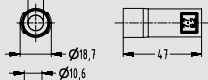
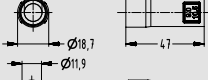
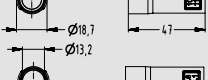
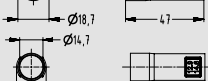
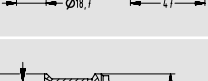

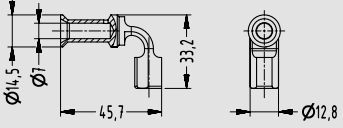
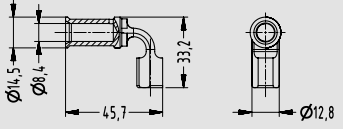
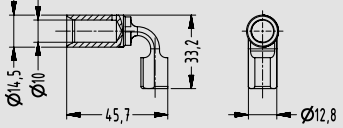
## Components and part numbers

| Han® S 120 |  |  |   |
|------------|--|--|---|
|            | Identification/part no.  | Figure   | Drawings  |
| BMH/Bolt   | <b>Bulkhead mounted housing, incl. male contact with M6 bolt termination</b> |   |   |
|            | Black<br>09 93 001 1301  |  |   |
|            | Red<br>09 93 001 1302  |  |   |
| BMH/Busbar | <b>Bulkhead mounted housing, incl. male contact with busbar termination</b>  |  |  |
|            | Black<br>09 93 001 1303  |  |   |
|            | Red<br>09 93 001 1304  |  |   |

Han® S 120 parts also available in blue colour, having an exclusive mechanical coding  
 Han® S 120 housings also available with Unlocking Protected lever (unlocking only possible using a tool)  
 Han® S 120 accessories available, such as protect cover for transport purposes and assembly tools


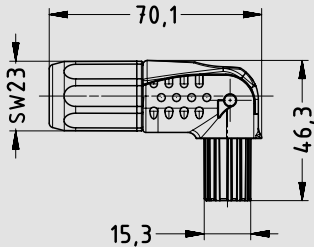

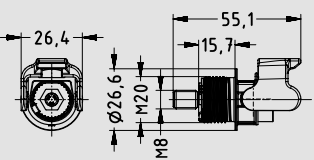
# HARTING Han® S

## Components and part numbers

| Han® S 200    |   |   |   |
|---------------|---|---|---|
|               | Identification/part no.                               | Figure  | Drawings  |
| Rubber sleeve | Cable outer diameter 6.4 – 7.9 mm<br>09 93 000 7221   |    |    |
|               | Cable outer diameter 7.7 – 9.2 mm<br>09 93 000 7222   |   |    |
|               | Cable outer diameter 9.0 – 10.5 mm<br>09 93 000 7223  |   |    |
|               | Cable outer diameter 10.3 – 11.8 mm<br>09 93 000 7224 |   |    |
|               | Cable outer diameter 11.6 – 13.1 mm<br>09 93 000 7225 |   |    |
|               | Cable outer diameter 12.9 – 14.6 mm<br>09 93 000 7226 |   |    |
| Contact       | <b>200 A female crimp contact, silver plated</b>      |  |   |
|               | 25 mm² conductor cross-section<br>09 93 000 7262      |   |  |
|               | 35 mm² conductor cross-section<br>09 93 000 7263      |   |  |
|               | 50 mm² conductor cross-section<br>09 93 000 7264      |   |   |

# HARTING Han® S

## Components and part numbers


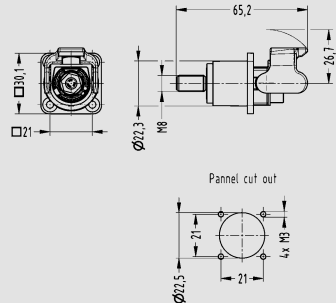

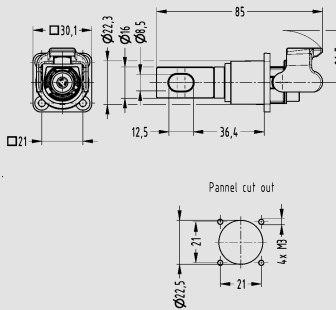
| Han® S 200   |  |   |
|--|--|---|
| Identification/part no.  | Figure   | Drawings  |
| <b>Angled hood,</b><br>25 ... 50 mm <sup>2</sup> conductor cross-section,<br>contact incl. cable gland<br><br>Black<br>09 93 001 0501<br><br>Red<br>09 93 001 0502 |   |   |
| <b>Screw mounted housing,</b><br>incl. male contact with<br><b>M8 bolt</b> termination<br><br>Black<br>09 93 001 0101<br><br>Red<br>09 93 001 0102                 |  |  |

For more information:  
<https://b2b.harting.com/ebusiness/55956>



# HARTING Han® S

## Components and part numbers

| Han® S 200  |  |  |
|---|--|--|
| Identification/part no.   | Figure   | Drawings   |
| <b>Bulkhead mounted housing,</b><br>incl. male contact with<br><b>M8 bolt</b> termination<br><br>Black<br>09 93 001 0301<br><br>Red<br>09 93 001 0302 |   |   |
| <b>Bulkhead mounted housing,</b><br>incl. male contact with<br><b>busbar</b> termination<br><br>Black<br>09 93 001 0303<br><br>Red<br>09 93 001 0304  |  |  |

Han® S 200 parts also available in blue colour, having an exclusive mechanical coding  
 Han® S 200 housings also available with Unlocking Protected lever (unlocking only possible using a tool)  
 Han® S 200 accessories available, such as protect cover for transport purposes and assembly tools  
 Han® S 200 cable assemblies available



**Pushing Performance**  
Since 1945

**HARTING.com** –  
the gateway to your  
country website

---

**HARTING Technology Group**  
info@HARTING.com  
www.HARTING.com