



Pushing Performance  
Since 1945



PEOPLE. POWER. PARTNERSHIP.

## HARTING Han<sup>®</sup> S

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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<sup>®</sup> 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 <sup>®</sup> S 120	120 A
- Han <sup>®</sup> 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> 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> acc. to IEC 16373	Category 1, class B
<b>Cable entry</b>	Angled, available rotation through 360°

# HARTING Han<sup>®</sup> S

## Technical characteristics

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

<b>Cable outer diameter</b>	
- Han <sup>®</sup> S 120	5.5 -12.5 mm
- Han <sup>®</sup> S 200	6.4 -14.6 mm
<b>Cable gland tightening torque</b>	
- Han <sup>®</sup> S 120	1.5 Nm
- Han <sup>®</sup> 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 <sup>®</sup> S Assembly Instructions
<b>Contact termination (housing)</b>	Bolt/busbar
- recommended tightening torque	
• Han <sup>®</sup> S 120	4 Nm*
• Han <sup>®</sup> 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> 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 09 93 000 8220	
		Cable outer diameter 6.8 – 8.8 mm 09 93 000 8221	
		Cable outer diameter 8.6 – 10.6 mm 09 93 000 8222	
		Cable outer diameter 10.5 – 12.5 mm 09 93 000 8223	
Contact		120 A female crimp contact, silver plated	
		10 mm <sup>2</sup> conductor cross-section 09 93 000 8260	
		16 mm <sup>2</sup> conductor cross-section 09 93 000 8261	
25 mm <sup>2</sup> conductor cross-section 09 93 000 8262			

# HARTING Han® S

## Components and part numbers

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

# HARTING Han® S

## Components and part numbers

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


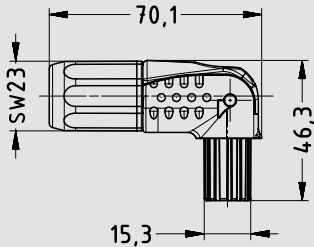

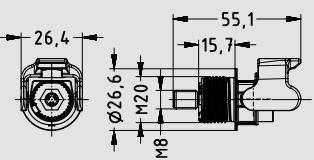
# HARTING Han® S

## Components and part numbers

Han® S 200		
Identification/part no.	Figure	Drawings
Cable outer diameter 6.4 – 7.9 mm 09 93 000 7221		
Cable outer diameter 7.7 – 9.2 mm 09 93 000 7222		
Cable outer diameter 9.0 – 10.5 mm 09 93 000 7223		
Cable outer diameter 10.3 – 11.8 mm 09 93 000 7224		
Cable outer diameter 11.6 – 13.1 mm 09 93 000 7225		
Cable outer diameter 12.9 – 14.6 mm 09 93 000 7226		
<b>200 A female crimp contact, silver plated</b>  25 mm <sup>2</sup> conductor cross-section 09 93 000 7262  35 mm <sup>2</sup> conductor cross-section 09 93 000 7263  50 mm <sup>2</sup> conductor cross-section 09 93 000 7264		

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## Components and part numbers


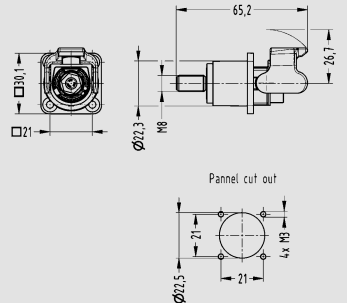

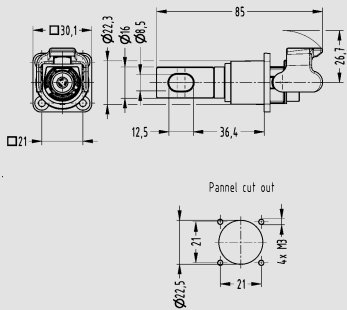
Han® S 200		
Identification/part no.	Figure	Drawings
<b>Angled hood,</b> 25 ... 50 mm <sup>2</sup> conductor cross-section, contact incl. cable gland  Black 09 93 001 0501  Red 09 93 001 0502		
<b>Screw mounted housing,</b> incl. male contact with <b>M8 bolt</b> termination  Black 09 93 001 0101  Red 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> incl. male contact with <b>M8 bolt</b> termination  Black 09 93 001 0301  Red 09 93 001 0302		
<b>Bulkhead mounted housing,</b> incl. male contact with <b>busbar</b> termination  Black 09 93 001 0303  Red 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



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country website

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