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HARTING Han[®] S







Safe and error-free connections
in energy storage systems

HARTING Han® S

Solution overview and compliance to standards

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.

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



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Key features and advantages

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.

-  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

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Technical characteristics

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

Number of contacts	1
Rated current - Han® S 120 - Han® S 200	120 A 200 A
Rated voltage	1500 V
Rated impulse voltage	8 kV
Pollution degree	2
Insulation resistance	≥ 10 ⁸ Ω
Contact resistance	≤ 0.3 mΩ
Limiting temperatures	-40 °C ... +125 °C
Number of mating cycles	≥ 500
Degree of protection acc. to IEC/EN 60529 - mated condition - unmated condition	Touch safe male and female contacts IP40 IP20 (1500 VDC, 1000 VAC)
Coding system	Mechanical & colour
Locking system	Single lever (with visible status)
Vibration and shock resistance acc. to IEC 16373	Category 1, class B
Cable entry	Angled, available rotation through 360°

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Technical characteristics

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

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

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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			
120 A female crimp contact, silver plated 10 mm² conductor cross-section 09 93 000 8260 16 mm² conductor cross-section 09 93 000 8261 25 mm² conductor cross-section 09 93 000 8262			

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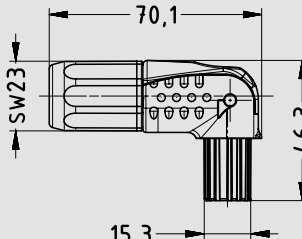

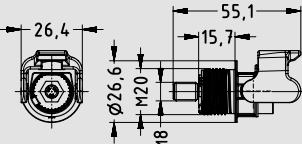
Components and part numbers

Han® S 120			
Identification/part no.	Figure	Drawings	
Angled hood, 10 ... 25 mm² conductor cross-section contact, incl. cable gland Black 09 93 001 1501 Red 09 93 001 1502			
Screw mounted housing, incl. male contact with M6 bolt termination Black 09 93 001 1101 Red 09 93 001 1102			

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

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Components and part numbers


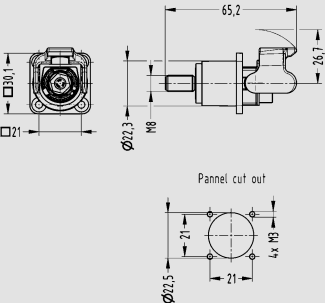

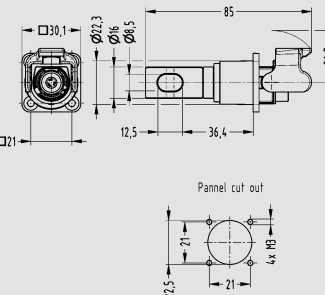
Han® S 200			
	Identification/part no.	Figure	Drawings
Hood	Angled hood, 25 ... 50 mm ² conductor cross-section, contact incl. cable gland		
	Black 09 93 001 0501 Red 09 93 001 0502		
SMH/Bolt	Screw mounted housing, incl. male contact with M8 bolt termination		
	Black 09 93 001 0101 Red 09 93 001 0102		

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



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Components and part numbers

Han® S 200			
	Identification/part no.	Figure	Drawings
BMH/Bolt	Bulkhead mounted housing, incl. male contact with M8 bolt termination		
	Black 09 93 001 0301 Red 09 93 001 0302		
BMH/Busbar	Bulkhead mounted housing, incl. male contact with busbar 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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