

AMPHENOL INDUSTRIAL SOLAR TECHNOLOGIES



PHOTOVOLTAIC INTERCONNECTION SYSTEM

Solar Line

AMPHENOL INDUSTRIAL SOLAR TECHNOLOGIES

ASIA

Amphenol Technology (Shenzhen) Co.,Ltd
Building C, 2nd Industrial Zone of Xia Shi Jia
Gongming sub-district, Guangming New district
Shenzhen, China 518106
Telephone : +86 -755 -29918389 - 299 Fax: +86 -755- 29918310

NORTH AMERICA

Amphenol Industrial Operations
40-60 Delaware Street
Sidney, New York 13838-1395-USA
Telephone:1-760-670-8454 Fax:1-607-563-5157

Amphenol Industrial Solar Technologies
180 N Freeport DR. W-10, Nogales AZ 85621-2423
Telephone: +1 520-397-7047

EUROPE & THE MIDDLE EAST & AFRICA

Amphenol Industrial Operations Europe
Via Barbaiana n.5-20020 Lainate-milano-Italy
Telephone:+39-348-3145390 Fax:39-02-9325-4444

Amphenol Industrial Operations Middle East
Office No C-37, Ajman Free Zone-UAE
Telephone:+39-348-3145390 Fax:-9716-7422941

Amphenol Tunisia Lectric
Industrial Area Tunis Road
El Fahs - Tunisia
Telephone:+216 58307924

E xpanding Global Presence

Amphenol Corporation is one of the world's largest interconnect manufacturers. Founded in 1932, Amphenol designs, manufactures, and markets electrical, electronic, and fiber optic connectors, interconnect systems, and coaxial and specialty cables.

Amphenol products are engineered and manufactured in the Americas, Europe, Asia, and Africa and sold by a worldwide sales and marketing organization. Amphenol has a diversified presence as a leader in high growth areas of the interconnect industry and provides solutions for customers in the automotive, broadband, industrial, information technology and data communications, military and aerospace, mobile devices, and mobile networks markets.

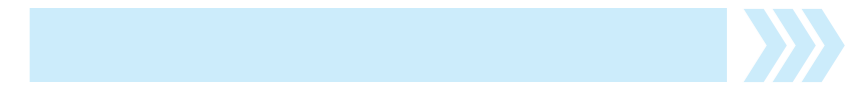
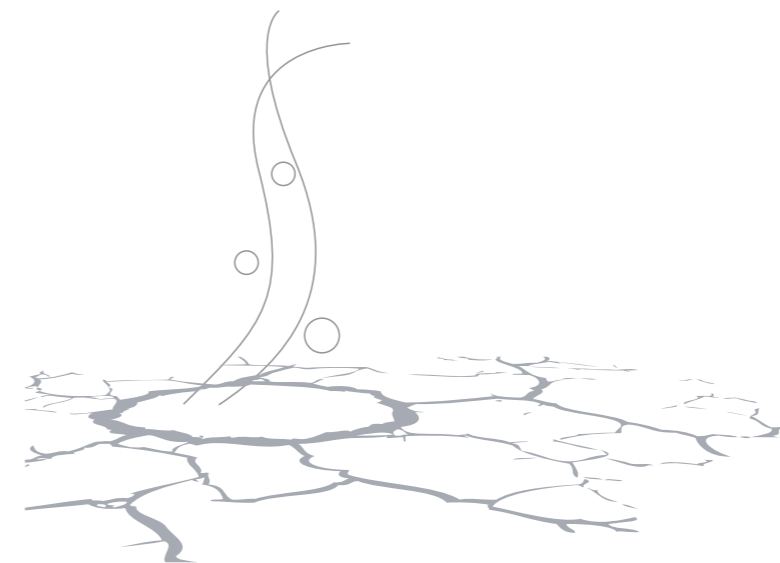
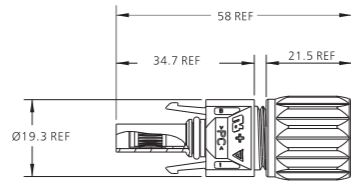
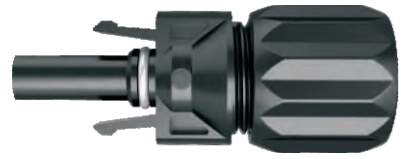


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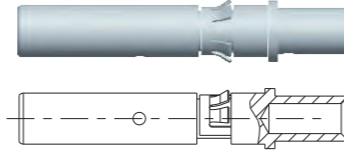


H4 PV Cable Connector

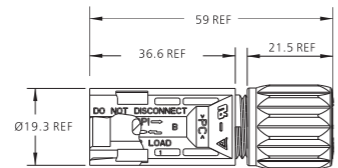
H4 Female PV Cable Connector



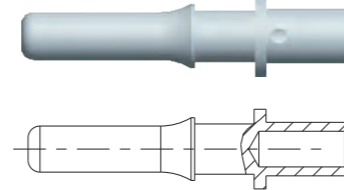
H4 Female socket contact



H4 Male PV Cable Connector



H4 Male pin contact



How to order

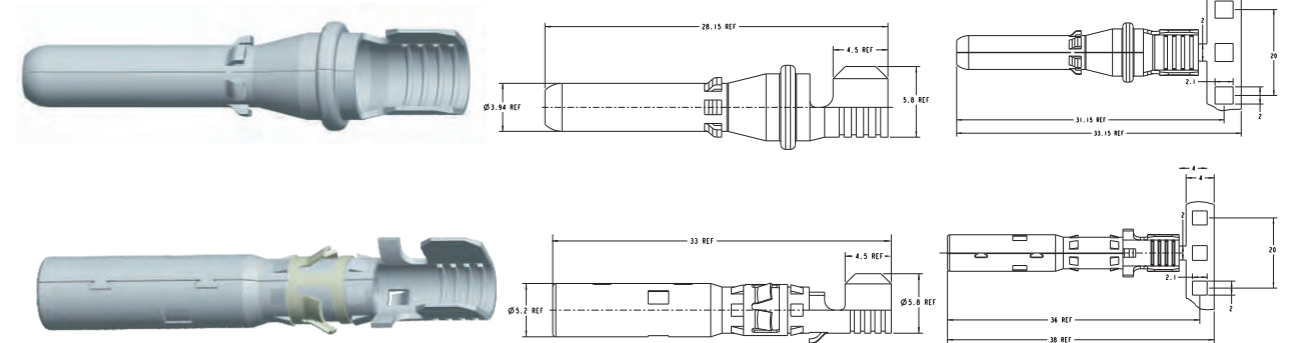
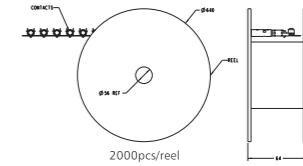
Product family	Product	Gender	Connector type	Cable size	Approvals	Connector packaging
H4 Helios H4	C Connector	F Female +	C Cable gland	2 2.5 mm ² /14AWG	D Dual (UL 1000V TUV 1500V)	I 1pcs/bag, 800pcs/box
		M Male -		4 4.0 mm ² /12AWG		C 100pcs/bag, 10bags/box
				6 6.0 mm ² /10AWG		M 500 pcs/ bag, 2bags/box
				8 10.0 mm ²		

Technical Data

Rated current	40A(2.5mm ² ,14AWG),45A(4.0mm ² ,12AWG), 56A(6.0mm ² ,10AWG), 65A(10.0mm ² , 8AWG)
Rated voltage	1500V DC (TUV) 1000VDC (UL)
Test voltage	6KV for 1 minute, 8KV impulse (1.2/50 μs)(IEC)
Typical contact resistance	0.30mΩ for S&F contact, 0.25mΩ for machined contact TYP
Contact material	Copper, tin plated
Contact system	Cold formed / stamp formed contact with RADSOK® insert
Insulation material	PC
Locking mechanism	Snap-lock, special unlocking tool required to un-mate as required by NEC2011
Cable strain relief	Compression gland with ratcheting gland nut
Degree of protection	IP68
Safety class	II
Pollution degree	2
Overvoltage category	III
Flame class	UL94 V-0
Jacket of cable range	Ø4.5mm~Ø7.8mm
Ambient temperature range	-40°C~+85°C

H4 Stamped and Formed Contact

Packaged on a reel for automatic assembly



H4 Connector with S&F contact ordering code

Product family	Product	Gender	Connector type	Cable size	Approvals	Connector packaging	Contact
H4 Helios H4	C Connector	F Female +	C Cable gland	2 2.5mm ² /14AWG	D Dual (UL 1000V TUV 1500V)	I 1pcs/bag, 800pcs/box	S S&F contact
		M Male -		4 4.0mm ² /12AWG&6.0mm ² /10AWG		C 100pcs/bag, 10bags/box	
				0 Less contacts		M 500 pcs/ bag, 2bags/box	

H4 Stamp and formed contact ordering code

Product family	Contact type	Gender	Cable size	Packing
H4 Helios H4	F S&F contact	F Female	2 1.5mm ² /16AWG & 2.5mm ² /14AWG	R 2000/reel
		M Male	4 4.0mm ² /12AWG & 6.0mm ² /10AWG	

Note: If ordering contacts in 2000pcs/reel version, need to order contacts and plastic housing separately. Contacts is as this table, plastic housing should be chosen as H4FC0DM for female housing and H4CM0DM for male housing. If choose contact picked separated from reel, just choose H4FC4DMS for female connector with S&F contacts, 1000pcs/box pack.

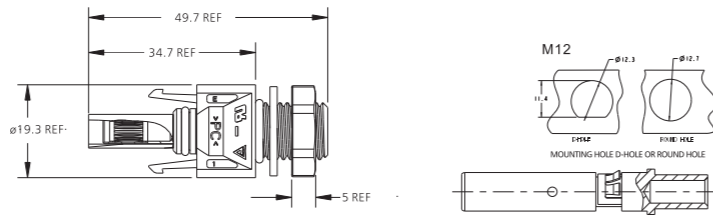
Assembly Tool



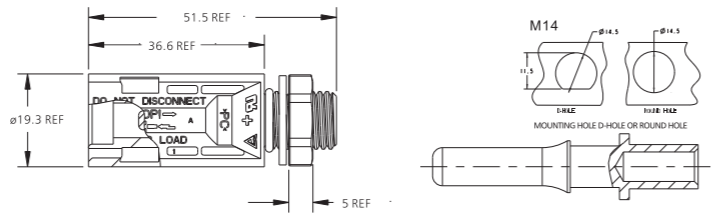
■ Tool-kit H4TK0000 ■ Unlock tool H4TU0000 ■ Wrench tool H4TW0001 ■ Strip tool H4TS0000 ■ Crimp tool H4TC0002

H4 PV Panel Connector

H4 Female PV Panel Connector



H4 Male PV Panel Connector



How to order

Product family	Product	Gender	Connector type	Cable size	Approvals	Connector packaging
H4 Helios H4	C Connector	F Female -	M bulkhead M12	2 2.5 mm ² /14AWG	D Dual	I 1pcs/bag, 800pcs/box
		M Male +	N bulkhead M14	4 4.0mm ² /12AWG		C 100pcs/bag, 10bag/box
				6 6.0mm ² /10AWG		M 500pcs/bag , 2 bags /box
				8 10.0mm ²		

Technical Data

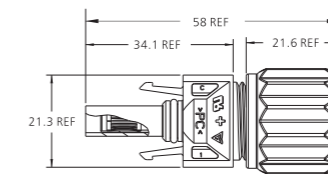
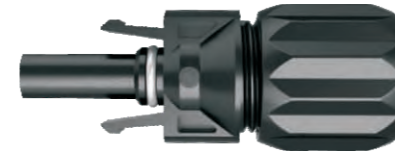
Rated current	40A(2.5mm ² ,14AWG),45A(4.0mm ² ,12AWG), 56A(6.0mm ² ,10AWG), 65A(10.0mm ² , 8AWG)
Rated voltage	1000V DC (TUV) 1000VDC (UL)
Test voltage	6KV for 1 minute, 8KV impulse (1.2/50 μ S)(IEC)
Typical contact resistance	0.30mΩ for S&F contact, 0.25mΩ for machined contact TYP
Contact material	Copper, tin plated
Contact system	Machined/cold formed or S&F contact with RADSOK® insert
Insulation material	PC
Locking mechanism	Snap-lock, special unlocking tool required to un-mate as required by NEC2008
Cable strain relief	Compression gland with ratcheting gland nut
Degree of protection	IP68 (1 meter, 1 hour) mated
Safety class	II
Pollution degree	2
Overtoltage category	III
Flame class	UL94 V-0
Jacket of cable range	Ø4.5mm~Ø7.8mm
Ambient temperature range	-40°C~+85°C

Ordering example:

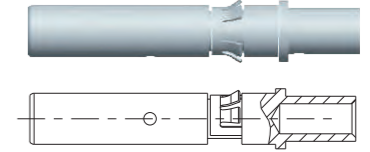
■ H4 PV connector	H4 C	■ 6.0mm ² /10AWG cable size	6
■ Female part	F	■ Dual approvals	D
■ M12 panel connector	M	■ 1000pcs per box	M

Enlarge H4 PV Cable Connector

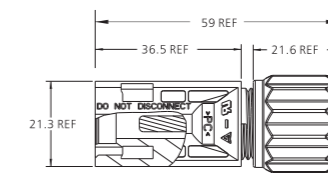
Enlarge H4 Female Cable Connector



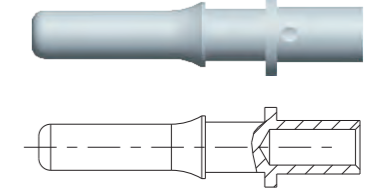
H4-XL Female socket contact



Enlarge H4 Male Cable Connector



H4-XL Male pin contact



How to order

Product family	Product	Gender	Connector type	Cable size	Approvals	Connector packaging
H4 Helios H4	C Connector	F Female +	E H4-XL connector	8 10.0mm ² /8AWG	D Dual	I 1pcs/bag, 800pcs/box
		M Male -				C 100pcs/bag, 8bag/box
						M 400pcs/bag , 2 bags /box

Technical Data

Rated current	35A(UL) 65A (TUV)
Rated voltage	1000V DC (TUV/UL)
Test voltage	6KV for 1 minute, 8KV impulse
Contact resistance	0.25mΩ TYP
Contact material	Copper, tin plated
Contact size and system	10.0mm ² /8AWG , Cold formed
Insulation material	PC
Degree of protection	IP68
Safety class	II
Pollution degree	2
Flame class	UL94, V-0
Jacket of cable range	Ø7.6mm~Ø9.3mm
Ambient temperature range	-40°C~+85°C

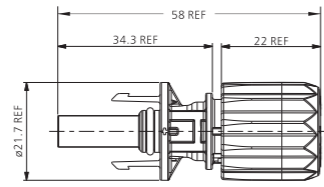
Ordering example:

■ H4 PV connector	H4 C	■ 10.0mm ² /8AWG cable size	8
■ Female part	F	■ Dual approvals	D
■ Enlarge connector	E	■ 800pcs per box	M

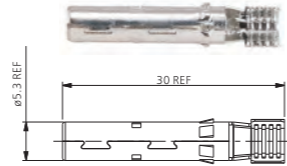


UTX™ PV Cable Connector

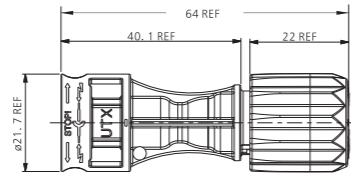
UTX™ Female Cable Connector



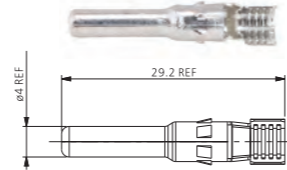
UTX™ Female socket contact



UTX™ Male Cable Connector

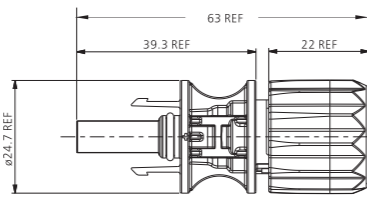


UTX™ Male pin contact

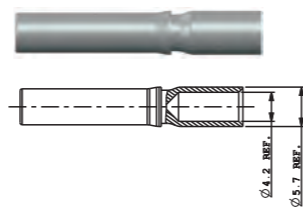


UTX™-XL PV Cable Connector

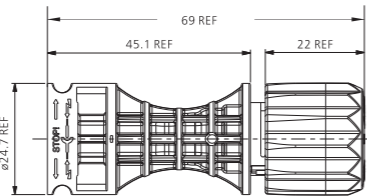
UTX™-XL Female Cable Connector



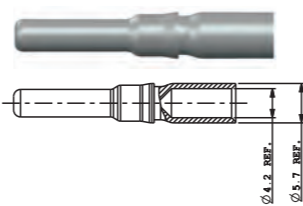
UTX™-XL Female socket contact



UTX™-XL Male Cable Connector



UTX™-XL Male pin contact



UTX™-XL Connector Wrench Tool
P/N: UTXTWL001



UTX™ Connector Wrench Tool
P/N: UTXTWA001



Inspection Tool for UTX, check the correct location of contact in the UTX body
P/N: UTXTT0001



UTX™ PV Cable Connector

Technical Data

Rated current	31A(2.5mm ² /14AWG), 42A(4.0mm ² /12AWG) 53A(6.0mm ² /10AWG), 75A(10.0mm ² /8AWG)
Rated voltage	UL 1500V, TUV/JET 1500V
Contact resistance	0.3mΩ TYP
Contact material	Copper, tin plated
Contact system	Stamped and formed contact
Insulation material	Thermoplastic
Degree of protection	IP68
Cable applicability	UL PV Cable (14/12/10/8AWG) TUV PV1-F cable(2.5/4.0/6.0/10.0mm ²) S-JET PV-CC cable(2.5~10.0mm ²)
Flame class	UL94, V-0
Jacket of cable range	Ø4.5mm~Ø7.4mm
Ambient temperature range	-40°C~+90°C

UTX Connector Part Number Ordering Code

Product family UTX UTX	Product C Connector	Gender F Female+ M Male-	Connector body type A 2.5mm ² /14 AWG, 4mm ² /12 AWG, 6mm ² /10 AWG (Stamped & Formed Contacts) L 10.0mm ² /8 AWG (UTX-XL) (Cold Formed Contacts)
Cable Size* 0 No Contacts 2 2.5mm ² /14AWG 4 4.0mm ² /12AWG 6 6.0mm ² /10AWG 8 10.0mm ² /8AWG (UTX-XL)	Approvals A UL/TÜV/JET Certified	Packaging I 1pcs/bag, 800pcs/box C 100pcs/bag, 10bags/box M 500pcs/bag, 2 bags/box	Variations

* Note: 10.0mm²/8 AWG (UTX-XL) contacts cannot be ordered separately and must be specified

Ordering Example:

- UTXCFA4AM UTX female connector with 4.0mm²/12 AWG contact, 500 pcs/bag (2 bags/box)
- UTXCML8AC UTX-XL male connector with 10.0mm²/8 AWG contact, 100 pcs/bag (10 bags/box)

UTX Contact Part Number Ordering Code (For Ordering Contacts on Reels)

Product family UTX UTX	Product type F Contact	Gender F Female+ M Male-	Contact size* 2 2.5mm ² /14AWG 4 4.0mm ² /12AWG, 6.0mm ² /10AWG	Packaging R 2000 pcs/reel
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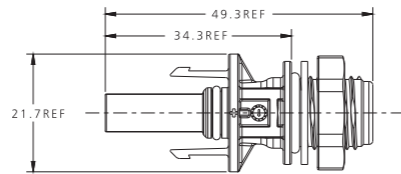
* Note: 10.0mm²/8 AWG (UTX-XL) contacts are not available on reel

Ordering Example:

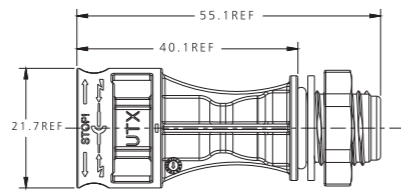
- UTXFF4R UTX female contact size 4.0mm²/12 AWG and 6.0mm²/10 AWG on reel
- UTXFM2R UTX male contact size 2.5mm²/14 AWG on reel

UTX™ PV Panel Connector

UTX Female Panel Connector



UTX Male Panel Connector



Feature:

Leading panel connector for UL 1500V & TUV 1500V.
 Widely cable range, cable size from 1.5mm²~10mm²
 S&F and machined contact options

With Stamped and Formed Contact

How to order			
Product family UTX UTX	Product N Bulkhead M14	Gender F Female M Male	Connector type A S&F contact
Cable size 2 1.5mm ² /16 AWG & 2.5mm ² /14 AWG 4 4.0mm ² /12 AWG & 6.0mm ² /10 AWG	Approvals A TUV&UL certified	Packaging I 1pcs/bag, 800pcs/box C 100pcs/bag, 10bags/box M 500pcs/bag, 2bags/box	

Ordering example:

- UTXNFA4AM UTX bulkhead, female, 4mm²/12AWG & 6.0mm²/10AWG S&F contact
- UTXNMA4AM UTX bulkhead, male, 4mm²/12AWG & 6.0mm²/10AWG S&F contact

UTX™ PV Panel Connector

Technical Data	
Rated current	23A (1.5mm ² /16AWG), 31A (2.5mm ² /14AWG), 42A (4.0mm ² /12AWG) 53A (6.0mm ² /10AWG), 75A (10mm ² /8AWG)
Rated voltage	1500V DC (TUV/UL)
Contact resistance	0.3mΩ TYP (S&F), 0.15mΩ TYP (C&F)
Contact material	Copper, tin plated
Contact system	S&F contact or machined/cold formed contact
Insulation material	Thermoplastic
Degree of protection	IP68
Cable applicability	1.5mm ² ~10.0mm ²
Flame class	UL94, V-0
Ambient temperature range	-40°C~+90°C
Certification No.	In process

With Machined/Cold Formed Contact

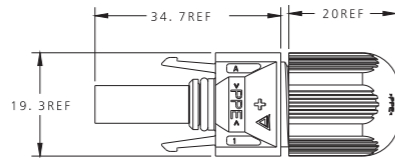
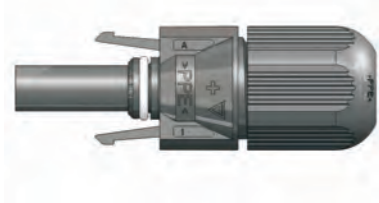
How to order			
Product family UTX UTX	Product N Bulkhead M14	Gender F Female M Male	Connector type B Machined contact
Cable size 1 1.5mm ² /16 AWG 2 2.5mm ² /14 AWG 4 4.0mm ² /12 AWG 6 6.0mm ² /10 AWG 8 10.0mm ² /8 AWG	Approvals A TUV&UL certified	Packaging I 1pcs/bag, 800pcs/box C 100pcs/bag, 10bags/box M 500pcs/bag, 2bags/box	

Ordering example:

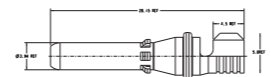
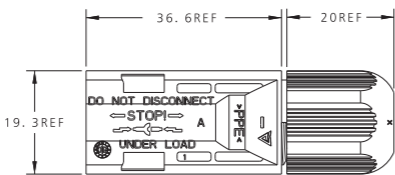
- UTXNFB6AM UTX bulkhead, female, 6mm²/10AWG machined contact
- UTXNMB6AM UTX bulkhead, male, 6mm²/10AWG machined contact

H4-R PV Connector

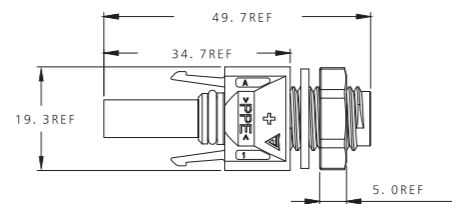
H4-R Female Cable Connector



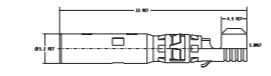
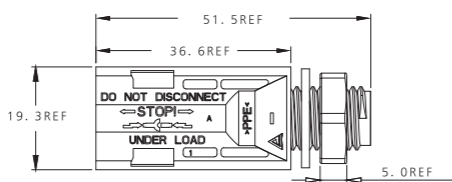
H4-R Male Cable Connector



H4-R Female Panel Connector

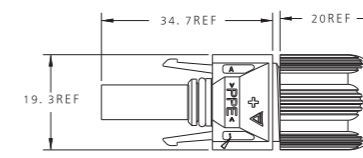
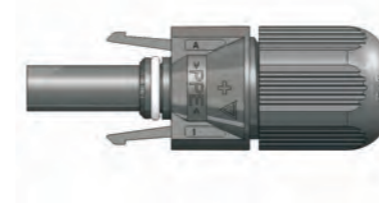


H4-R Male Panel Connector

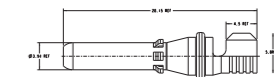
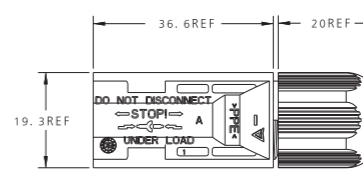


H4-RH PV Connector

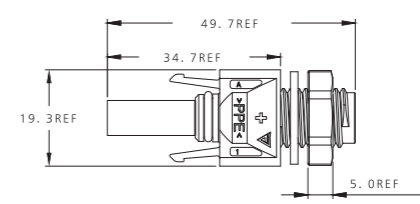
H4-RH Female Cable Connector



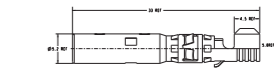
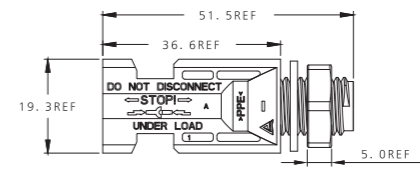
H4-RH Male Cable Connector



H4-RH Female Panel Connector



H4-RH Male Panel Connector



Feature:

- TUV EN50521 Certified
- IP68 protection
- Compatible with H4
- Manually unlock (for H4-RH)



R 50157783

Technical Data

Rated current	31A for 2.5mm ² , 42A for 4.0mm ² , 53A for 6.0mm ²
Rated voltage	1000V DC (TUV)
Contact resistance	0.3mΩ TYP
Contact material	Copper alloy, tin plated
Contact system	Stamped and formed contact
Insulation material	Thermoplastic
Degree of protection	IP68
Cable applicability	2.5mm ² ~6.0mm ²
Flame class	UL94, V-0
Jacket of cable range	Ø5.94mm~Ø6.97mm
Ambient temperature range	-40°C~+90°C

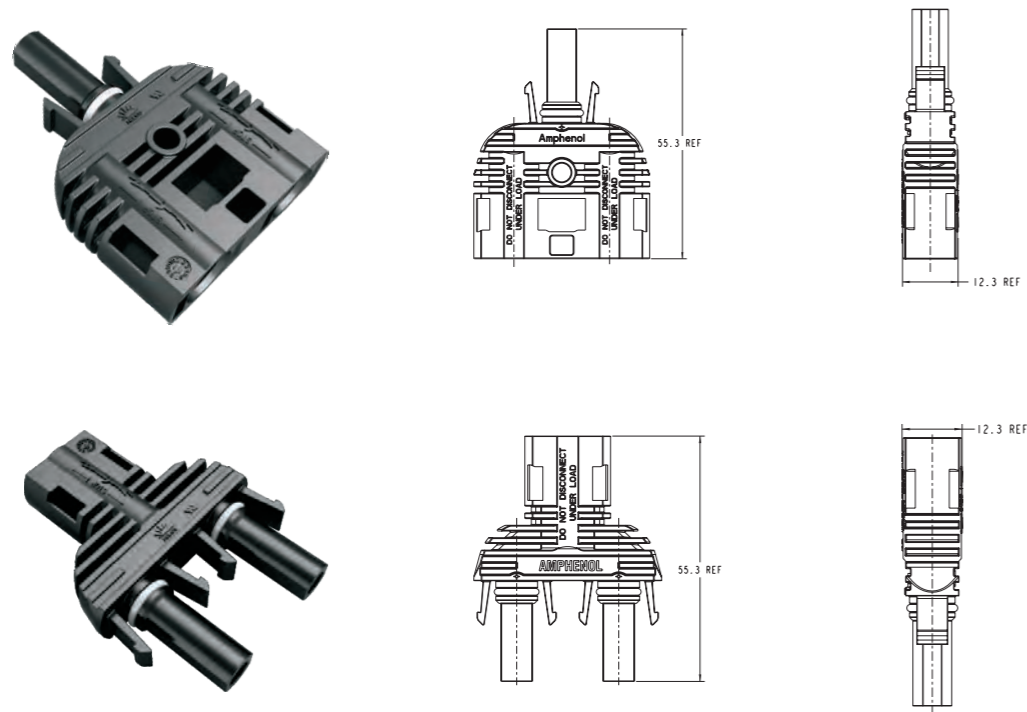
Ordering example:

- H4LFC4TMS H4-R type, female cable connector, 4mm² S&F contact
- H4LFM4TMS H4-R type, female panel connector, 4mm² S&F contact
- H4LFD4TMS H4-RH type, female cable connector, 4mm² S&F contact
- H4LFB4TMS H4-RH type, female panel connector, 4mm² S&F contact

How to order

Product family	Product type	Gender	Connector type
H4 H4	L H4-R connector	F Female M Male	B Bulkhead M12, Manually unlock D Cable connector, Manually unlock C Cable connector M Bulkhead M12
Cable size	Approvals	Packaging	Contact
2 2.5 mm ² 4 4.0 mm ² & 6.0 mm ²	T TUV	C 100pcs/bag, 10bags/box M 500pcs/bag, 2bags/box	S S&F contact

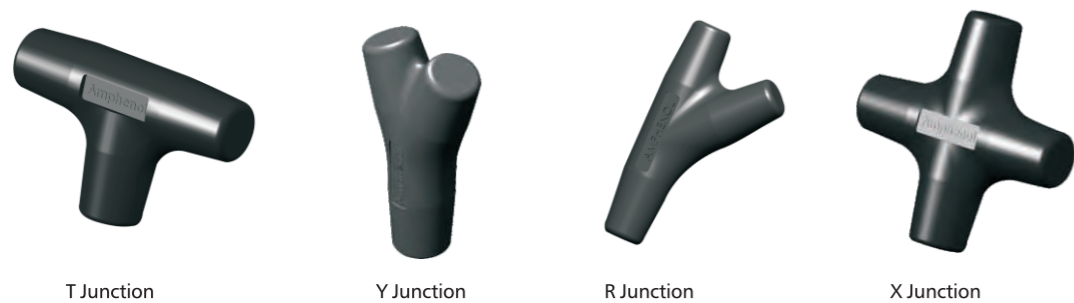
H4 Branch Connector



How to order

Product family	Product type	Gender
H4 Helios H4	Y Branch connector	X FFM (branch 2 female/1 male) Y MMF (branch 2 male/1 female)

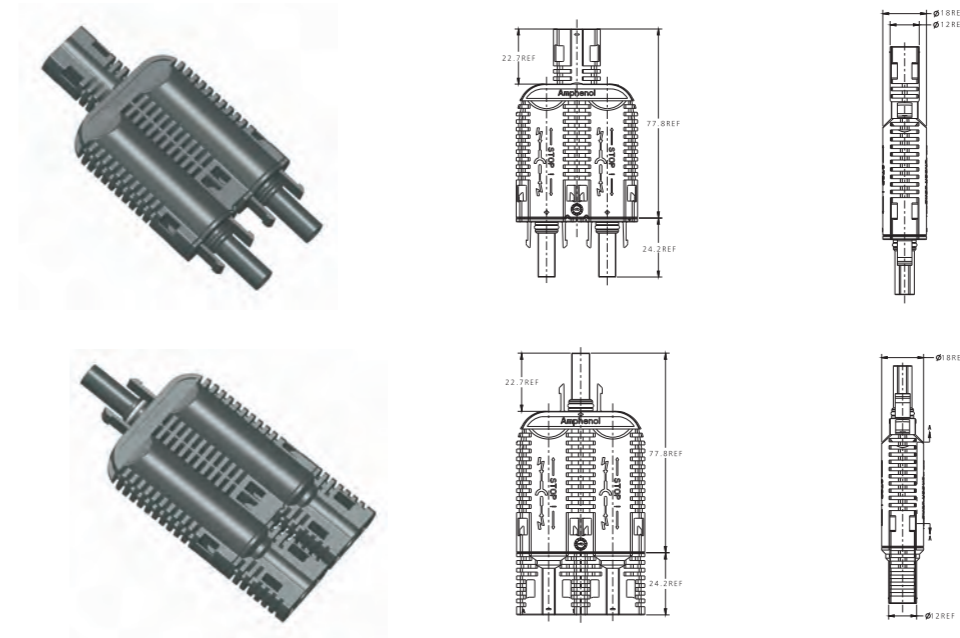
Cable Assy and Overmolded Junctions



Technical Information

Ambient Temperature Rating : -40°C---+70°C
 Cable Range (Cable Version): 14AWG (2.5mm²) To 8AWG (10mm²)
 Degree of protection :IP68

Branch Fuse Connector



Feature:

Replaceable fuse design for field operation
 Variable current options

How to order

Product family	Product type	Gender	Fuse current (1~30A)
H4 Helios H4	Y Branch connector	FFM Branch 2 female/1 male MMF Branch 2 male/1 female	01 1A 15 15A 30 30A

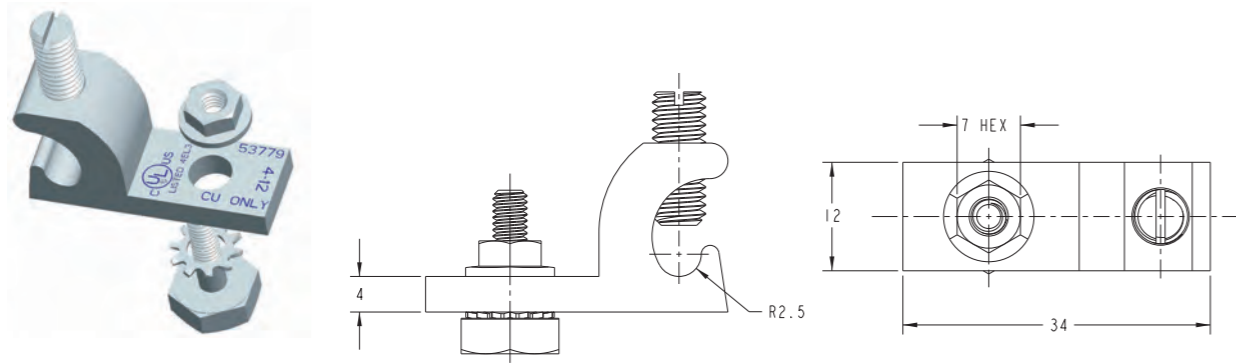
Technical Data

Rated current	1A~30A
Rated voltage	1000V
Contact resistance	1.0 mΩ TYP
Degree of protection	IP68
Number of fuse	2
Replaceable of fuse	Yes
Contact material	Copper, Tin plated
Insulation material	Thermoplastic
Ambient temperature range	-40°C~+85°C
UL certification No.	In process

Ordering example:

- H4YFFM15 Branch fuse connector, 2 female/1 male , 15A
- H4YMMF15 Branch fuse connector, 2 male/1female , 15A

HelioLug



INSTALLATION INSTRUCTIONS:

• Place the lug to the designated module grounding hole with the star washer between the grounding lug and the module frame in order to break through the anodizing and establish electrical contact with the aluminum. Torque the bolt and nut to 30 in-lbs. NOTE: These instructions provide guidelines for general use. If available, the specific module manufacturer's instructions for the location of the star washer are to be followed.

• For the attachment to the racking, slide the bolt into the mounting channel of the extrusion or into a 1/4" Hole drilled through the extrusion. Place the star washer between the racking and lug and secure the nut and bolt to 30 in-lbs. NOTE:

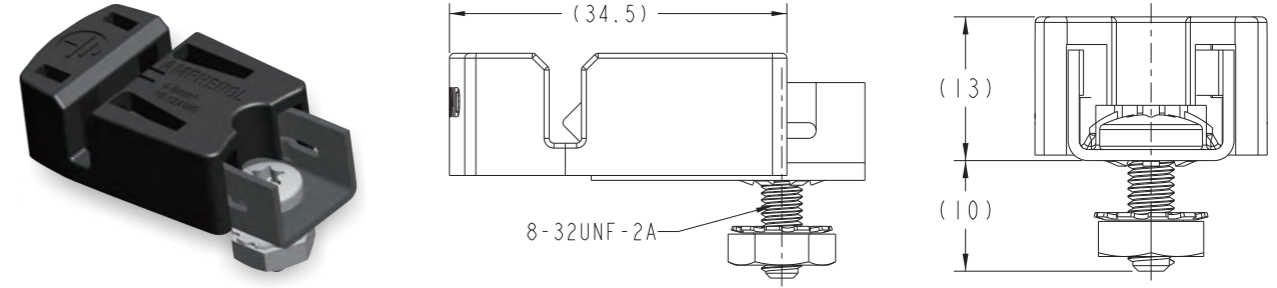
• Insert a 4 to 12 AWG copper wire into the lug and tighten the lug set screw to the copper wire to the torque based on the wire size. (4-6 AWG at 35 in-lbs and 8-12 AWG at 30 in-lbs). Do not exceed the maximum rated overcurrent protection, 20 A (12 AWG), 40 A (10 AWG), 90 A (8 AWG), 150 A (6 AWG), and 200 A (4 AWG).

Certified to UL2703 and cUL QIMS7 for Photovoltaic Bonding



How to order		
Product Family	Type	Approvals
HG Helios Grounding	L HelioLug (4~12AWG copper wire)	U UL&cUL

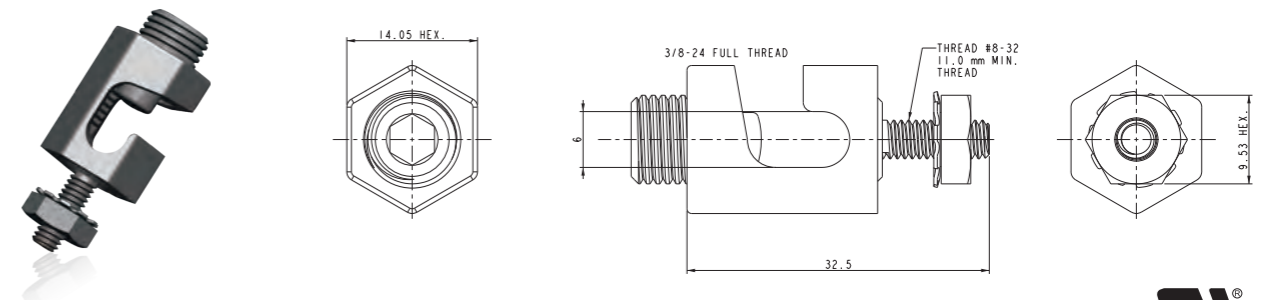
Helio Clip™



Designed for UL2703 - PV Racking and Grounding

How to order		
Product family	Type	Approvals
HG Helios Grounding	C HelioClip Selftapping (10~12AWG copper wire) D HelioClip Mounting (10~12AWG copper wire)	U UL 2703 (Pending)

Helio Bolt™



Certified to UL2703 - PV Racking and Grounding



How to order		
Product family	Type	Approvals
HG Helios Grounding	M HelioBolt Mounting (6~12AWG copper wire)	U UL 2703


-100% Passivated Stainless Steel


PowerLink solar cable

Halogen free photovoltaic cables are used as the interconnection wiring for photovoltaic power systems.

Features:

- Flexibility at low temperature
- Thermoset-insulated conductor
- Thermoplastic jacket
- Long-term insulation resistance to moisture
- Range from 1.5mm² to 16.0mm²





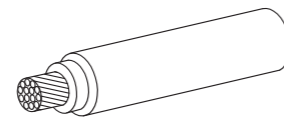
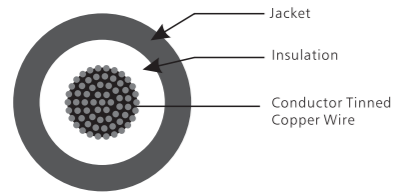
Certificate:

TÜV and UL certified according to the latest regulations, up 2000V

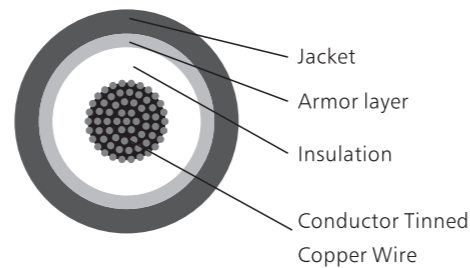
Structure:

Conductor: Stranded bare or tinned copper
 Insulation: XLPE material (white and black)
 Jacket: XLPE material (Black, Red and Blue)

Temperature range:
 -40 °C to +90°C
 Environmental influence resistance:
 Acid, alkalinity, UV, ozone and hydrolysis-resistant.



ArmorLink Solar Cable



Advantages:

- Rodent resistant
- Extra protection layer



Made using UL4703 and 2Pfg 1169 as guidelines.

TÜV

PowerLink solar cable application:

Used in heavy-duty and harsh environment interconnection wiring, can be easily combined with our Helios H4 PV connector and junction box series for photovoltaic system applications.



Cold
 Snow
 Low temperature



Sun
 Drought
 High temperature



Rain
 Moisture

How to order

Product family	Product	Cable color	Cable type
HC Helico cable	P Powerlink -standard A Armorlink-Rodent Proof U Powerlink- USE-2	B Black R Red L Blue G Grey O Brown	L VDE 0295-CLASS 2 7 Strands(USE-2) M Mult wire 19 strands (UL only) H H VDE 0295-CLASS 5(UL,TUV and Dual)
Cable size	Approvals	Spec	Jacket type
1 1.5mm ² /16AWG 2 2.5mm ² /14AWG 4 4.0mm ² /12AWG 5 25.0mm ² /3AWG 6 6.0mm ² /10AWG 8 10.0mm ² /8AWG 9 16.0mm ² /4AWG	T0 TUV 1000V T5 TUV1500V D0 Dual UL600V TUV 1000V D1 Dual UL 1000V TUV 1000V D2 Dual UL 2000V TUV1500V U0 UL 600V U1 UL 1000V U2 UL 2000V	0 Normal spec 1 New extra thin	0 normal type

Notes:

UL cable comes in AWG only
 TUV cable comes in mm² only
 Dual cable comes marked with AWG and mm²

VDE 2095-CLASS 2 is 7 strands cable
 Multi wire stranding is 19 strands cable
 VDE 2095-CLASS 5 is high stranded cable with extra flexibility

Inline and Over-molded Diode and Fuse



Inline diode connector

Over-molded inline diode cable assembly

Inline fuse connector

Over-molded inline fuse cable assembly

- Protection degree: IP68
- Cable range: 2.5mm²/14AWG - 10.0mm²/8AWG
- Temperature range: -40 °C ~ +90 °C
- Withstand rating: 10kA
- Voltage rating: 1500V max
- Amperage rating: 30A max
- Connector options: M-M, M-F, F-F

- Protection degree: IP68
- Cable range: 2.5mm²/14AWG - 10.0mm²/8AWG
- Temperature range: -40 °C ~ +90 °C
- Surge rating: 600V max
- Blocking voltage: customer specified

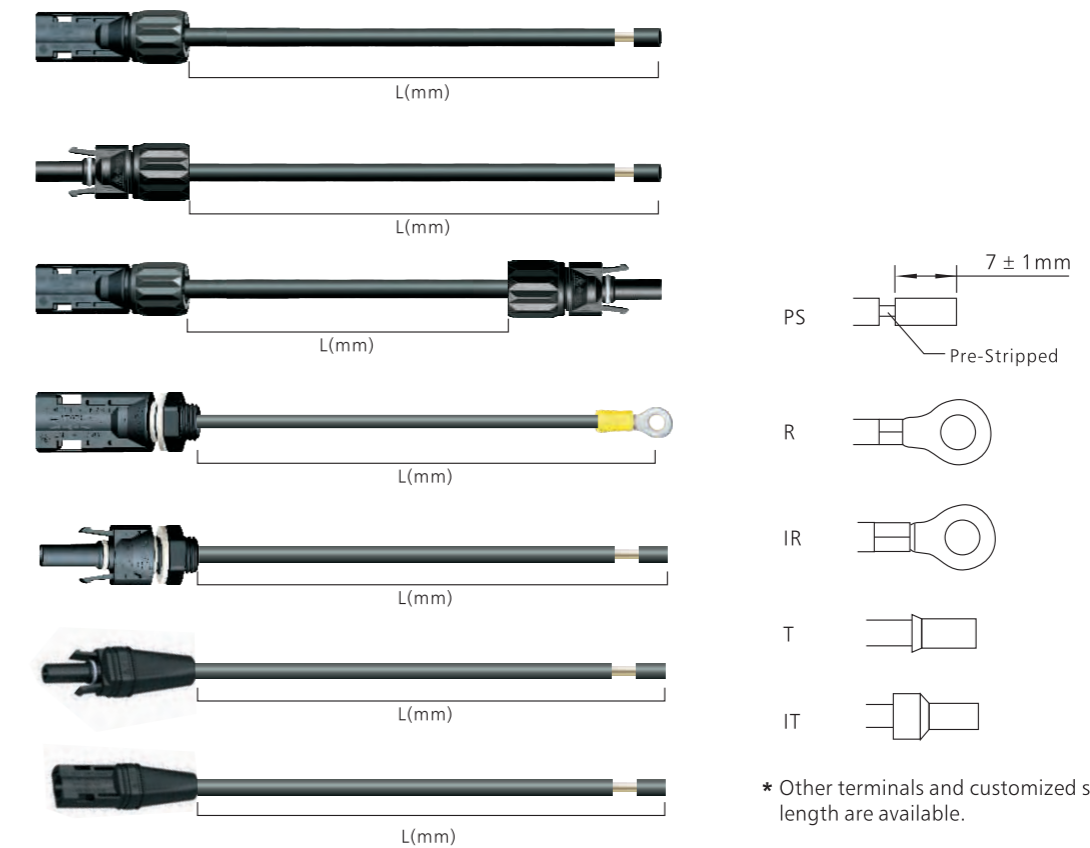
How to order

Product line	Product type	Connector type	Volatage	Current rating
H4 Helios H4	F Molded fuse	FM Female,male	1 600V	01 1A
	D Molded diode	MM Male/male	2 1000V	02 2A
		FF Female/female		03 3A
				* up to 10A

PV Cable Assemblies

How to order					
Product family	Product	Gender	Connector type	Cable size	Approvals
HC Helico cable	C Connector	F Female+ M Male- P Mated pair	C Cable gland M Panel M12 N Panel M14 O Over-mold	2 2.5mm ² /14AWG 4 4.0mm ² /12AWG 6 6.0mm ² /10AWG 8 10.0mm ² /8AWG	T0 TUV 1000V T5 TUV1500V D0 Dual UL600V TUV 1000V D1 Dual UL 1000V TUV 1000V D2 Dual UL 2000V TUV1500V U0 UL 600V U1 UL 1000V U2 UL 2000V
Cable length(mm)	Cable color	End type	Variations		
	B Black-standard R Red L Blue G Grey O Brown OG Orange Y Yellow	PS Pre-stripped wire R Ring terminal IR Isolated ring terminal T Tube terminal IT Isolated tube terminal			

Examples of cable assemblies and definition of cable length:





T/X/R-Junction cable assembly ordering configurations

Cable properties:

Voltage:
 600V DC1000V DC2000V DC

Main cable size:

8AWG(10.0mm²)
 10AWG(6.0mm²)
 12AWG(4.0mm²)
 14AWG(2.5mm²)

Main cable approval:

UL TÜV Dual

Branch cable size:

8AWG(10.0mm²)
 10AWG(6.0mm²)
 12AWG(4.0mm²)
 14AWG(2.5mm²)

Branch cable approval:

UL TÜV Dual

Length of main cable (cm):

A1 _____
 A2 _____
 ... _____
 AN _____

Length of branch cable:

B1(Beginning of main cable) _____
 ... _____
 BN(End of branch cable) _____

Terminations:

A1(Beginning of main cable) _____
 AN (End of main cable) _____
 B1 (Beginning of branch cable) _____
 BN (End of branch cable) _____

H4F, H4M, H4OF, H4OM,

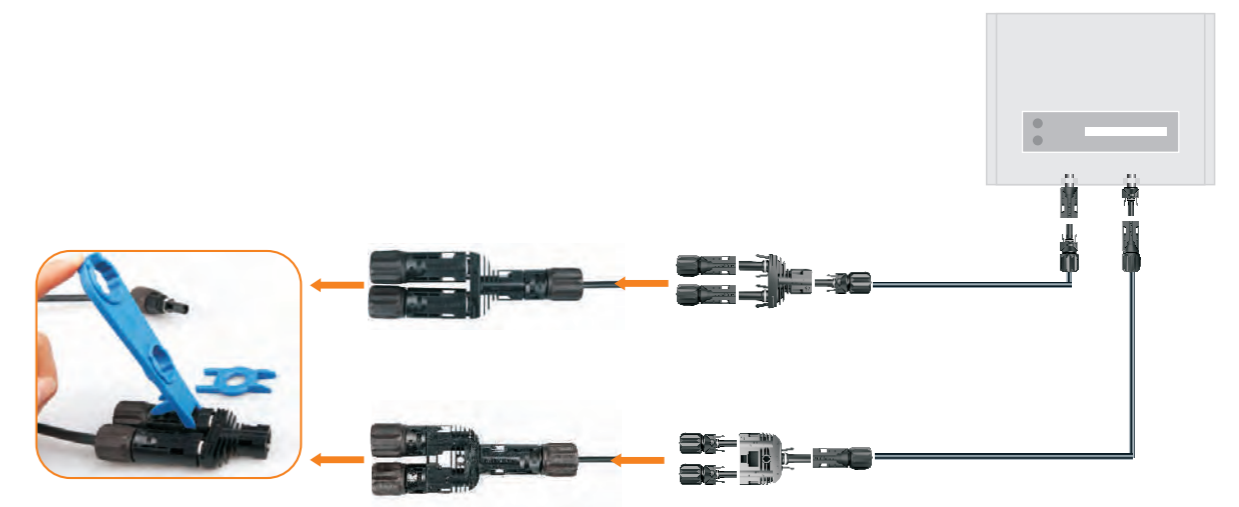
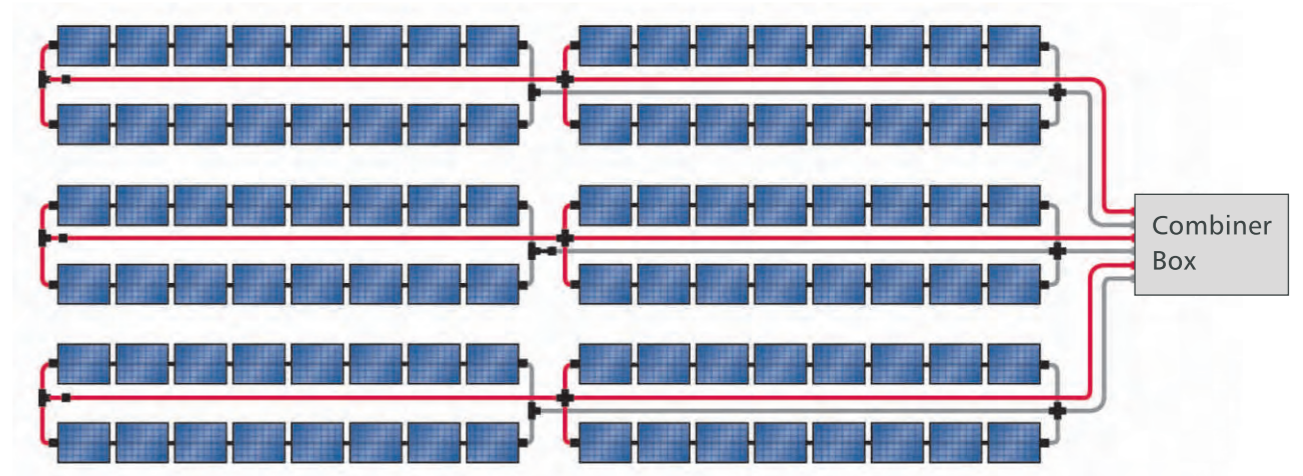
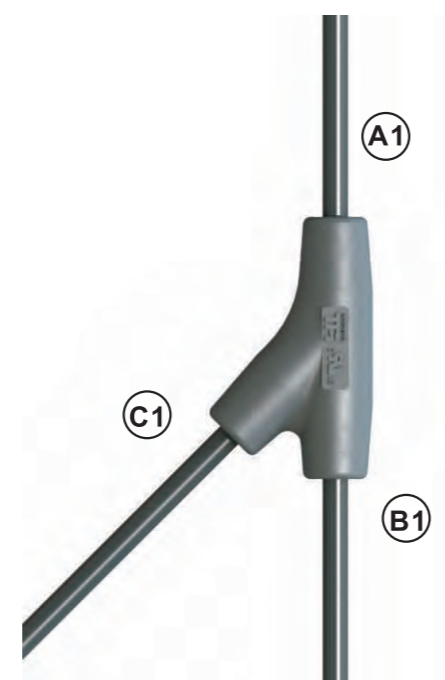
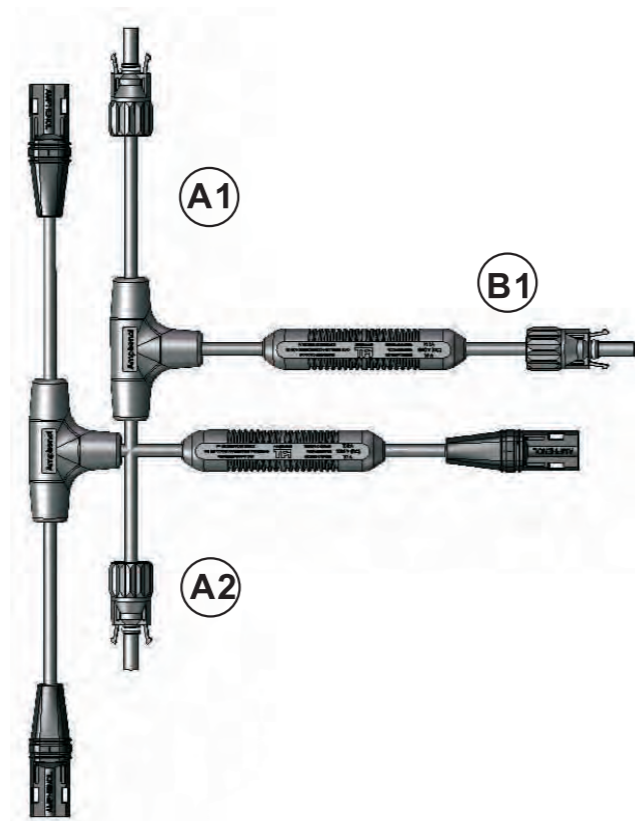
H4F: H4 standard cable connector female part
 H4M: H4 standard cable connector male part
 H4OF: H4 overmolded connector female part
 H4OM: H4 overmolded connector male part

Fuses:

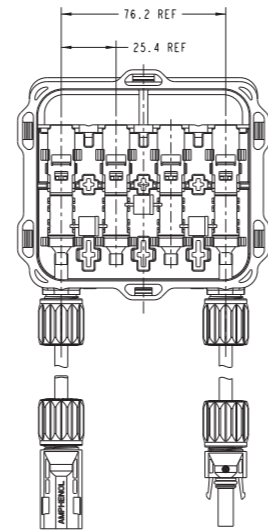
Location of fuse _____
 Rating of fuse _____ A _____ V

Labels:

Label location _____
 Label Text _____

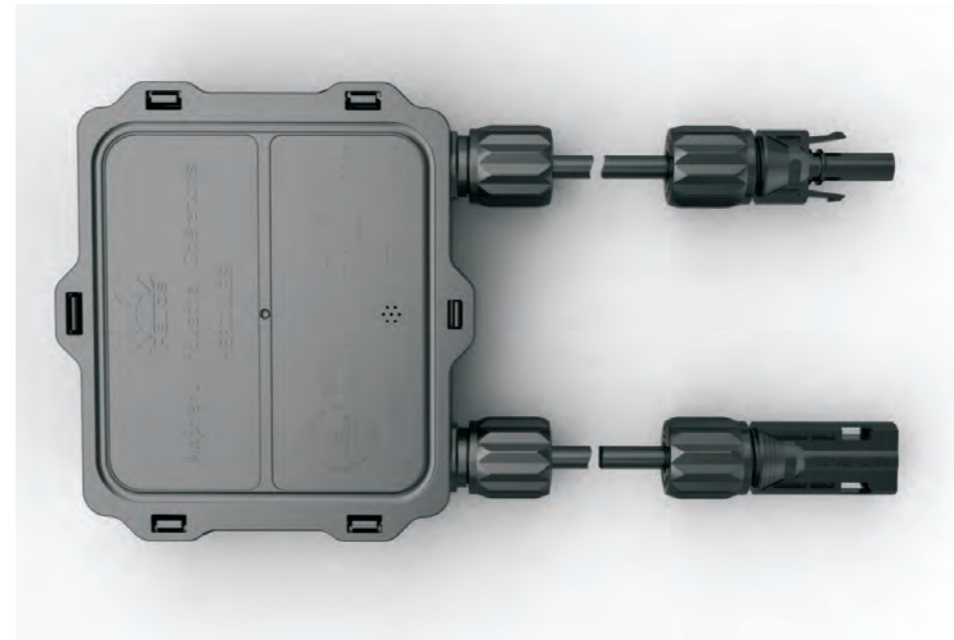


Hercules™ PV Junction Box



Features:

- Same dimensions, multi variations
- IP67 rated
- Breathing film for air exchange



Technical data

Rated voltage	UL 600V /1000V DC IEC/TUV: 1000V DC
Rated current	Up to 30A
Terminal quantity	3 rails or 4rails
Diode quantity option	2, 3 , 4 ,6
Ribbon connection	Clamping, Soldering or Spot welding
Breathing film	With or Without
Degree of protection	IP67
Cable size	12AWG/4.0mm ² or 10AWG/6.0mm ²
Size	117x107x22mm
Flame class	UL94 V-0; 5VA
Connector type	Helios H4
Temperature range	-40°C to +90°C

How to order

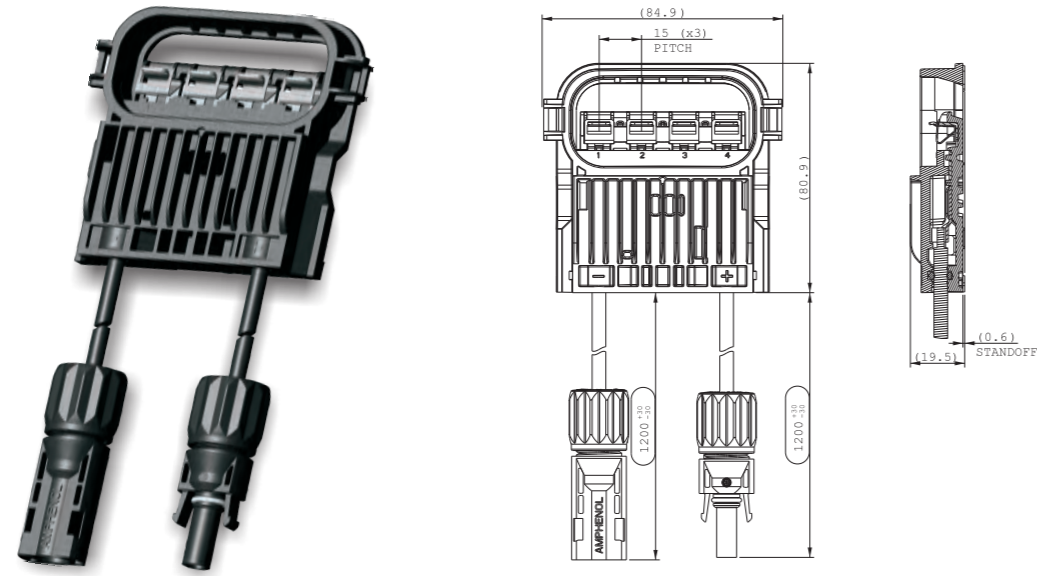
Product family	Product type	Terminals and diodes	Terminal style	Diode rating		
HB Helios JB	H Hercules I Junction box	A 4 contacts/3 diodes B 3 contacts(2 left/1 right)/2 diodes C 3 contacts(1 left/2 right)/2 diodes D 4 contacts/6 diodes E 3 contacts(2 left/1 right)/4 diodes F 3 contacts(1 left/2 right)/4 diodes	A Clamping contacts B Soldering contacts C Soldering contacts left&right opening D Soldering contacts left opening E Soldering contacts right opening F Spot welding contacts	A 12A200V B 12A40V C 15A40V D 30A40V E 20A40V F 15A45V		
Sealing type	Breathing hole	Cable size	Rated voltage/base type	Adhesive	Cable length (Ln)*	Cable length (Lp)*
A Potting	Y Yes	A 6.0mm ² /10AWG	H 1kV/PPE Base	Y Yes	A 1000mm	A 1000mm
B O-ring	N No	B 4.0mm ² /12AWG	J 1kV/PPO Base K 600V/PPE Base L 600V/PPO Base	N No	B 900mm	B 900mm

* Ln:cable length on negative end; Lp:cable length on positive end
- Please contact us for additional variations

Ordering example:

- HelioLink PV junction box **HB H**
- 4 contacts/3 diodes **A**
- Soldering connection **B**
- Diode rated 15A/40V **C**
- Potting seal **A**
- With breathing hole **Y**
- 6.0mm²/10AWG cable size **A**
- Rated 1000V with PPO base **J**
- Without adhesive tape **N**
- 1000mm cable length from both negative and positive end **AA**

Hercules II PV Junction Box



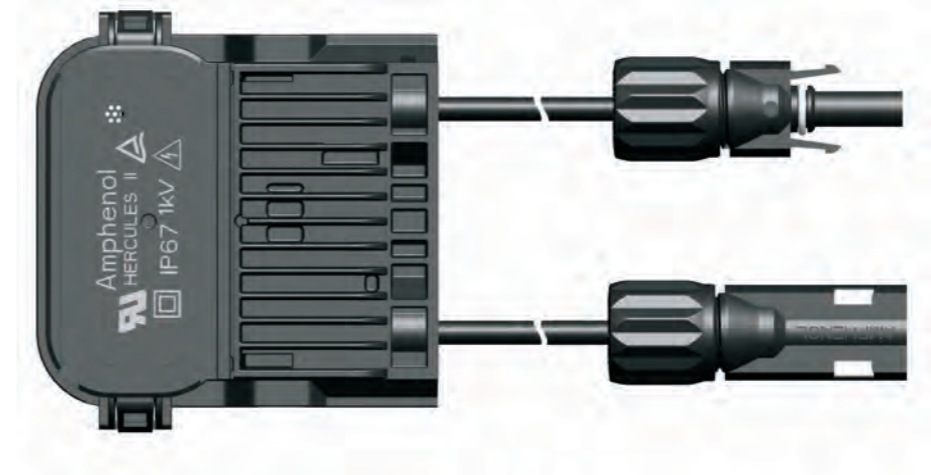
Feature:

- Compact size , Pre-potting
- Good heat dissipation
- Breathing hole for pressure balance
- For automatic assembly at PV module side



Technical Data	
Rated Voltage	TUV 1000V UL 1000V
Rated current	10A, 13A
Terminal quantity	4 rails
Number of diodes	3
Ribbon connection	Clamping
Sealing type	O-ring
Breathing hole	With
Protection degree	Ip67
Safety class	II
Flame class	UL94 V-0, 5VB
Cable size	12AWG/4.0mm ²
Connector type	Helios H4
Temperature range	-40°C~85°C

Hercules II PV Junction Box



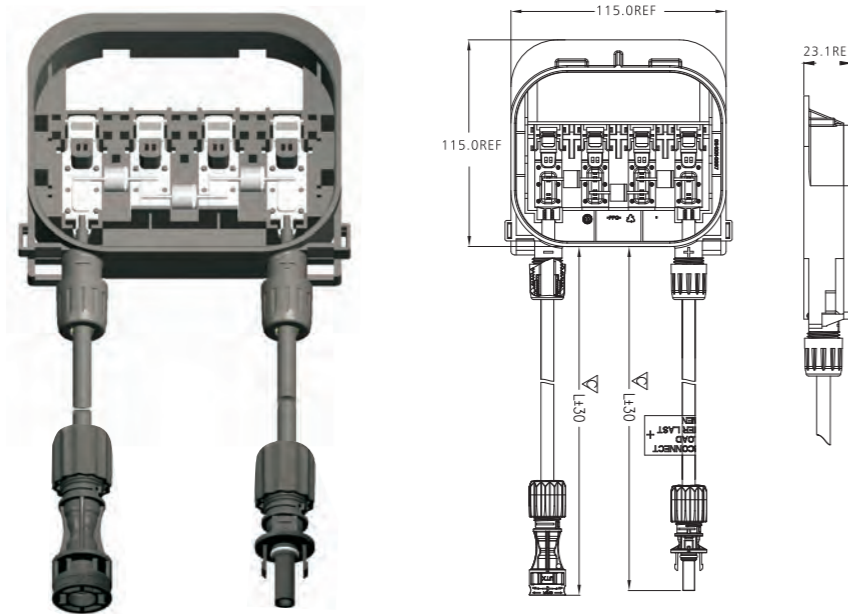
How to order				
Product family HB Helios JB	Product type C Hercules II Junction box	Terminals and diodes A 4 contacts/3 diodes	Terminal style A Clamping contacts B Soldering contacts C Snake wiring contacts D Spot welding contacts	Diode rating A 25A45V
Sealing type A O-ring	Breathing hole Y Yes	Cable size A 4.0mm ² /12AWG Dual cable B 4mm ² TUV only	Cable length (Ln)* A 1000mm	Cable length (Lp)* A 1000mm

*Ln: Cable length on negative end;
*Lp: Cable length on positive end

Ordering example:

- Hercules II PV junction box HB C
- 4 contacts/3 diodes A
- Clamping contacts A
- Diode 25A45V A
- Sealing type A
- With breathing hole Y
- 4.0mm²/12AWG cable size A
- 1000mm cable length from both negative and positive end end AA

Hercules III PV Junction Box



Feature:

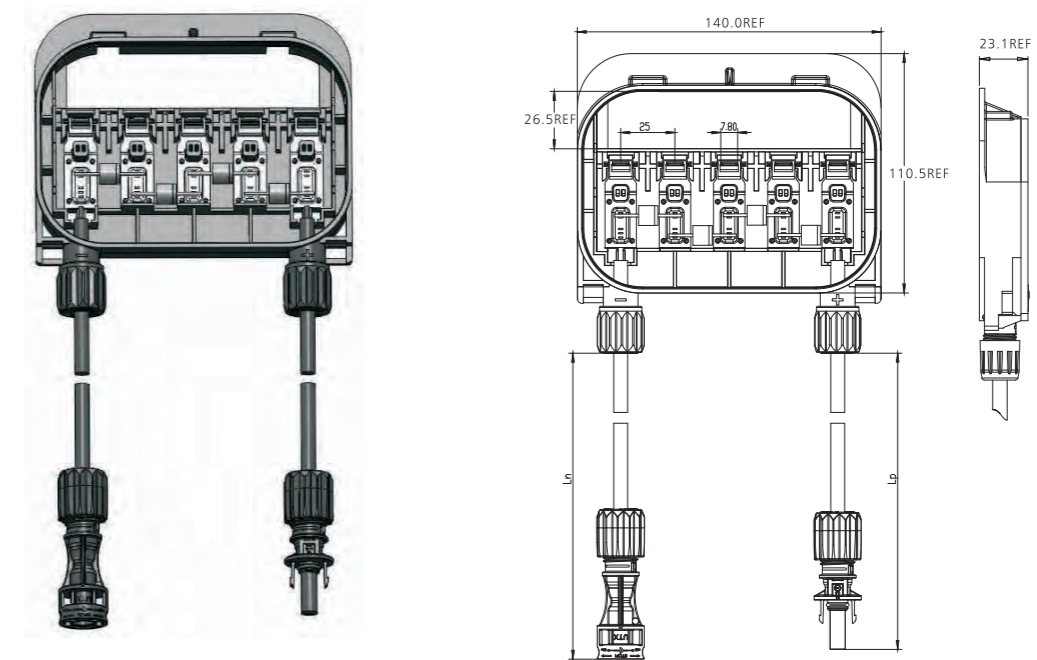
- Breathing film for pressure balance
- Wire-locking design for installation of module
- Multi-diodes options



Technical Data	
Rated Voltage	TUV 1000V UL 1000V
Rated current	12A
Terminal quantity	4 rails
Number of diodes	3 or 6
Ribbon connection	Clamping
Sealing type	O-ring
Breathing film	With
Protection degree	IP67
Safety class	II
Flame class	UL94 V-0 5VA
Cable size	12AWG/4mm ²
Connector type	UTX connector
Pitch distance	25mm
Temperature range	-40°C~+85°C

How to order				
Product family	Product	Rated voltage	Cable length(Ln)	Cable length(Lp)
HB J-box	D Hercules 3 J-box	A TUV 1000V UL 1000V	A 1000mm	A 1000mm
		B TUV 1500V UL 1000V	C 1200mm	C 1200mm
		C Dual 1000V 5T4D type		

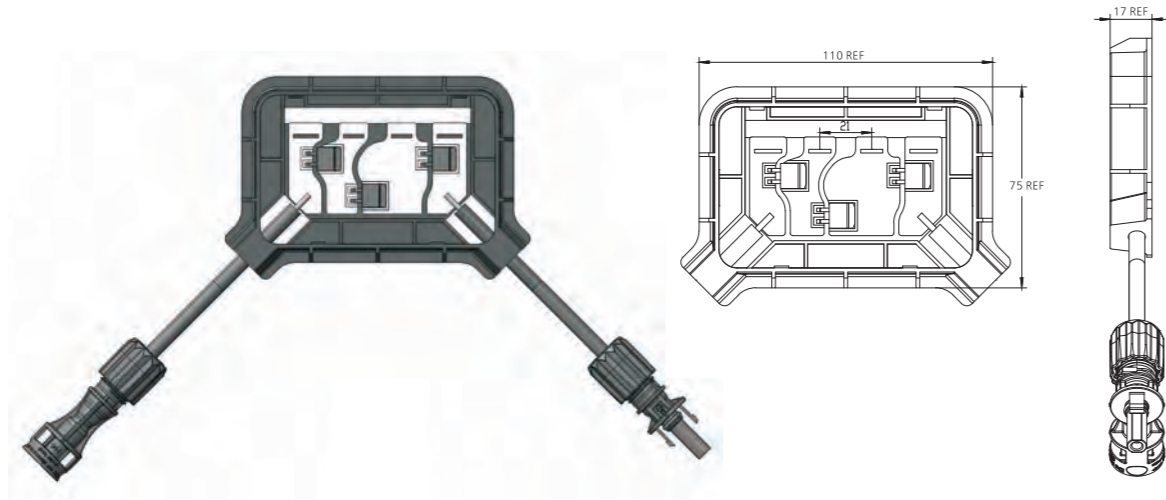
Hercules III 5T4D PV Junction Box



Technical Data	
Rated Voltage	TUV 1000V UL 1000V
Rated current	10A
Terminal quantity	5 rails
Number of diodes	4
Ribbon connection	Clamping
Sealing type	O-ring
Protection degree	IP67
Safety class	II
Flame class	UL94 V-0 5VA
Cable size	12AWG/4mm ²
Connector type	UTX connector
Pitch distance	25mm
Ribbon width	6.5mm Max
Temperature range	-40°C~+85°C

Ordering example	
■ HBDAAA	Hercules 3 J-box, Dual 1000V, 1 meter cable length
■ HBDCAA	Hercules 3 J-box, 5rail 4 diode type, Dual 1000V, 1 meter cable length

Hercules IV PV Junction Box



Feature:

- Leading J-box for UL 1500V/ TUV 1500V new standard
- Variable ribbon pitch from 20~22mm
- 45° Orientation mating connectors for saving cable

How to order

Product family	Product	Rated voltage	Cable length(Ln)	Cable length(Lp)
HB J-box	E Hercules 4 J-box	A TUV 1500V UL 1500V	A 1000mm	A 1000mm

Technical Data

Rated voltage	TUV 1500V UL 1500V
Rated current	15A
Terminal quantity	4 rails
Number of diodes	3
Ribbon connection	Spot Welding or Soldering
Sealing type	Potting
Protection degree	IP67
Safety class	II
Flame class	UL94 V-0, 5VA
Cable size	12AWG/4mm ²
Connector type	UTX connector
Pitch distance	20~22mm
Ribbon width	8mm Max
Temperature range	-40°C~+85°C
Certification No.	In process

Ordering example

- HBEAAA Hercules 4 Jbox, potting, Dual 1500V, 1 meter cable length

Hercules P PV Junction Box



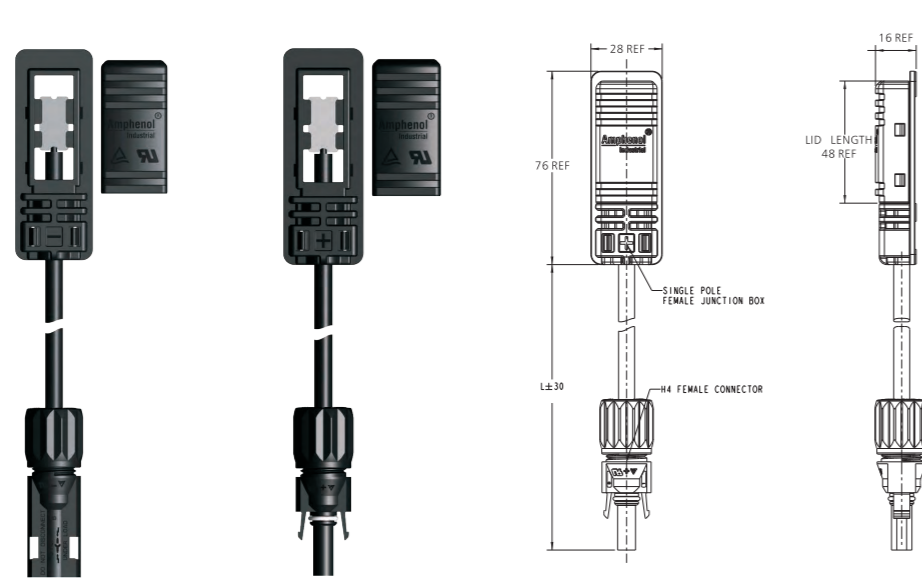
How to order

Product Family	Product type	Terminals and diodes	Terminal style	Diode rating	Sealing type
HB Helios JB	A POS Junction box	A 4 contacts/3 diodes	B Soldering contacts	C HB SB1540	A Potting
Breathing hole	Cable size	Adhesive	Cable length (Ln)*	Cable length (Lp)*	
N No	B 4 mm ² /12AWG	Y Yes N No	A 1000mm	A 1000mm	

Technical Data

Rated voltage	TUV 1500V/UL 1000V
Rated current	13A
Terminal quantity	4 rails
Number of diodes	3
Ribbon connection	Soldering
Sealing type	Potting
Protection degree	IP68
Safety class	II
Flame class	UL94 V-0, 5VA
Cable size	12AWG/4.0mm ²
Connector type	Helios H4
Dimension	78x58x15.5mm
Temperature range	-40°C~85°C
Certificate No.	In process

Hercules Twin PV Junction Box



Feature:

- IP 68 degree of protection
- Potting sealing
- Solution for integrated IC/diodes in PV module

Two single pole Junction box



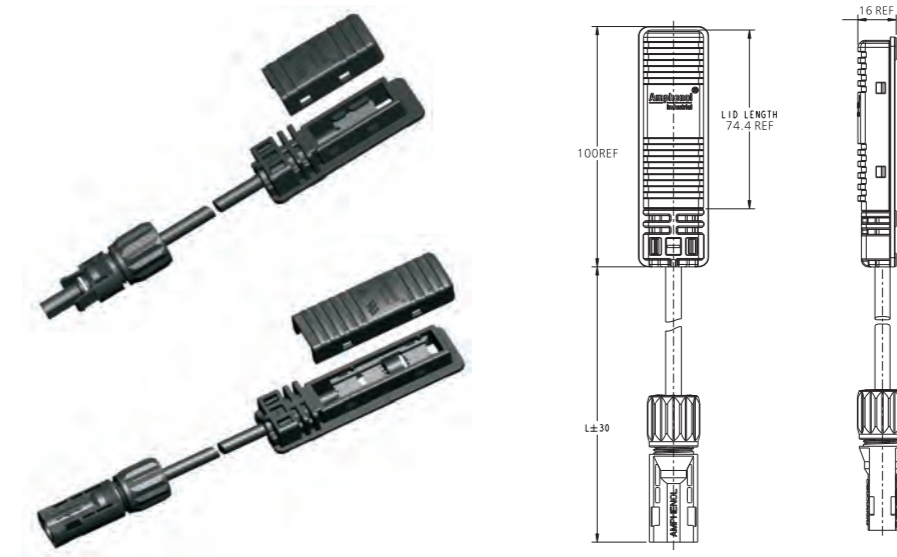
Technical Data	
Rated voltage	TUV 1000V/UL 1000V
Rated current	20A
Protection degree	IP68 (Potted)
Flame class	UL94 V-0, 5VB
Safety class	II
Sealing type	Potting
Ribbon connection	Spot welding /Soldering
Connector type	Helios H4
Cable size	12AWG/4.0mm ²
Temperature range	-40°C~+85°C

How to order			
Product family HB Helios JB	Product I Single pole box	Diode rating N without diode	Gender F Female M Male
Lid type A Lid with T B Lid w/o T	Tin on contact A w/o tin on contact B Tin 6*6*0.5mm C Tin 4.6*6*0.5mm	Contact type A Contact w/o slot B Contact with slot	Cable length A 1000mm B 1100mm E 300mm

Ordering example:

- HBINFAAE Twin two single pole Jbox , Female end, 300mm cable length, no tin, no slot , Lid with T
- HBINMAAAE Twin two single pole Jbox , Male end, 300mm cable length, no tin, no slot , Lid with T

Hercules Twin PV Junction Box



Single pole double pole Junction box



Technical Data	
Rated voltage	TUV 1000V/UL 1000V
Rated current	12A
Diode quantity	1
Protection degree	IP68 (Potted)
Flame class	UL94 V-0, 5VB
Safety class	II
Sealing type	Potting
Ribbon connection	Spot welding /Soldering
Connector type	Helios H4
Cable size	12AWG/4.0mm ²
Temperature range	-40°C~+85°C

How to order				
Product Family HB Helios JB	Product type I Single pole Junction box L Double pole Junction box	Diode rating A VSB 1545 B YJ15SQ045 C Diotec 1540 N without diode	Gender F Female M Male	Cable length A 1000mm B 1100mm C 138mm D 147mm E 300mm

Ordering example:

- HBINFEE Twin single double pole Jbox , Female end, 300mm cable length
- HBLAME Twin single double pole Jbox , Male end, VSB1545 diode, 300mm cable

Herclues Triple Pole PV Junction Box



Feature:

- 3 sets on the right/middle/left of backside panel
- Potting sealing
- Bifacial module's better choice

Technical Data

Rated voltage	TUV1000V/UL1000V
Rated Current	12A
Diode quantity	3
Degree of protection	IP68 (potted)
Flame class	UL94 V-0,5VB
Safety class	II
Sealing type	Potting
Ribbon connection	Spot welding/Soldering
Connector Type	Helios H4
Cable size	12AWG/4.0mm ²
Temperature range	-40°C~+85°C

How to order

Product family	Product	Diode rated current	Gender	Cable length	Variations
HB Herclues JB	N Triple pole J-box	A VSB 1545 B YJ15SQ045 C Diotec 1540	F Female end M Male end N Middle one	A 1000mm B 1100mm Y 00mm	A Various

Ordering example:

- HBNAFA Triple pole Jbox, Female end with VSB1545 diode, 1 meter cable length
- HBNAMA Triple pole Jbox, Female end with VSB1545 diode, 1 meter cable length
- HBNANY Triple pole Jbox, Middle end with VSB1545 diode

Herclues Pencil PV Junction Box



Feature:

- For BIPV module application
- Connectorized J-box termination allows for easy and reliable field installation
- Flexible cable assembly options

Technical Data

Rated voltage	TUV1000V
Rated current	4A
Diode quantity	1
Degree of protection	IP67 (potted)
Flame class	UL94 V-0,5VB
Safety class	II
Sealing type	Potting
Ribbon connection	Soldering
Connector Type	Helios H4
Cable size	2.5mm ² /14AWG
Temperature range	-40°C~+85°C

How to order

For Pencil J-box

Product family	Product	Diode rated current
HB Helios JB	P Pencil junction box	A 15A10G

For Jumper

Product family	Gender	Connector option	Cable size	Approvals	Cable length(mm)
HC PV cable assembly	P Mated pair (Jumper)	A H2 Female+H2 Male B H2 Female+H4 Male C H4 Female+H2 Male	A 2.5mm ² /14AWG	A TUV 1000V	A 500mm

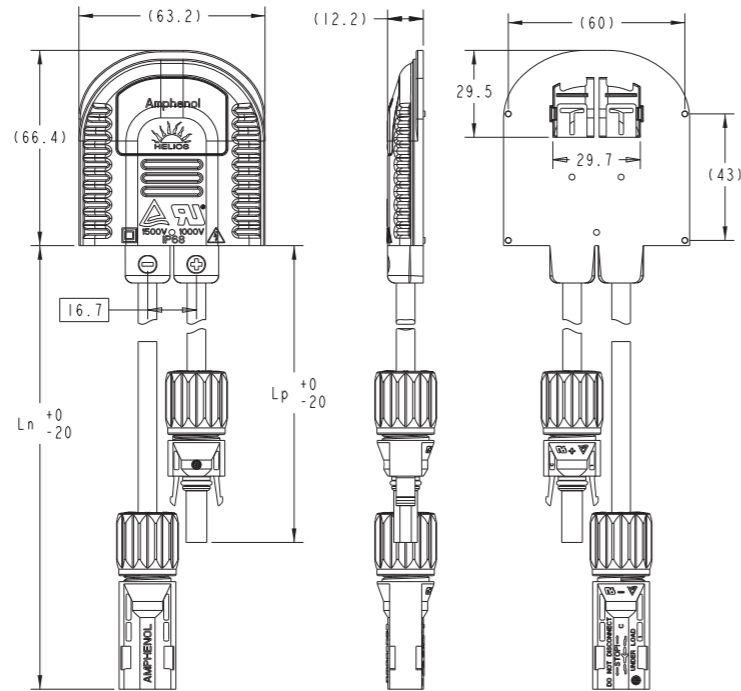
Notes:

Pencil j-box and jumper should be ordered together, please choose the suitable jumpers according to the application.

Ordering example

- HBPA Pencil PV J-box
- HCPAAAA Jumper with H2 connectors, 500mm cable length

Thin-film PV Junction Box



Features:

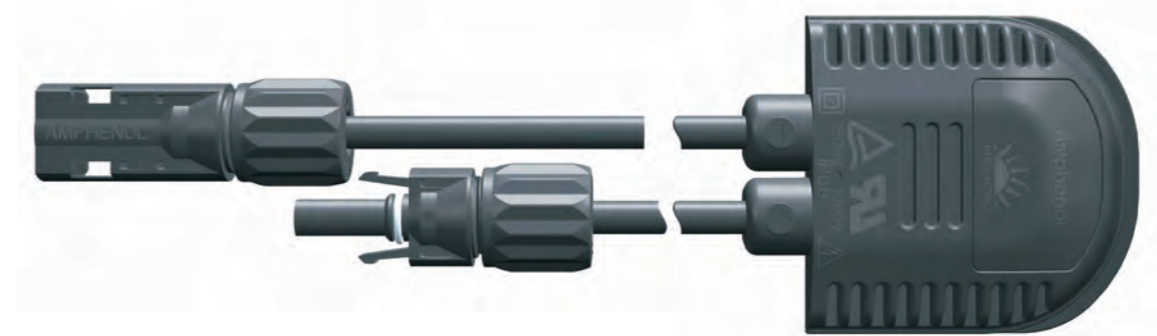
- Low profile
- Over-molded design for better sealing
- SMD for efficient heat dissipation



Technical Data

Rated voltage	1500V DC(TUV),1000V (UL)
Rated current	Up to 20A (without diode), 4A (with diode)
Termination type	Soldering
Protection degree	IP 68
Operation temperature	-40° C --- +90° C
Sealing type	Potting
Flame class	UL94 5V
Diode quantity option	None/ 1

Thin-film PV Junction Box



How to order

Product family	Product type	Terminals and diodes	Terminal style	Diode rating	
HB Helios JB	T Thin film junction box	G 2 contacts/1 diode	B Soldering contacts	G 5A1000V H 10A1000V J 8A1000V K 20A1200V N Without diode	
Sealing type	Breathing hole	Cable size	Adhesive	Cable length (Ln)*	Cable length (Lp)*
A Potting	N No	C 2.5 mm ² /14AWG	Y Yes N No	A 1000mm B 900mm	A 1000mm B 900mm

* Ln: cable length on negative end; Lp: cable length on positive end
- Please contact us for additional variations

Ordering example:

■ Thin-film PV junction box	HB T	■ No breathing hole	N
■ 2 contacts/1 diode	G	■ 2.5mm ² /14AWG cable size	C
■ Soldering connection	B	■ Without a adhesive tape	N
■ Diode rated 5A/1000V	G	■ 1000mm cable length from both negative and positive end	AA
■ Potting seal	A		

Tool Kit. P/N: H4TK0000

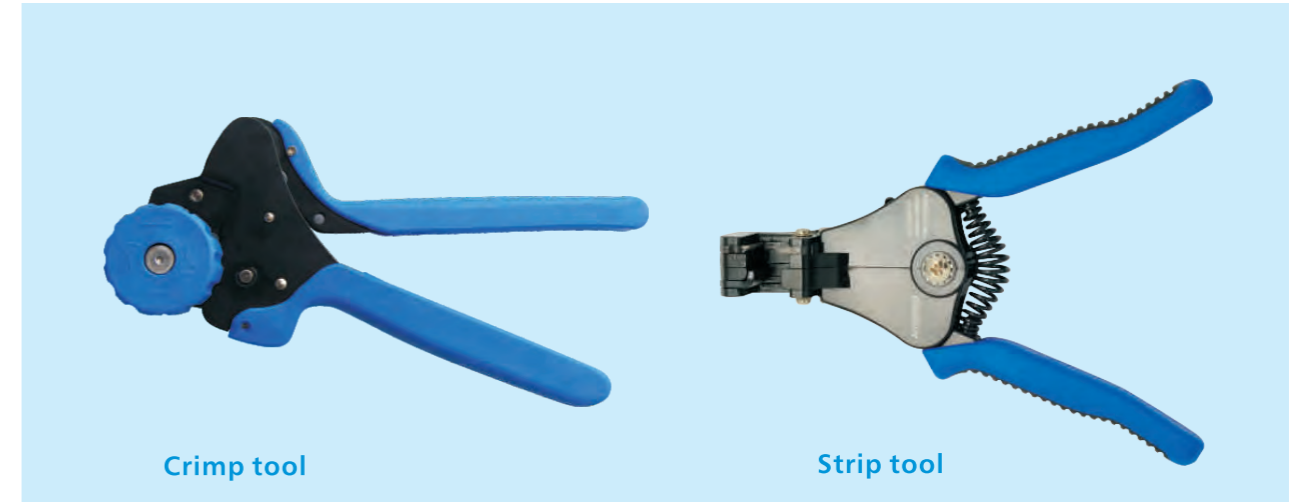
Water proof with foam insert and assembly tool. The listed parts are included.



Crimp tool



Strip tool



Crimp tool

Strip tool

Crimp tool, P/N: H4TC0001 for machined contact, H4TC0002 for stamp & formed contact. Amphenol crimp tool has the capability to crimp both machined contact and stamp&formed contact, the only difference is the insert die. If you need to crimp 2 kinds of contact when you install connector, you can change the insert die and locator. The machined insert die could crimp 14-8awg contact, 10awg and 8awg share the same die position. The stamp&formed insert die can crimp 14awg-10awg contact.

Amphenol cable strip tool, P/N:H4TS0000.

Strip tool has a locator to set striped cable length, strip capacity from 14awg to 10awg.

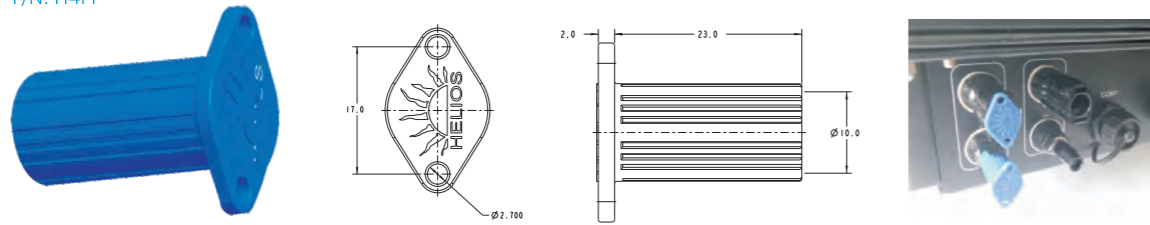
Amphenol strip tool advantage: Save strip force; Will not cut copper core; Consistent strip length.



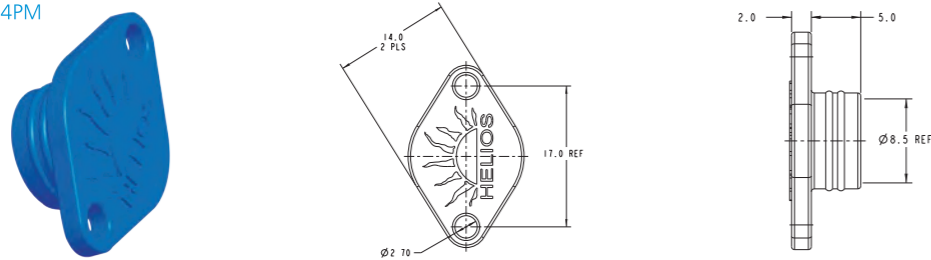
Parts list

P/N	Description	Quantity
H4TTW100	Socket for cable gland	1
H4TM1200	Socket for bulkhead m12	1
H4TC0001	Crimper tool for machined contact	1
H4TU0000	Universal Unlock tool	1
H4TS0000	Cable strip tool	1
H4TCT000	Cable cutter	1
H4TW0001	Wrench tool	2
PV-692208-000	S&F crimp tool die-set	1
PV-692209-001	S&F crimp tool locator	1
PV-090508-M25	2.5mm2 male contact	5
PV-090508-M04	4.0mm2 male contact	5
PV-090508-M06	6.0mm2 male contact	5
PV-090507-F03	2.5mm2 female contact	5
PV-090508-F03	4.0mm2 female contact	5
PV-090506-F03	6.0mm2 female contact	5

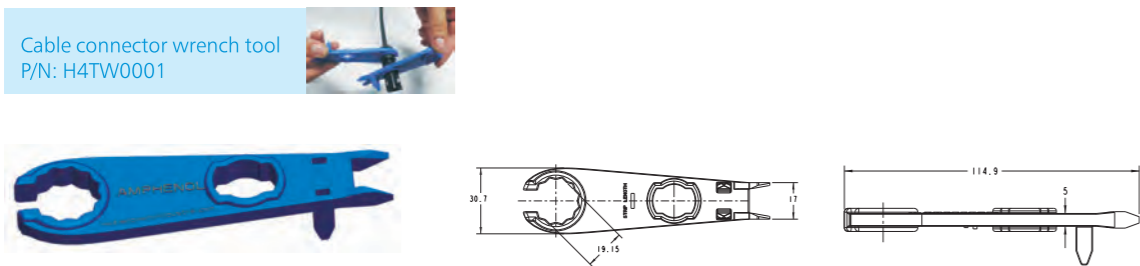
Sealing cap for female connector.
P/N: H4PF



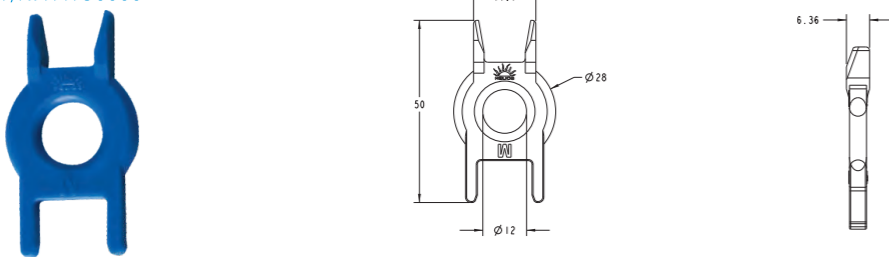
Sealing cap for female connector.
P/N: H4PM



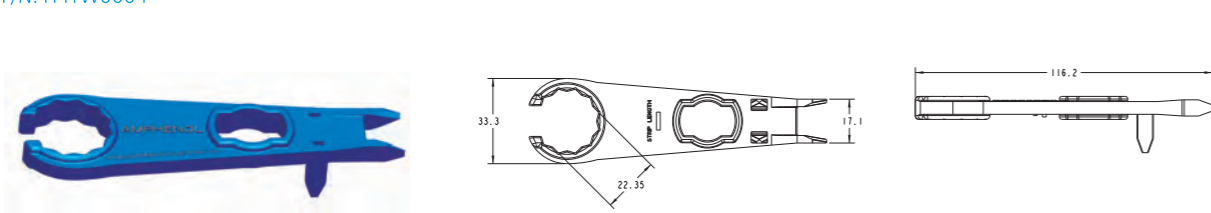
Cable connector wrench tool
P/N: H4TW0001



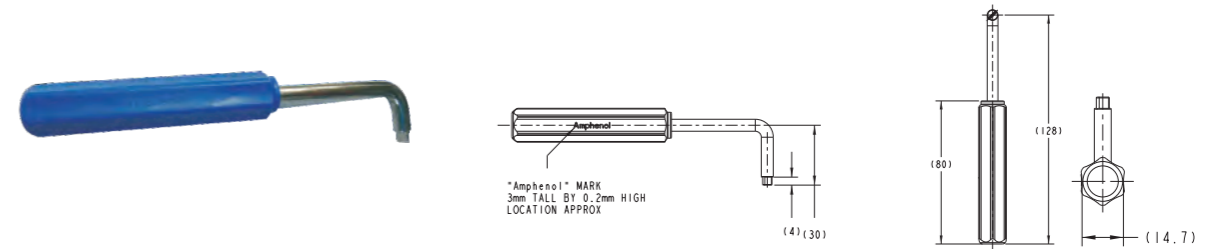
Universal Unlock tool
P/N: H4TU0000



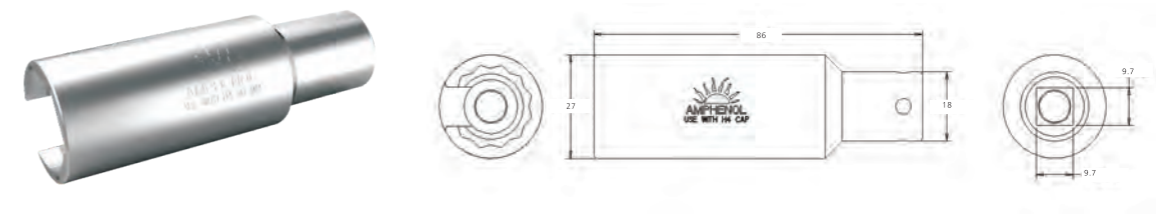
H4-XL connector wrench tool
P/N: H4TW0004



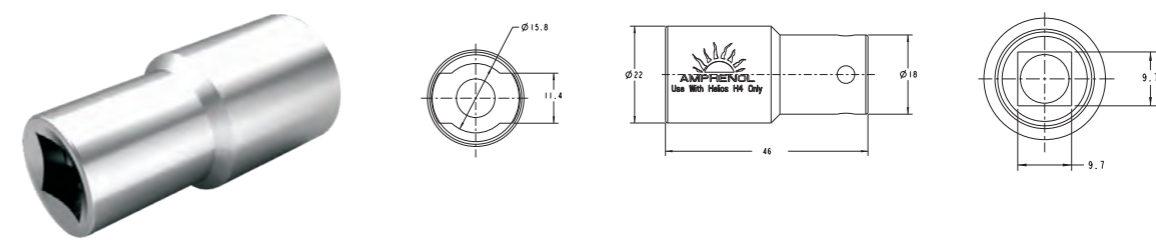
Hercules junction box open tool: HBHTS000



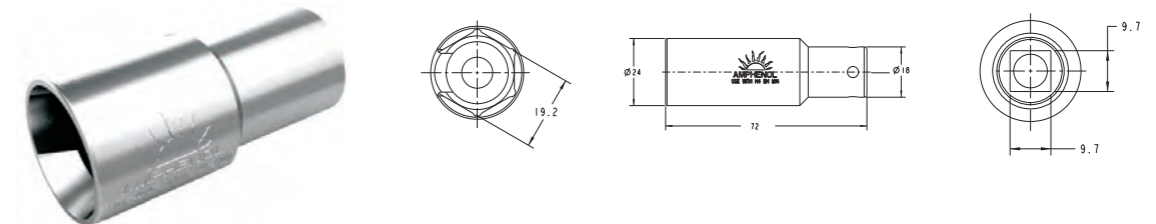
Torch wrench:P/N: H4TTW100



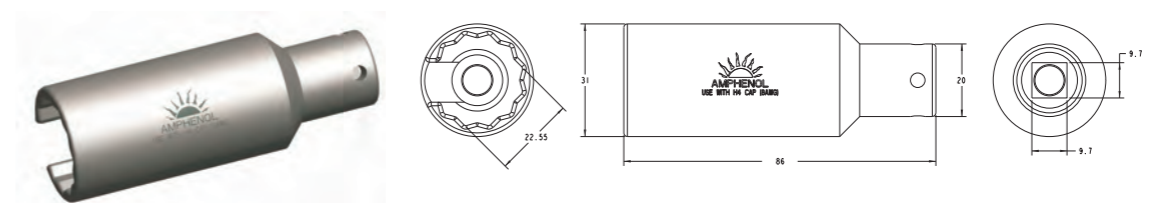
Connector hold tool:P/N: H4TH0000



Bulkhead wrench tool:
P/N for M12:H4TM1200; P/N for M14:H4TM1400



Enlarge cable connector torch wrench
P/N: H4TTW400



Ampphenol product quality commitment

Ampphenol Industrial Solar Technologies company emphasize innovation in product design and business relationships. By improving customer relationships, product innovation, and manufacturing technology, we strengthen our overall quality and maintain the highest standard of excellence in all aspects of products and service to our customers.

Customer Satisfaction
Team Work
Innovation & Improvement

