

AMPHENOL INDUSTRIAL SOLAR TECHNOLOGIES



Solar Line

PHOTOVOLTAIC INTERCONNECTION SYSTEM

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AMPHENOL INDUSTRIAL

SOLAR TECHNOLOGIES

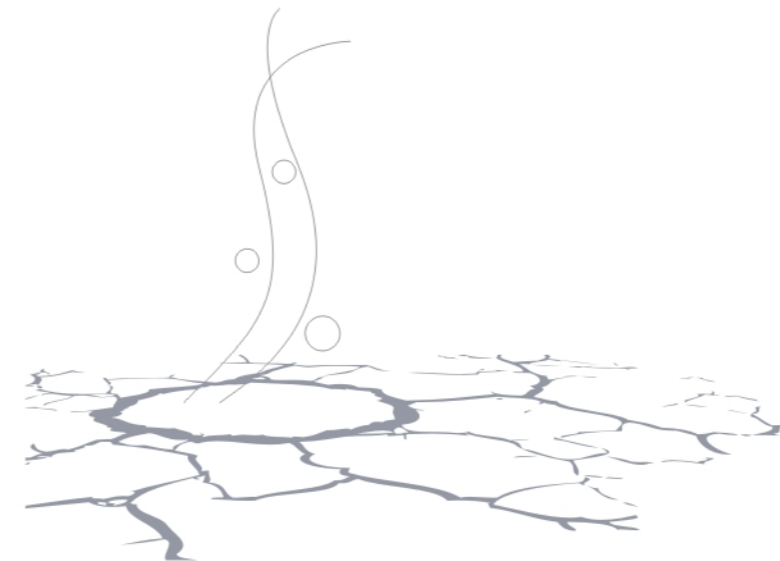
E xpanding Global Presence

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.

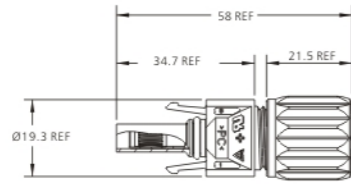


Table Of Contents	Page No
Connectors.....	Page01-14
Cable and cable assemblies.....	Page15-20
Junction boxes.....	Page21-34
Tool and accessories.....	Page35-38

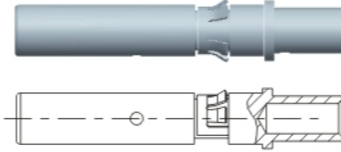


H4 PV Cable Connector

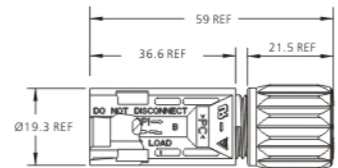
H4 Female PV Cable Connector



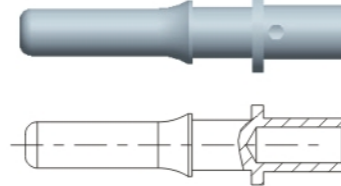
H4 Female socket contact



H4 Male PV Cable Connector



H4 Male pin contact



How to order

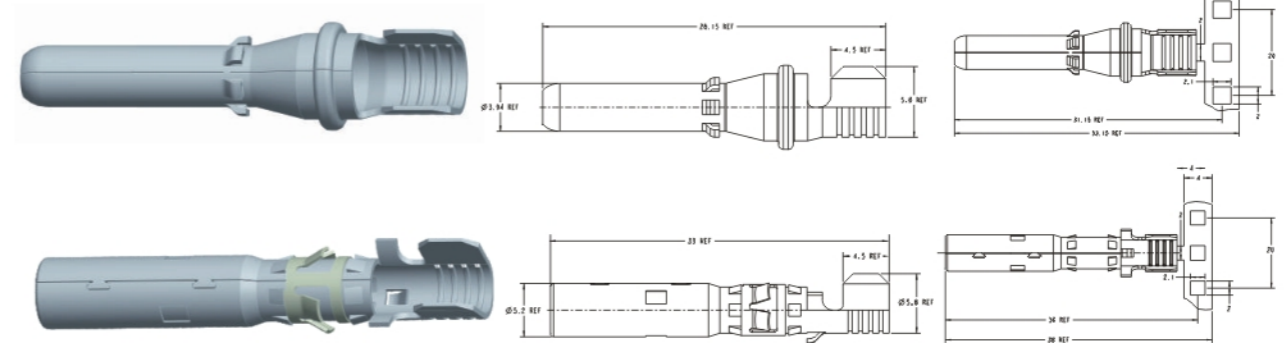
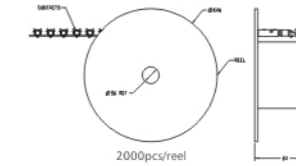
Product family	Product	Gender	Connector type	Cable size	Approvals	Connector packaging
H4 Helios H4	C Connector	F Female +	C Cable gland	2 2.5 mm ² /14AWG	D Dual (UL 1000V TUV 1500V)	I 1pcs/bag, 800pcs/box
		M Male -		4 4.0 mm ² /12AWG		C 100pcs/bag, 10bags/box
				6 6.0 mm ² /10AWG		M 500 pcs/ bag, 2bags/box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

Technical Data

Rated current	31A(2.5mm ² ,14AWG),42A(4.0mm ² ,12AWG), 53A(6.0mm ² ,10AWG), 65A(10.0mm ² , 8AWG)
Rated voltage	1000V DC (TUV) 1500VDC (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 H4CFC0DM for female housing and H4CMC0DM for male housing. If choose contact picked separated from reel, just choose H4CFC4DMS for female connector with S&F contacts, 1000pcs/box pack.

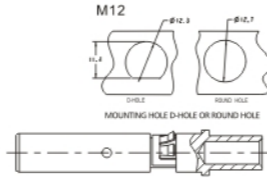
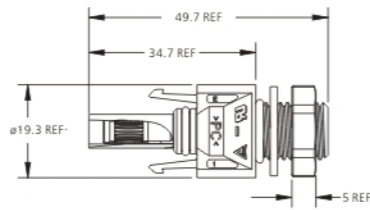
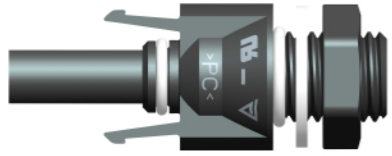
Assembly Tool



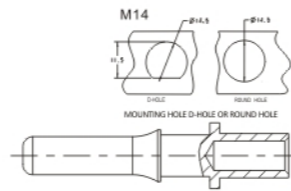
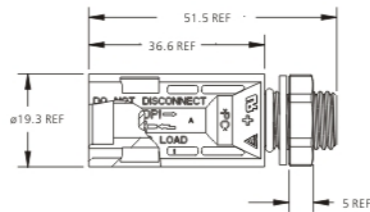
Tool-kit H4TK0000 Unlock tool H4TU0000 Wrench tool H4TW0001 Strip tool H4TS0000 Crimp tool H4TC0002

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

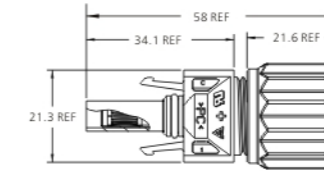
Rated current	31A(2.5mm ² ,14AWG),42A(4.0mm ² ,12AWG), 53A(6.0mm ² ,10AWG), 65A(10.0mm ² , 8AWG)
Rated voltage	1000V DC (TUV) 1500VDC (UL)
Test voltage	6KV for 1 minute, 8KV impulse (1.2/50 μ S)(IEC)
Typical contact resistance	0.30mΩ for S&F contact, 0.25mΩ for machined contact TYP
Contact material	Copper, 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:

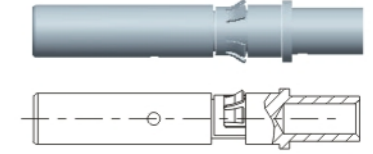
■ H4 PV connector	H4 C	■ 6.0mm ² /10AWG cable size	6
■ Female part	F	■ Dual approvals	D
■ M12 panel connector	M	■ 1000pcs per box	M

Enlarge H4 PV Cable Connector

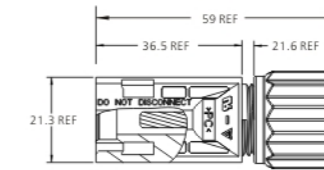
Enlarge H4 Female Cable Connector



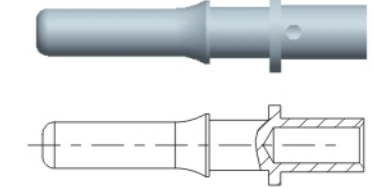
H4-XL Female socket contact



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	50A(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~Ø 9.3mm
Ambient temperature range	-40°C~+85°C

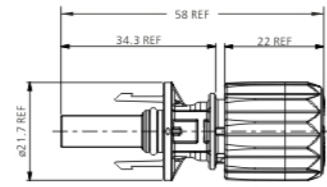
Ordering example:

■ 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

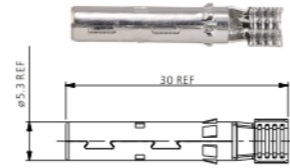


UTX™ PV Cable Connector

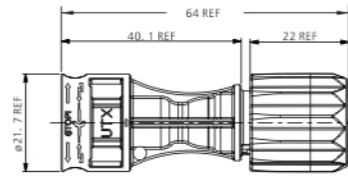
UTX™ Female Cable Connector



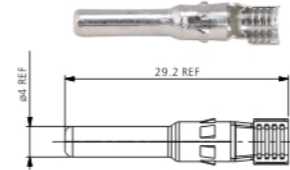
UTX™ Female socket contact



UTX™ Male Cable Connector

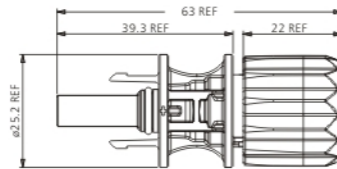


UTX™ Male pin contact

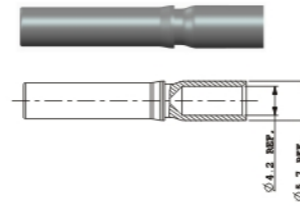


UTX™-XL PV Cable Connector

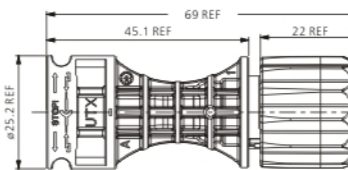
UTX™-XL Female Cable Connector



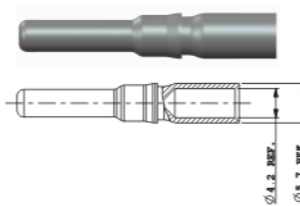
UTX™-XL Female socket contact



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 for S&F contact, 0.25m for CF contact, 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	Ø5.3mm~Ø7.65mm for UTX, Ø7.9mm~Ø9.3mm for UTX-XL
Ambient temperature range	-40°C~+90°C

UTX Connector Part Number Ordering Code			
Product family UTX UTX	Product Type C Connector	Gender F Female+ M Male-	Connector body type A Stamped & Formed Contact (S&F) B Cold Formed Contact(CF) L Cold Formed Contact for UTX-XL
Cable Size* 2 2.5mm ² /14 AWG 4 4.0mm ² /12 AWG, 6.0mm ² /10 AWG (S&F) 4.0mm ² /12 AWG (CF) 6 6.0mm ² /12 AWG (CF) 8 10.0mm ² /8 AWG (UTX-XL) 0 No Contacts	Approvals A TÜV/UL/JET Certified for UTX TÜV/UL Certified for UTX-XL	Packaging I 1 pcs/bag, 800 pcs/box C 100 pcs/bag, 8 bags/box M 400 pcs/bag, 2 bags/box 250pcs/bag, 2bags/box(UTX-XL)	

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

Ordering Example:

- UTXCFA4AM UTX female connector with 4.0mm²/12AWG S&F contact, 400 pcs/bag, 2 bags/box
- UTXCML8AM UTX-XL male connector with 10.0mm²/8AWG CF contact, 250pcs/bag, 2bags/box

UTX S&F 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

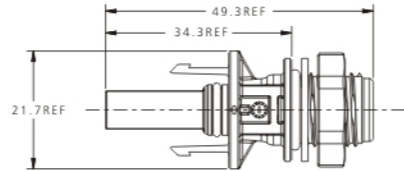
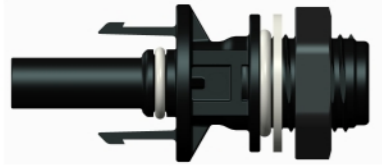
* Note: 10.0mm²/8 AWG (UTX-XL) contacts are not available on reel

Ordering Example:

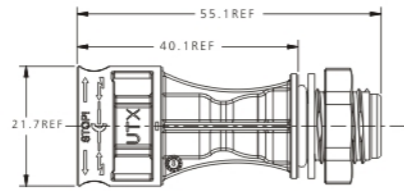
- UTXFF4R UTX female contact size 4.0mm²/12 AWG and 6.0mm²/10 AWG on reel
- UTXFM2R UTX male contact size 2.5mm²/14 AWG on reel

UTX™ PV Panel Connector

UTX Female Panel Connector



UTX Male Panel Connector



Feature:

Leading panel connector for UL 1500V & TUV 1500V.
S&F and machined contact options

With Stamped and Formed Contact



How to order			
Product family UTX UTX	Product M Bulkhead M12 N Bulkhead M14	Gender F Female M Male	Connector type A Stamped & Formed 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 TÜV/UL Certified	Packaging I 1 pcs/bag, 800 pcs/box C 100 pcs/bag, 8 bags/box M 400 pcs/bag, 2 bags/box	

Ordering example:

- UTXNFA4AM UTX M14 bulkhead, female, 4.0mm²/12AWG & 6.0 mm²/10AWG S&F contact
- UTXNMA4AM UTX M14 bulkhead, male, 4.0mm²/12AWG & 6.0 mm²/10AWG S&F contact

Sealing cap



UTXPF



UTXPM

UTX™ PV Panel Connector

Technical Data	
Rated current	31A (2.5mm ² /14AWG) , 42A (4.0mm ² / 12AWG) 53A (6.0mm ² /10AWG)
Rated voltage	1500V DC (TUV/UL)
Contact resistance	0.3mΩ for S&F contact, 0.25mΩ for CF contact, TYP
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

With Machined/Cold Formed Contact

How to order			
Product family UTX UTX	Product M Bulkhead M12 N Bulkhead M14	Gender F Female M Male	Connector type B Cold Formed Contact(CF)
Cable size 2 2.5mm ² /14 AWG 4 4.0mm ² /12 AWG 6 6.0mm ² /10 AWG	Approvals A TÜV/UL Certified	Packaging I 1 pcs/bag, 800 pcs/box C 100 pcs/bag, 8 bags/box M 400 pcs/bag, 2 bags/box	

Ordering example:

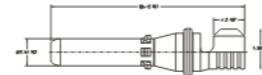
- UTXNFB6AM UTX M14 bulkhead, female, 6.0mm²/10AWG CF contact
- UTXNMB6AM UTX M14 bulkhead, male, 6.0mm²/10AWG CF contact

H4-R PV Connector

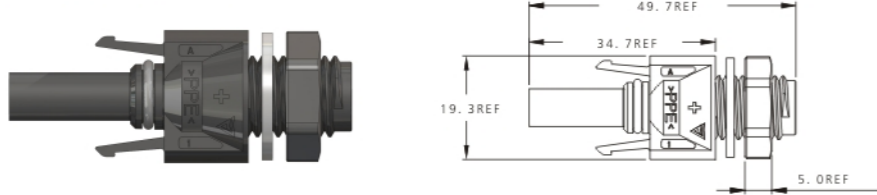
H4-R Female Cable Connector



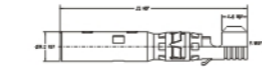
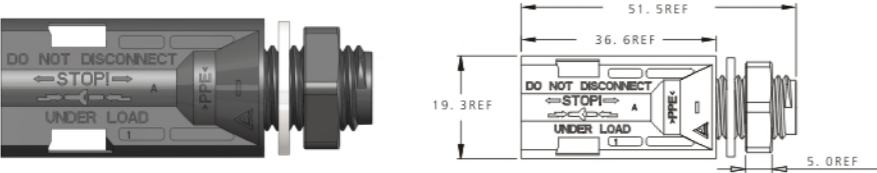
H4-R Male Cable Connector



H4-R Female Panel Connector



H4-R Male Panel Connector

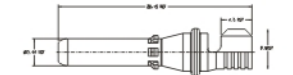


H4-RH PV Connector

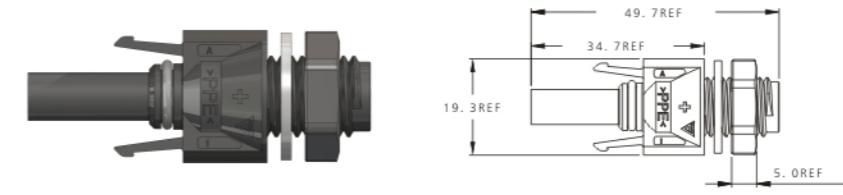
H4-RH Female Cable Connector



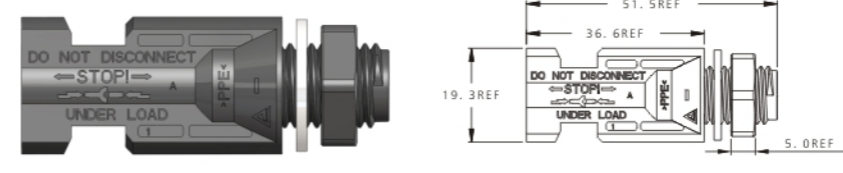
H4-RH Male Cable Connector



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

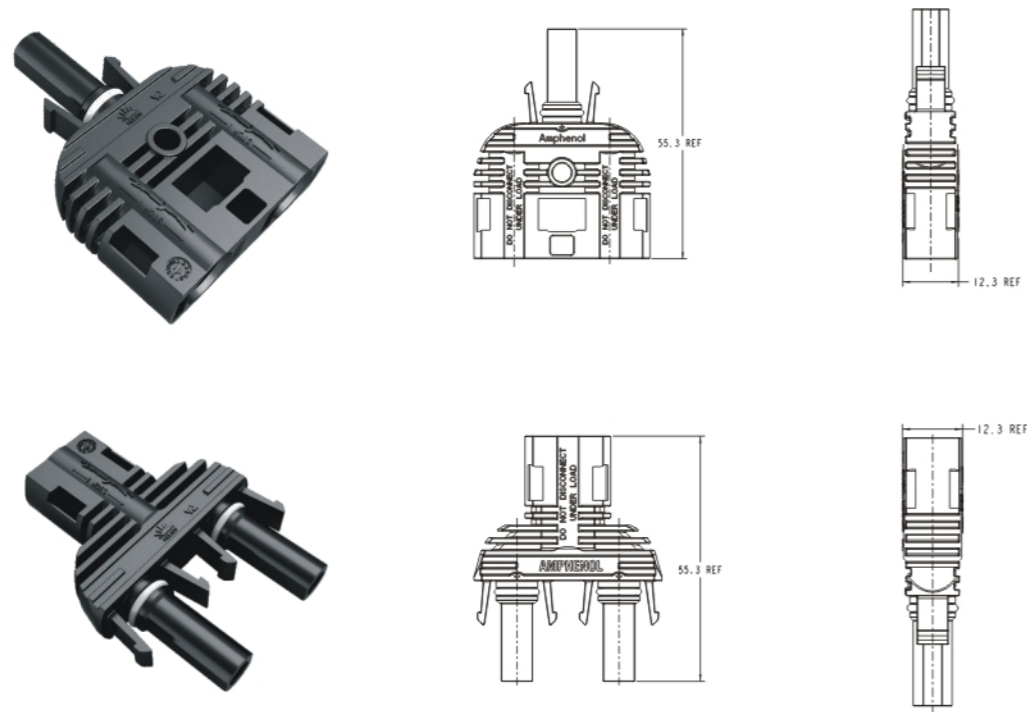
Rated current	31A for 2.5mm ² , 42A for 4.0mm ² , 53A for 6.0mm ²
Rated voltage	1000V DC (TUV)
Contact resistance	0.3mΩ TYP
Contact material	Copper alloy, tin plated
Contact system	Stamped and formed contact
Insulation material	Thermoplastic
Degree of protection	IP68
Cable applicability	2.5mm ² ~6.0mm 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

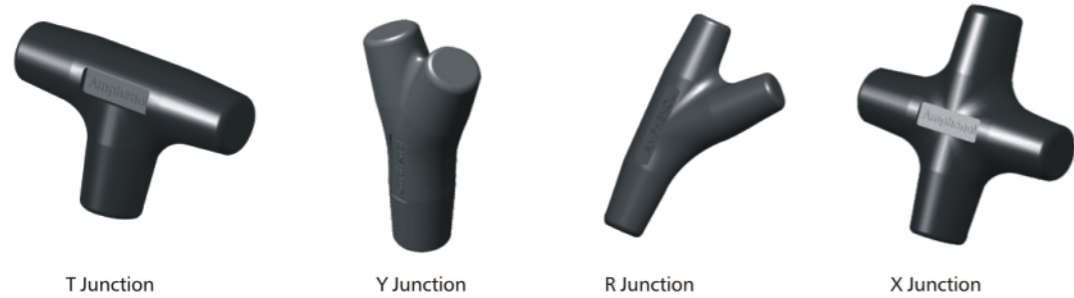
How to order			
Product family H4 H4	Product type L H4-R connector	Gender F Female M Male	Connector type B Bulkhead M12, Manually unlock D Cable connector, Manually unlock C Cable connector M Bulkhead M12
Cable size 2 2.5 mm ² 4 4.0 mm ² & 6.0 mm ²	Approvals T TUV	Packaging C 100pcs/bag, 10bags/box M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

H4 Branch Connector



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

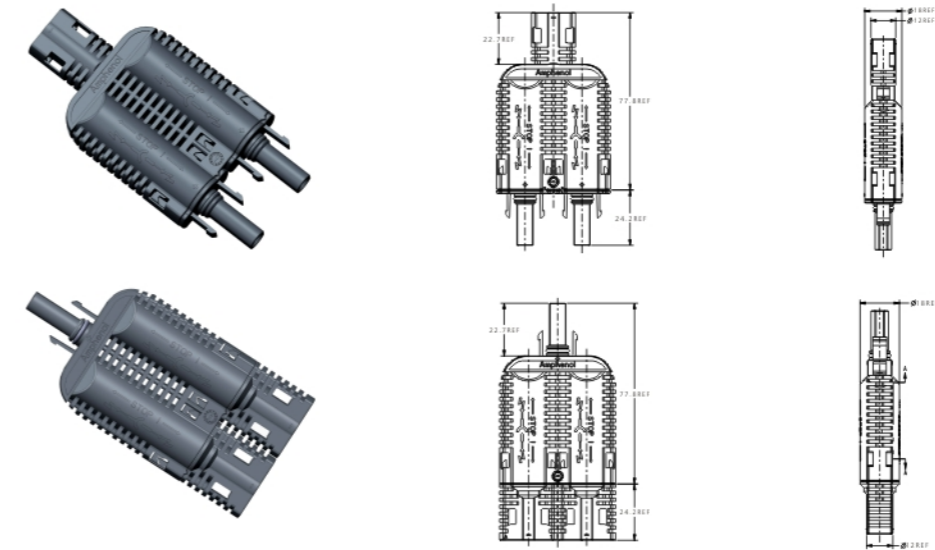
Cable Assy and Overmolded Junctions



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:

2 in 1 out solution with fuse
 Variable current options

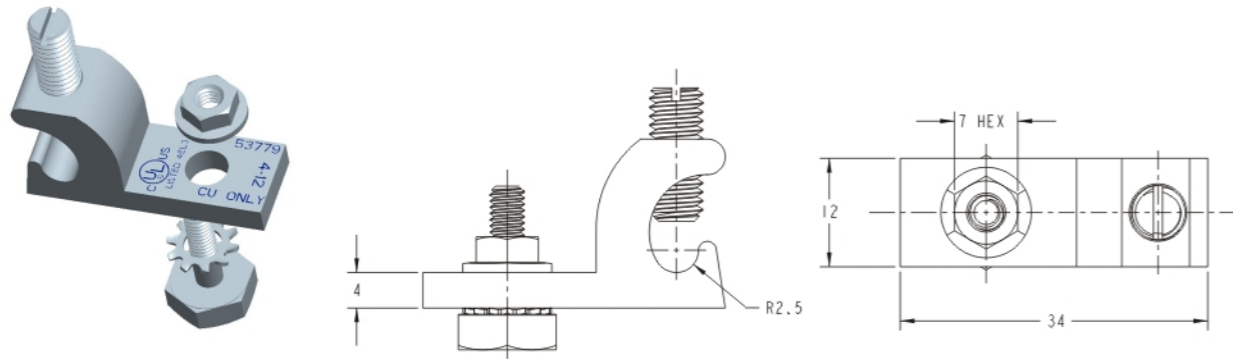
How to order		
Product family H4 Helios H4	Product Y Branch connector	Gender FFM Branch 2 female/1 male MMF Branch 2 male/1 female
Fuse A 16A~30A B 1~15A fuse	Fuse current (1~30A) 01 1A 15 15A 30 30A	Variations A Unlock type

Technical Data	
Rated current	1A~30A
Rated voltage	1000V
Contact resistance	12mΩ Typ
Degree of protection	IP68
Number of fuse	2
Contact material	Copper, Tin plated
Insulation material	Thermoplastic
Ambient temperature range	-40°C~+85°C
Certification No.	In process

Ordering example:

■ H4YFFMB15A 1000V branch fuse connector , 2female/1male, 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:

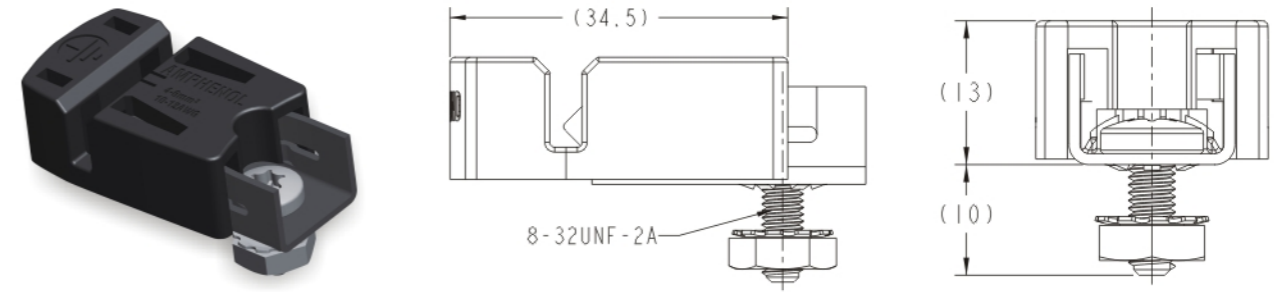
• Insert a 4 to 12 AWG copper wire into the lug and tighten the lug set screw to the copper wire to the torque based on the wire size. (4-6 AWG at 35 in-lbs and 8-12 AWG at 30 in-lbs). Do not exceed the maximum rated overcurrent protection, 20 A (12 AWG), 40 A (10 AWG), 90 A (8 AWG), 150 A (6 AWG), and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

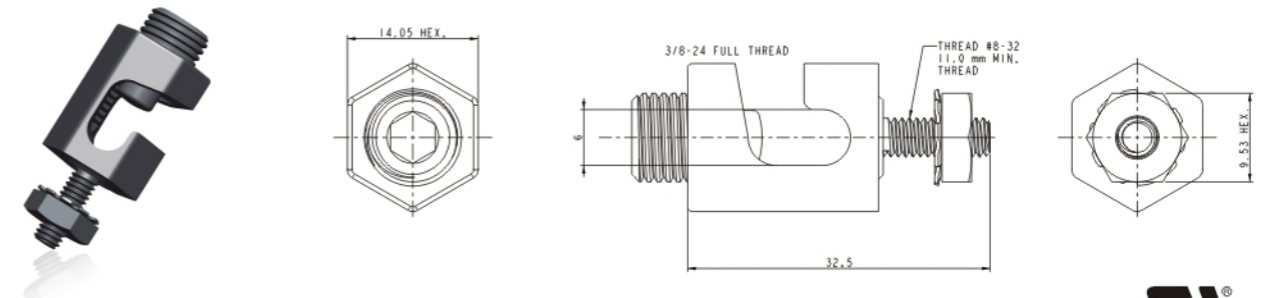
Helio Clip™



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





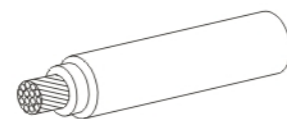
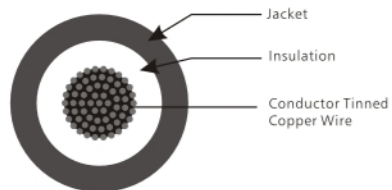
Certificate:

En50618, TÜV 2 PFG 1169/08.2007 PV1-F
 TÜV 2 PFG 1990/05.2012 PV 1500 DC-F
 UL 4703 PV wire, cTÜVus
 UL 4703 PV wire, 600V, 1000V, 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.



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 Multi 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



Over-molded inline diode cable assembly



UTX inline fuse connector

- Protection degree: IP68
- Cable range: 2.5mm²/14AWG - 10.0mm²/8AWG
- Temperature range: -40 °C ~ +90 °C
- Withstand rating: 10kA
- Voltage rating: 1000V max
- Amperage rating: 30A max
- Connector options: M-F

How to order

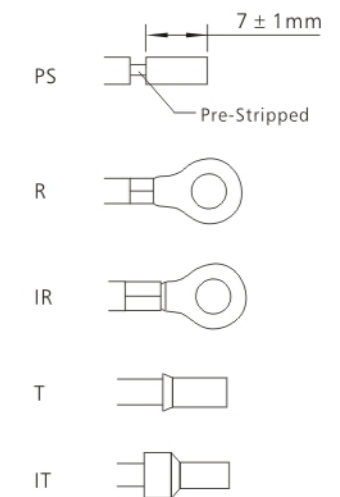
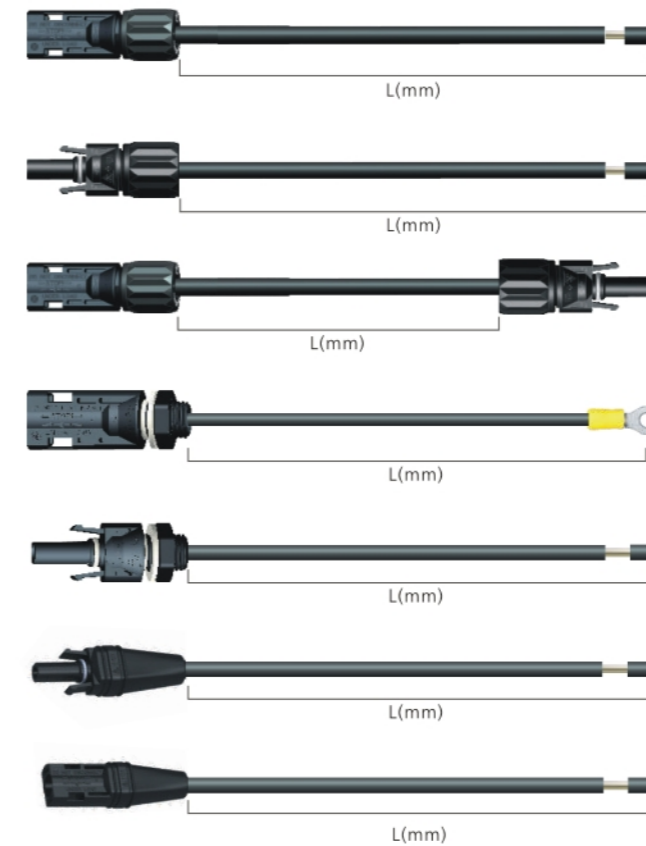
Product family	Product	Connector Type	Fuse Voltage	Fuse Current rating
UTX UTX type	F Molded fuse	FM Female to Male	1 600V 2 1000V	01 1A 15 15A 30 up to 30A

PV Cable Assemblies

How to order

Product family	Product	Gender	Connector type	Cable size	Approvals
HC Helico cable	C H4 A UTX B H4-R	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:



* Other terminals and customized strip length are available.

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,

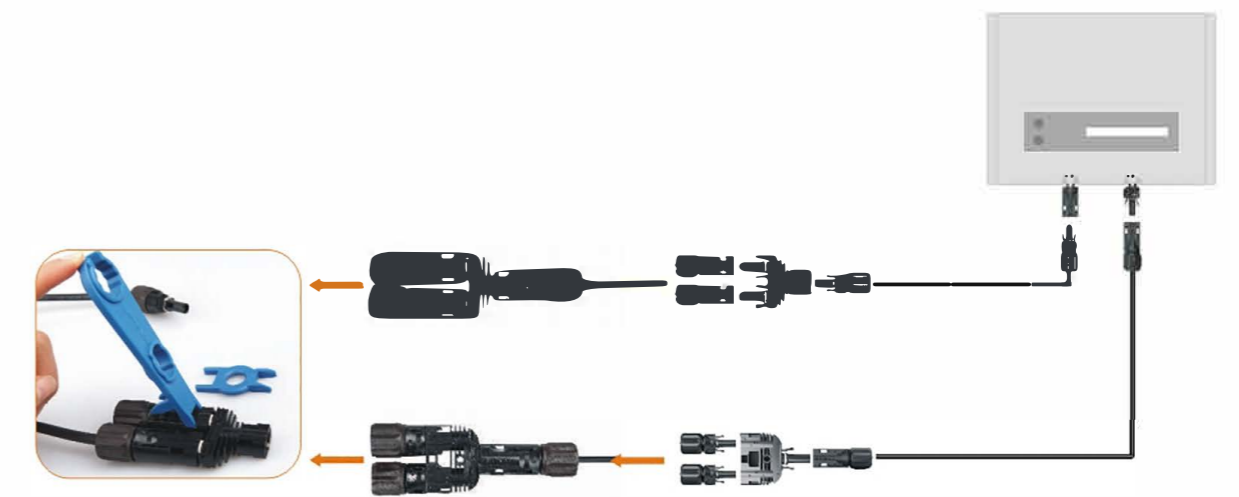
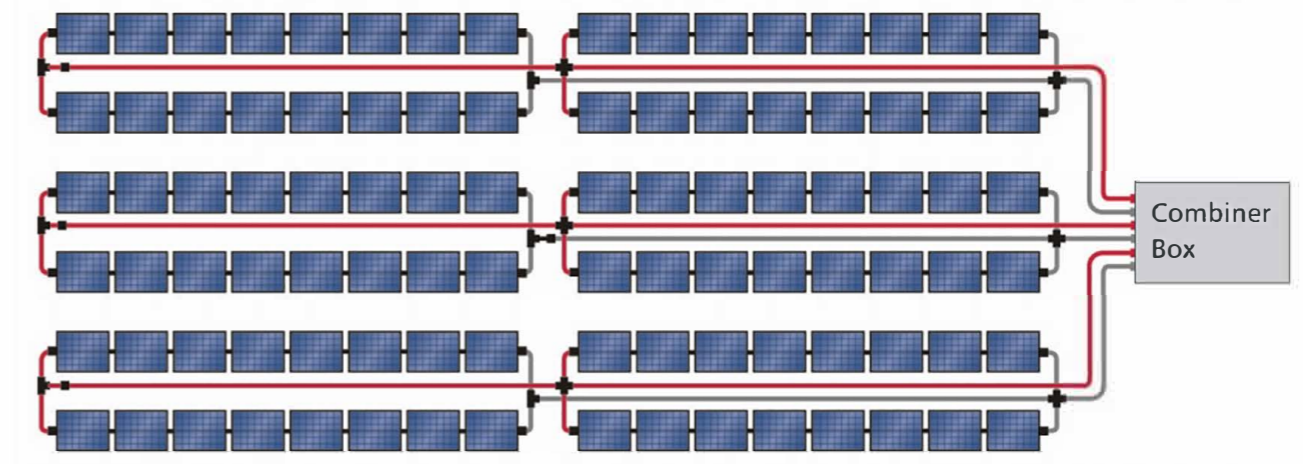
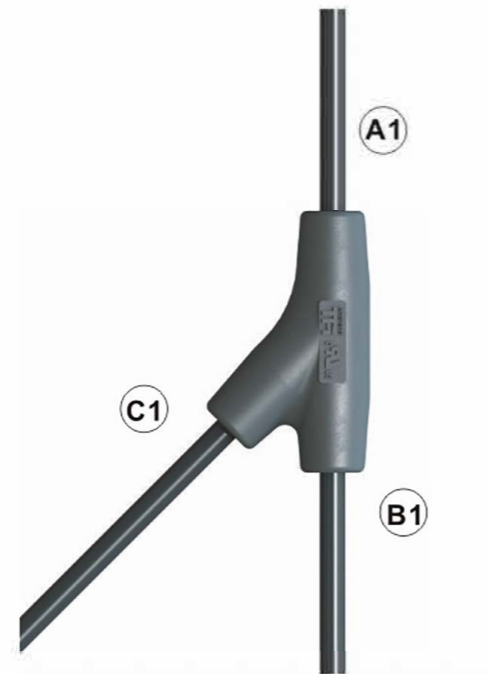
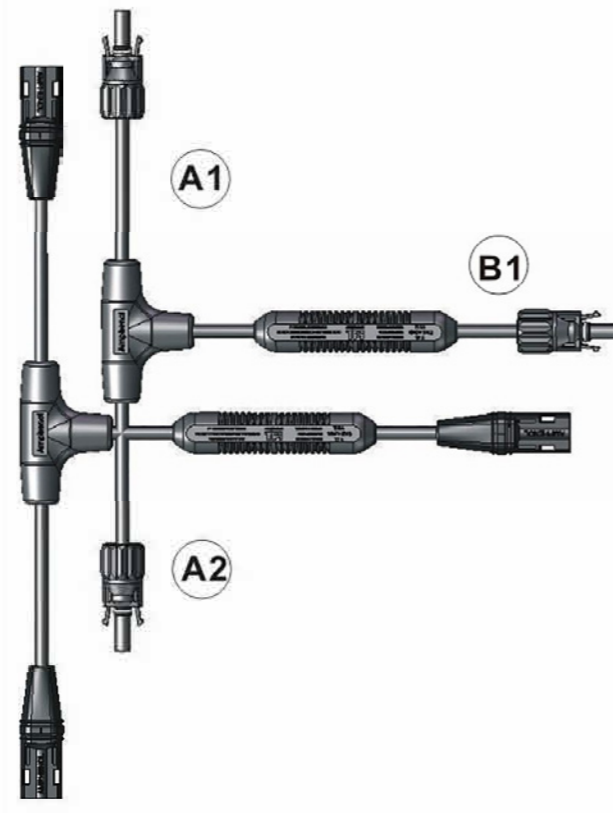
H4F: H4 standard cable connector female part
 H4M: H4 standard cable connector male part
 H4OF: H4 overmolded connector female part
 H4OM: H4 overmolded connector male part

Fuses:

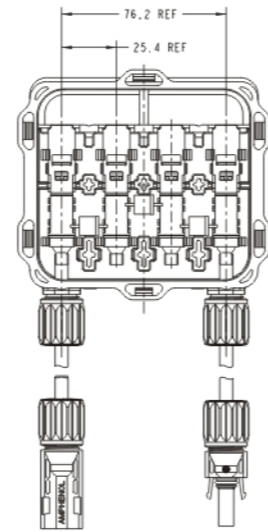
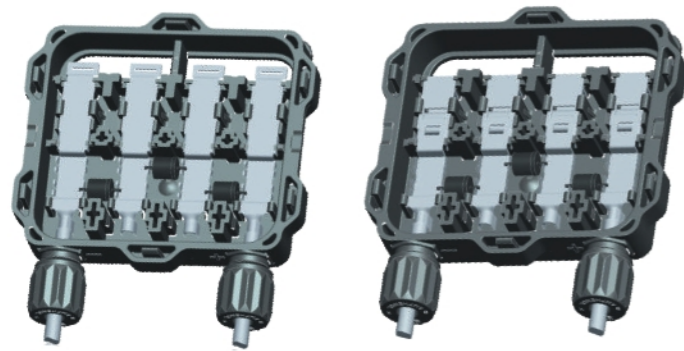
Location of fuse _____
 Rating of fuse _____ A _____ V

Labels:

Label location _____
 Label Text _____

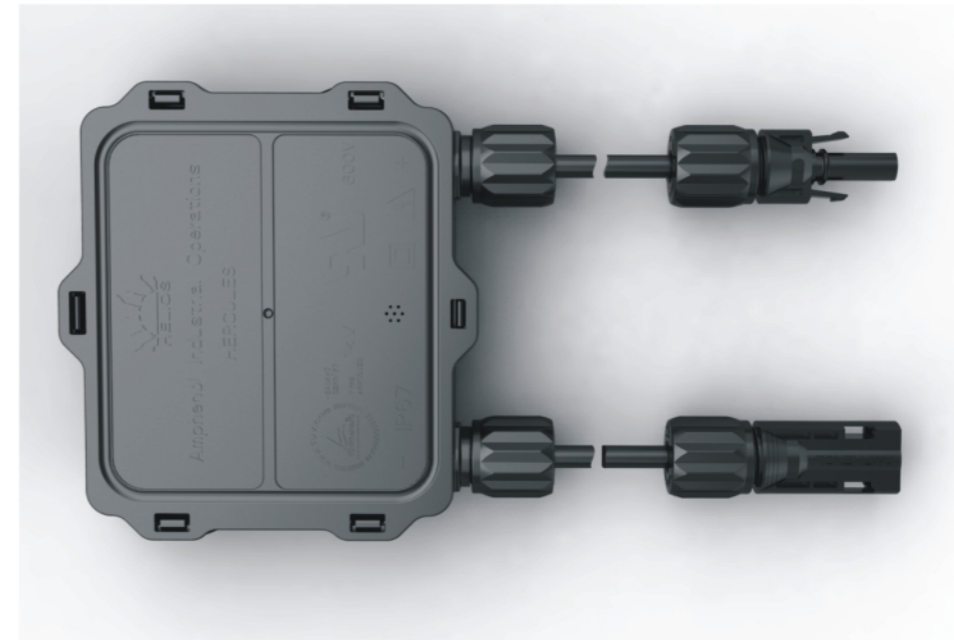


Hercules™ PV Junction Box



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

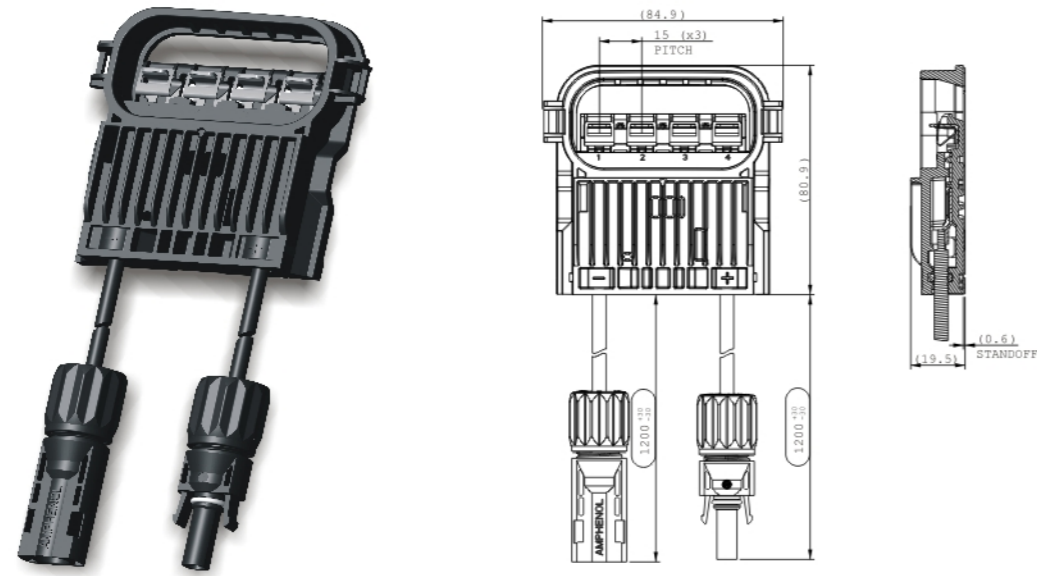
Product family	Product type	Terminals and diodes	Terminal style	Diode rating		
HB Helios JB	H Hercules I Junction box	A 4 contacts/3 diodes B 3 contacts(2 left/1 right)/2 diodes C 3 contacts(1 left/2 right)/2 diodes D 4 contacts/6 diodes E 3 contacts(2 left/1 right)/4 diodes F 3 contacts(1 left/2 right)/4 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 B O-ring	Y Yes N No	A 6.0mm ² /10AWG B 4.0mm ² /12AWG	H 1kV/PPE Base J 1kV/PPO Base K 600V/PPE Base L 600V/PPO Base	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:

- 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



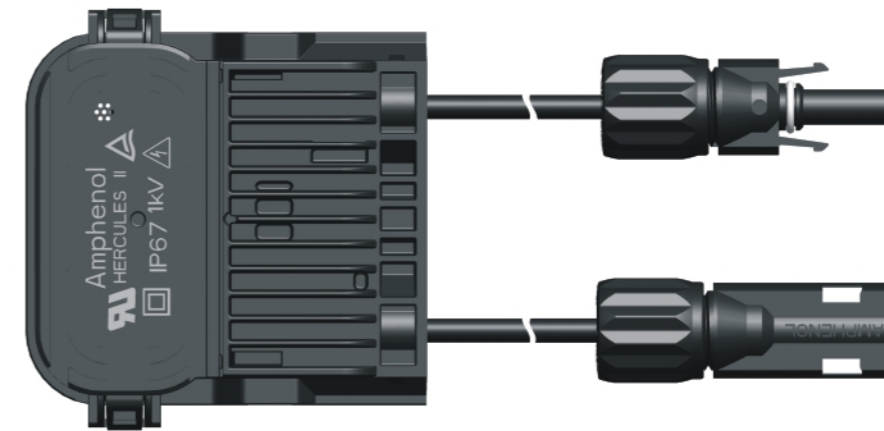
Feature:

- 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



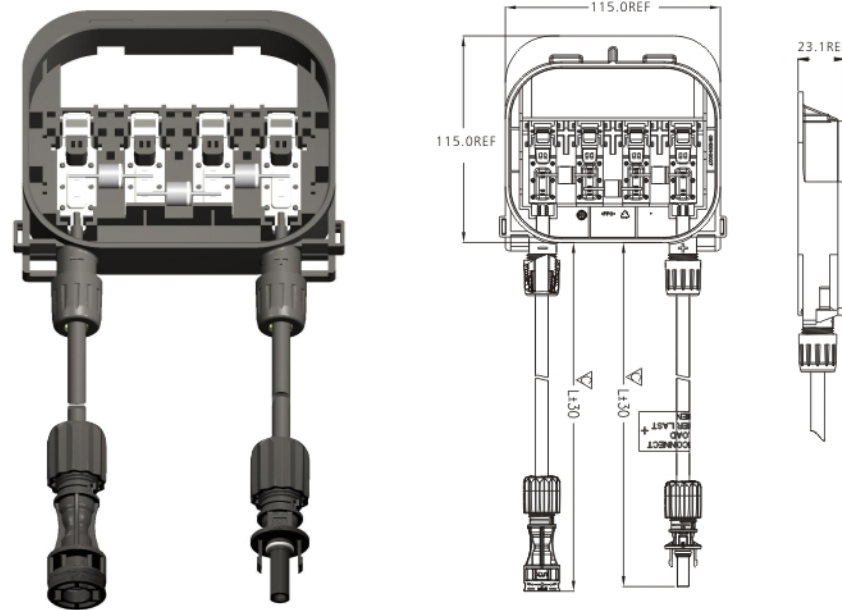
How to order				
Product family HB Helios JB	Product type C Hercules II Junction box	Terminals and diodes A 4 contacts/3 diodes	Terminal style A Clamping contacts B Soldering contacts C Snake wiring contacts D Spot welding contacts	Diode rating A 25A45V
Sealing type A O-ring	Breathing hole Y Yes	Cable 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

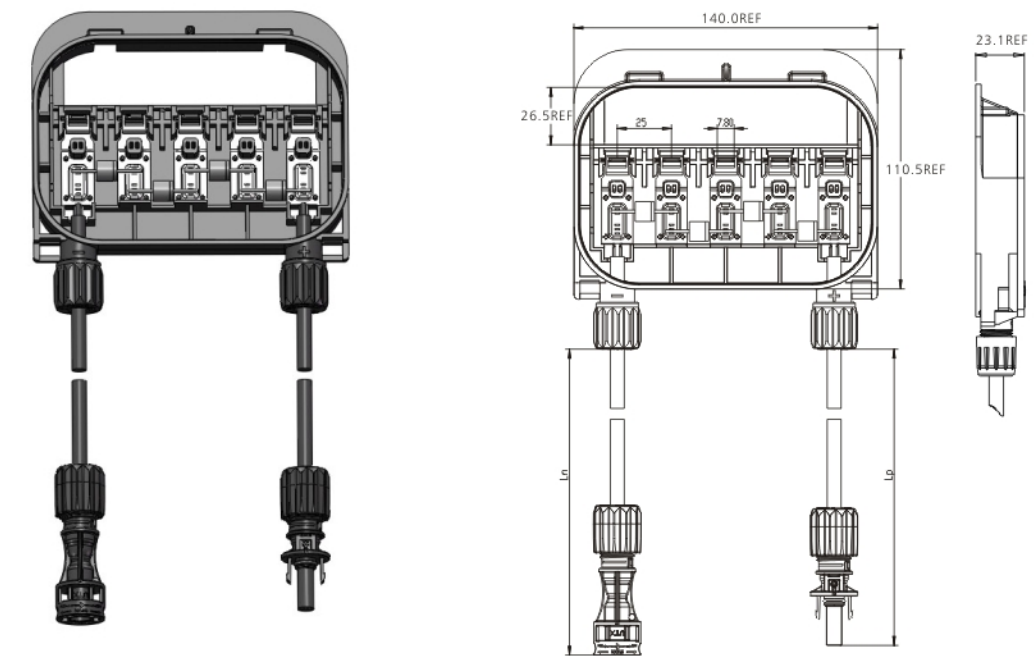


Technical Data	
Rated Voltage	TUV 1000V UL 1000V
Rated current	12A
Terminal quantity	4 rails
Number of diodes	3 or 6
Ribbon connection	Clamping
Sealing type	O-ring
Breathing film	With
Protection degree	IP67
Safety class	II
Flame class	UL94 V-0 5VA
Cable size	12AWG/4mm ²
Connector type	UTX connector
Pitch 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
		C Dual 1000V 5T4D type	C 1200mm	C 1200mm

Hercules III 5T4D PV Junction Box

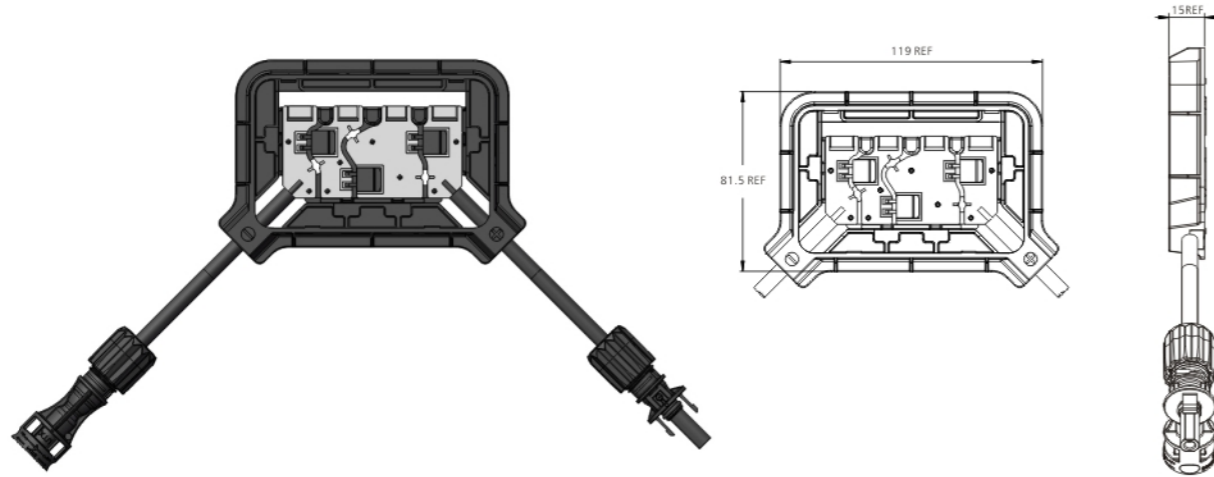


Technical Data	
Rated Voltage	TUV 1000V UL 1000V
Rated current	11A
Terminal quantity	5 rails
Number of diodes	4
Ribbon connection	Clamping
Sealing type	O-ring
Protection degree	IP67
Safety class	II
Flame class	UL94 V-0 5VA
Cable size	12AWG/4mm ²
Connector type	UTX connector
Pitch distance	25mm
Ribbon 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 HB Helios JB	Product E Hercules IV J-box	Rated voltage A TUV 1500V UL 1500V	Rated current & Diode A 15A (Tp3045)
Copper plate A Standard	Cable Length A Ln 1000m, Lp 1000m	Variations	

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

Ordering example

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

Hercules P PV Junction Box



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



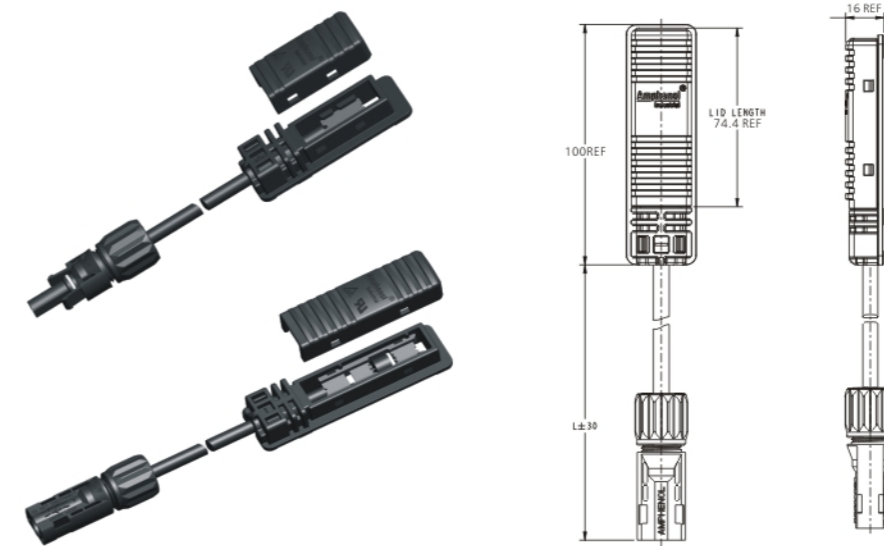
Technical Data	
Rated voltage	TUV 1000V/UL 1000V
Rated current	20A
Protection degree	IP68 (Potted)
Flame class	UL94 V-0, 5VB
Safety class	II
Sealing type	Potting
Ribbon connection	Spot welding /Soldering
Connector type	Helios H4
Cable size	12AWG/4.0mm ²
Temperature range	-40°C~+85°C

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

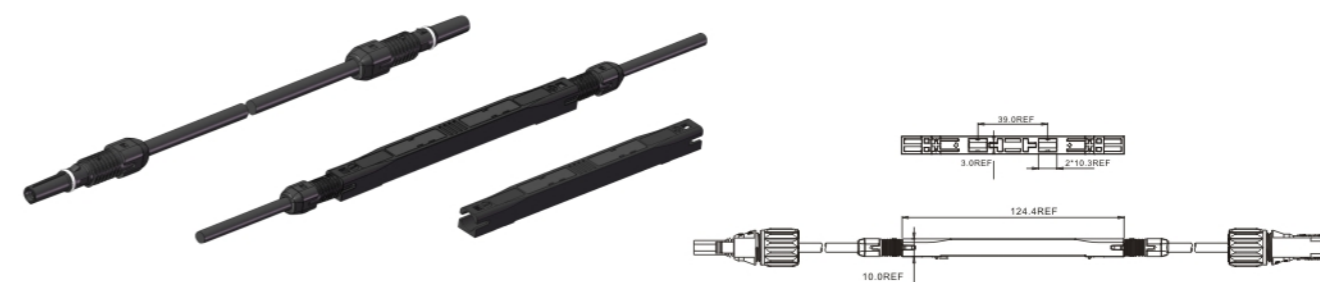
How to order

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

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	A 2.5mm ² /14AWG	A TUV 1000V	A 500mm
		B H2 Female+H4 Male			
		C H4 Female+H2 Male			

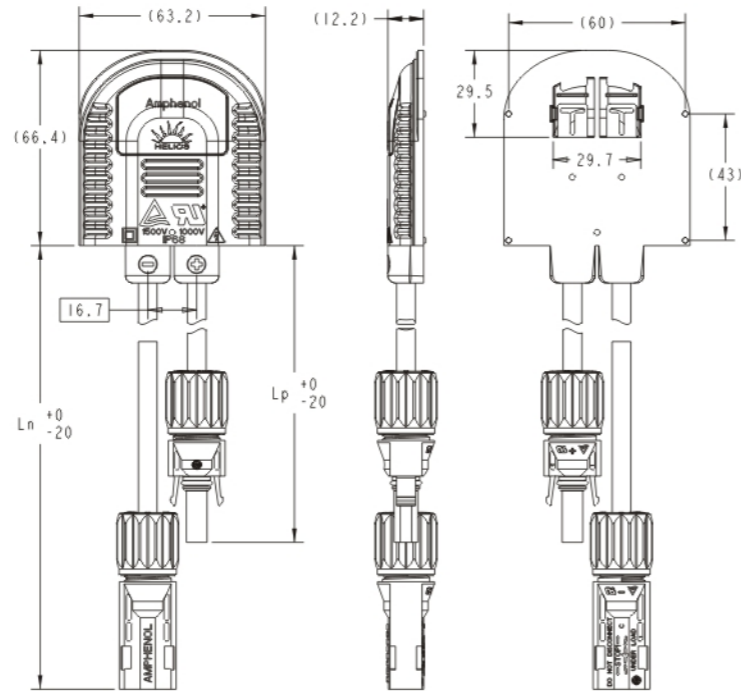
Notes:

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:

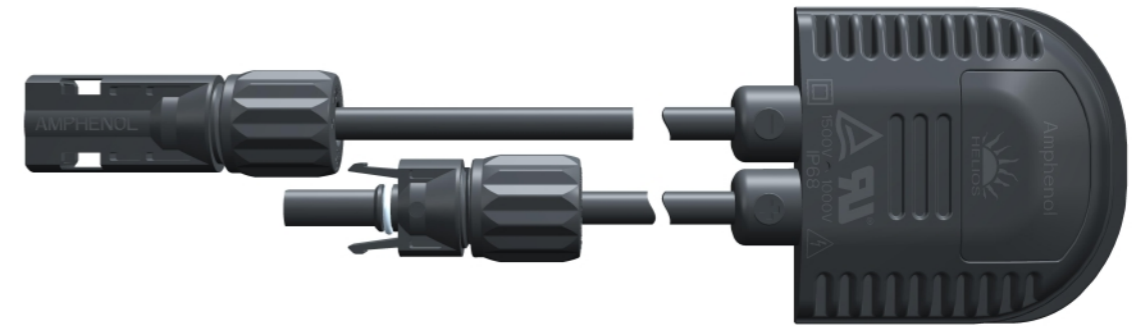
- Low profile
- Over-molded design for better sealing
- SMD for efficient heat dissipation



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
- 2 contacts/1 diode G
- Soldering connection B
- Diode rated 5A/1000V G
- Potting seal A
- No breathing hole N
- 2.5mm²/14AWG cable size C
- Without a adhesive tape N
- 1000mm cable length from both negative and positive end AA

Tool Kit. P/N: H4TK0000

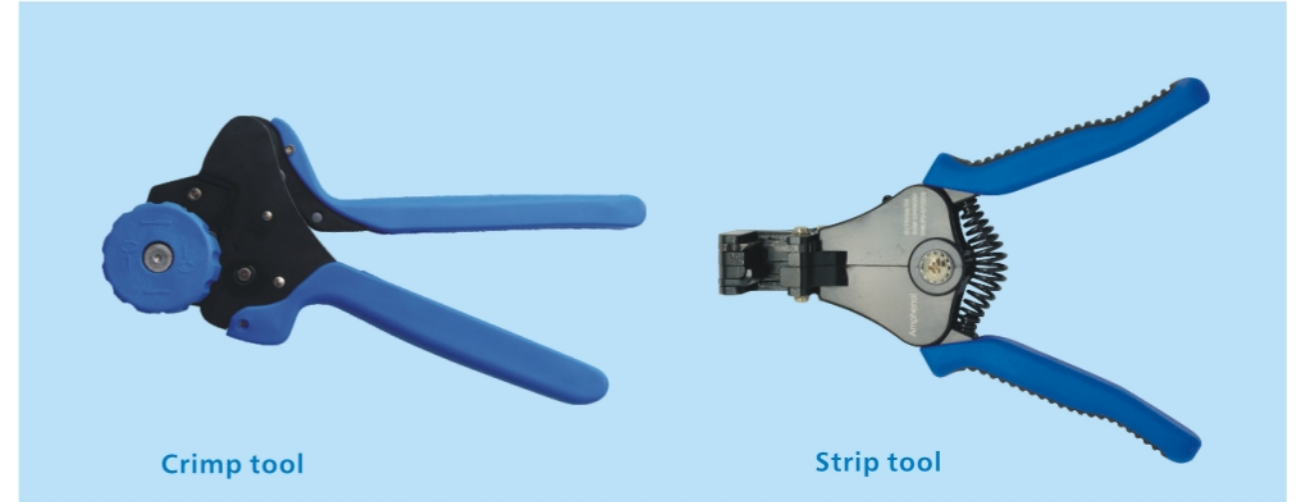
Water proof with foam insert and assembly tool. The listed parts are included.



Crimp tool



Strip tool



Crimp tool

Strip tool

H4 Crimp tool, P/N: H4TC0001 for machined contact, H4TC0002 for stamp & formed contact.
 UTX Crimp tool P/N: UTXTC0001 for machined contact, UTXTC0002 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.

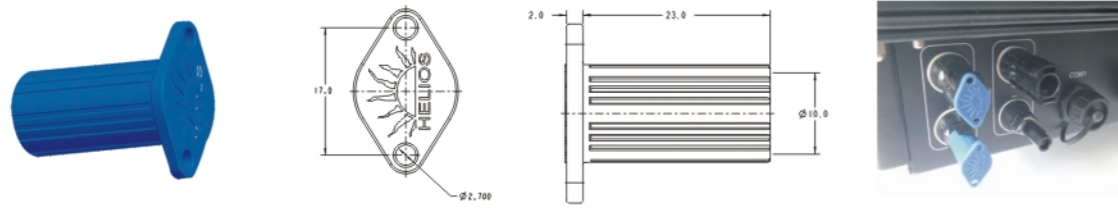
Amphenol cable strip tool, P/N: H4TS0000.
 Strip tool has a locator to set striped cable length, strip capacity from 14awg to 10awg.
 Amphenol strip tool advantage: Save strip force; Will not cut copper core; Consistent strip length.



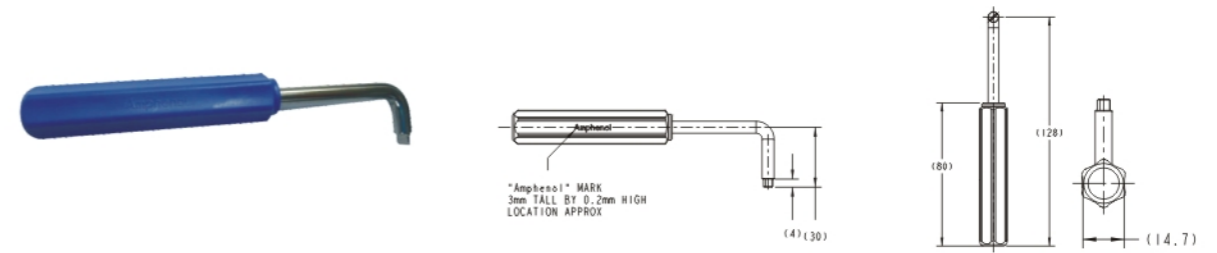
Parts list

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

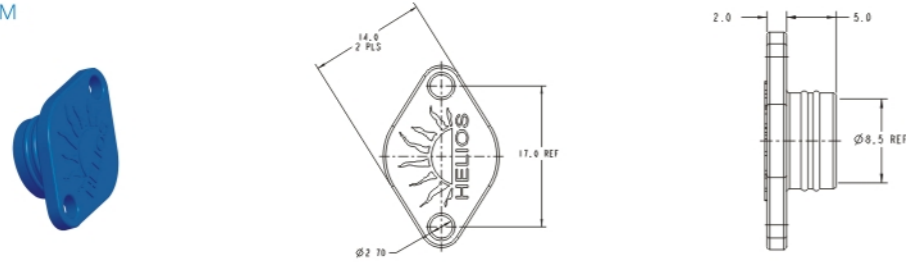
Sealing cap for female connector.
P/N: H4PF



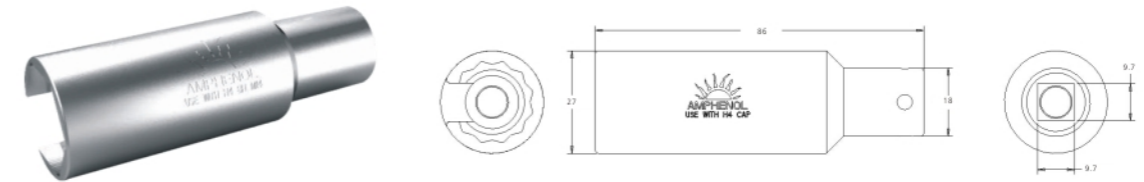
Hercules junction box open tool: HBHTS000



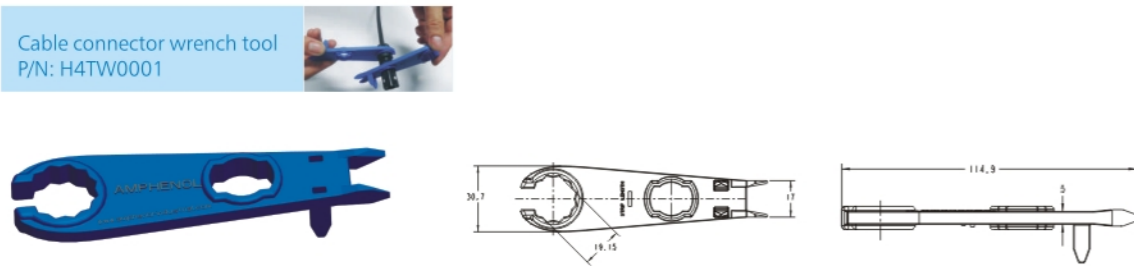
Sealing cap for female connector.
P/N: H4PM



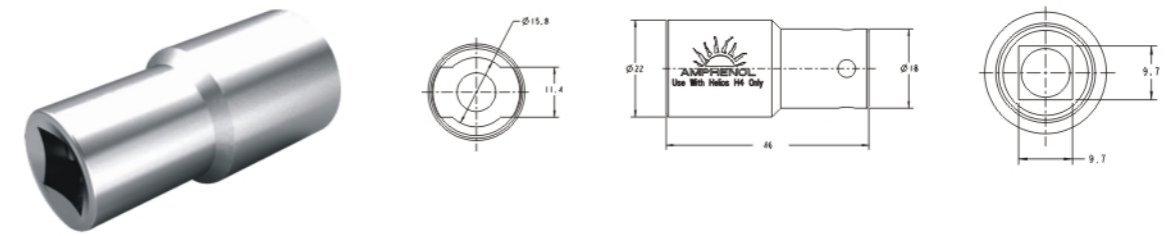
Torch wrench: P/N: H4TTW100



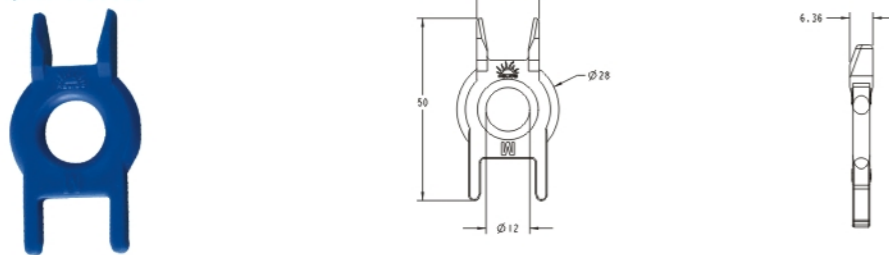
Cable connector wrench tool
P/N: H4TW0001



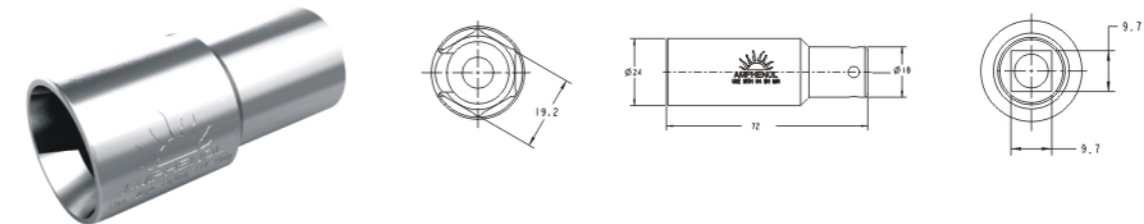
Connector hold tool: P/N: H4TH0000



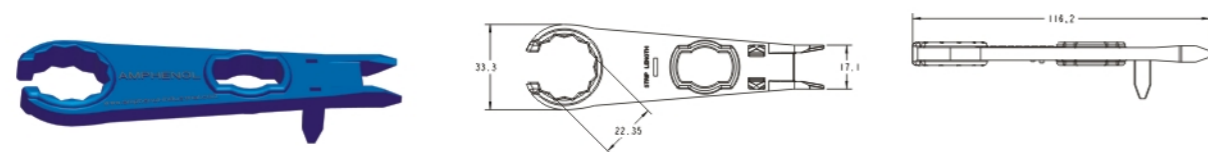
Universal Unlock tool
P/N: H4TU0000



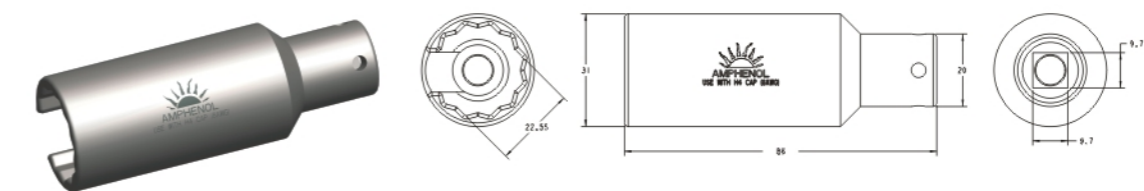
Bulkhead wrench tool:
P/N for M12: H4TM1200; P/N for M14: H4TM1400



H4-XL connector wrench tool
P/N: H4TW0004



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

