

# AMPHENOL INDUSTRIAL SOLAR TECHNOLOGIES

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**Solar Line**  
PHOTOVOLTAIC INTERCONNECTION SYSTEM

**AMPHENOL  
INDUSTRIAL**  
SOLAR TECHNOLOGIES

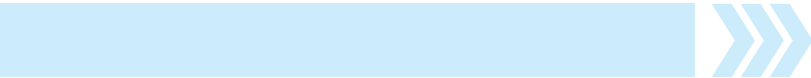
ICS 18-9

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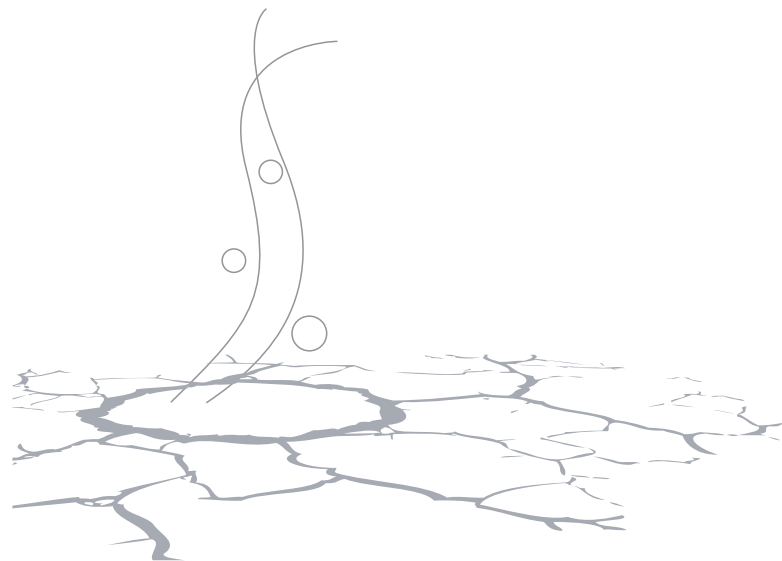
## xpanding Global Presence

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.

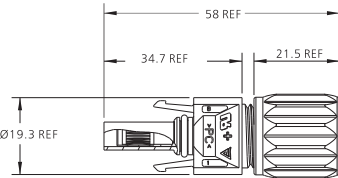


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| Junction boxes.....             | Page21-34 |
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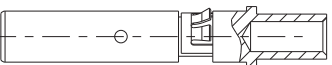


H4 PV Cable Connector

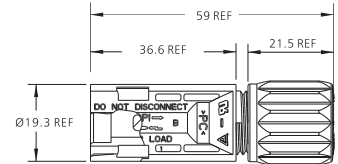
H4 Female PV Cable Connector



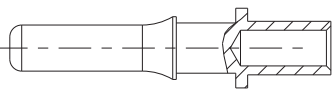
H4 Female socket contact



H4 Male PV Cable Connector



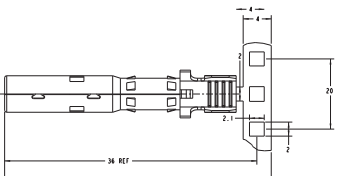
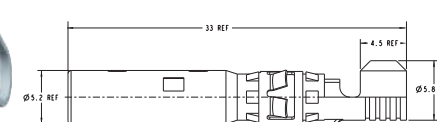
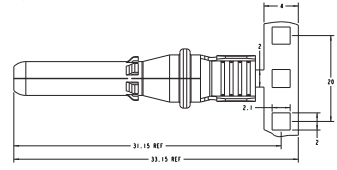
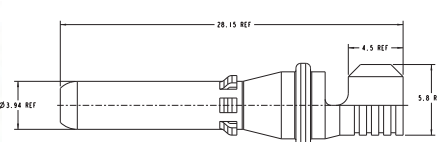
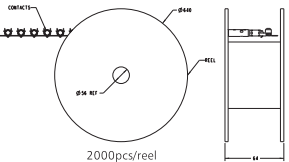
H4 Male pin contact



| 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 <sup>2</sup> /14AWG | D Dual<br>(UL 1000V<br>TUV 1500V) | I 1pcs/bag, 800pcs/box    |
|                            |             | M Male -                                                                                                                          |                | 4 4.0 mm <sup>2</sup> /12AWG |                                   | C 100pcs/bag, 10bags/box  |
|                            |             |                                                                                                                                   |                | 6 6.0 mm <sup>2</sup> /10AWG |                                   | M 500 pcs/ bag, 2bags/box |
|                            |             |                                                                                                                                   |                | 8 10.0 mm <sup>2</sup>       |                                   |                           |
| Technical Data             |             |                                                                                                                                   |                |                              |                                   |                           |
| Rated current              |             | 40A(2.5mm <sup>2</sup> ,14AWG),45A(4.0mm <sup>2</sup> ,12AWG),<br>56A(6.0mm <sup>2</sup> ,10AWG), 65A(10.0mm <sup>2</sup> , 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 +<br>M Male - | C Cable gland  | 2 2.5mm²/14AWG              | D Dual<br>(UL 1000V<br>TUV 1500V) | I 1pcs/bag, 800pcs/box    | S S&F contact |
|                                             |             |                        |                | 4 4.0mm²/12AWG&6.0mm²/10AWG |                                   | 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 1.5mm²/16AWG & 2.5mm²/14AWG | R 2000/reel |
|                                                                                                                                                                                                                                                                                                                                                                    |               | M Male   | 4 4.0mm²/12AWG & 6.0mm²/10AWG |             |
| Note: If ordering contacts in 2000pcs/reel version, need to order contacts and plastic housing seperately. 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

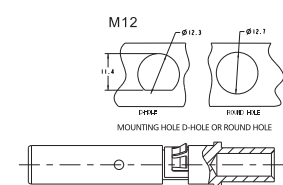
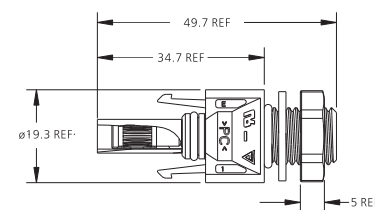


Crimp tool H4TC0002

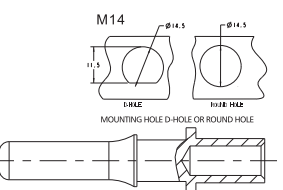
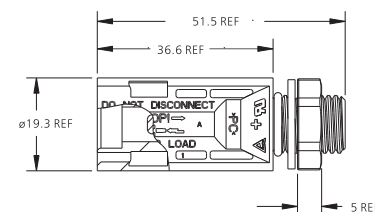


H4 PV Panel Connector

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 -<br>M Male + | M bulkhead M12<br>N bulkhead M14 | 2 2.5 mm <sup>2</sup> /14AWG<br>4 4.0mm <sup>2</sup> /12AWG<br>6 6.0mm <sup>2</sup> /10AWG<br>8 10.0mm <sup>2</sup> | D Dual<br>I 1pcs/bag, 800pcs/box<br>C 100pcs/bag, 10bag/box<br>M 500pcs/bag , 2 bags /box |

Technical Data

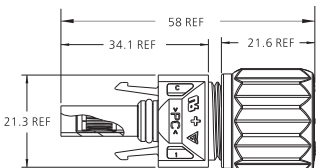
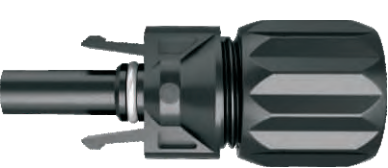
|                            |                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Rated current              | 40A(2.5mm <sup>2</sup> ,14AWG),45A(4.0mm <sup>2</sup> ,12AWG),<br>56A(6.0mm <sup>2</sup> ,10AWG), 65A(10.0mm <sup>2</sup> , 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                                                                                                                                 |
| Overvoltage category       | III                                                                                                                               |
| Flame class                | UL94 V-0                                                                                                                          |
| Jacket of cable range      | Ø4.5mm~Ø7.8mm                                                                                                                     |
| Ambient temperature range  | -40°C~+85°C                                                                                                                       |

Ordering example:

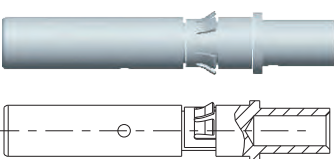
|                       |      |                                        |   |
|-----------------------|------|----------------------------------------|---|
| ■ H4 PV connector     | H4 C | ■ 6.0mm <sup>2</sup> /10AWG cable size | 6 |
| ■ Female part         | F    | ■ Dual approvals                 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

Enlarge H4 PV Cable Connector

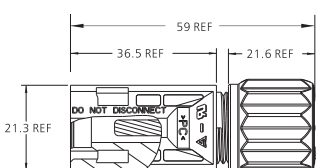
Enlarge H4 Female Cable Connector



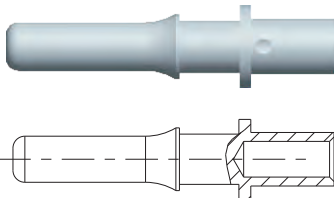
H4-XL Female socket contact



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 +<br>M Male - | E H4-XL connector | 8 10.0mm <sup>2</sup> /8AWG<br>D Dual | I 1pcs/bag, 800pcs/box<br>C 100pcs/bag, 8bag/box<br>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 <sup>2</sup> /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 <sup>2</sup> /8AWG cable size | 8 |
| ■ Female part       | F    | ■ Dual approvals                       | D |
| ■ Enlarge connector | E    | ■ 800pcs per box                       | M |

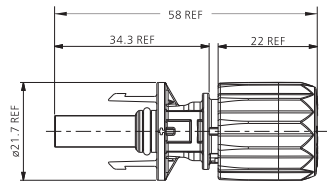


H4TW0004  
Wrench tool for Enlarge H4

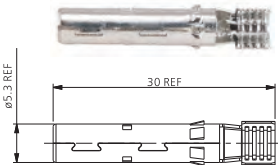


UTX™ PV Cable Connector

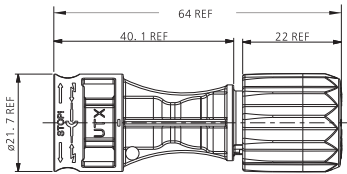
UTX™ Female Cable Connector



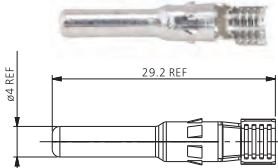
UTX™ Female socket contact



UTX™ Male Cable Connector

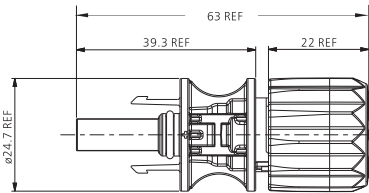


UTX™ Male pin contact

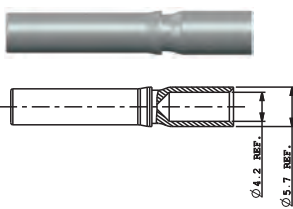


UTX™-XL PV Cable Connector

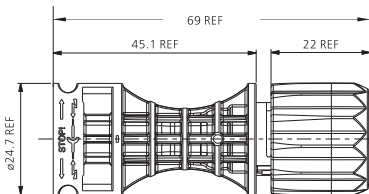
UTX™-XL Female Cable Connector



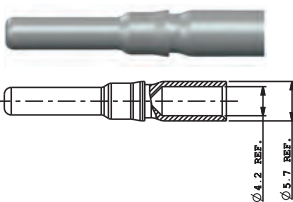
UTX™-XL Female socket contact



UTX™-XL Male Cable Connector



UTX™-XL Male pin contact



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



UTX™ Connector Wrench Tool  
P/N: UXTWA001



Inspection Tool for UTX , check the correct  
location of contact in the UTX body  
P/N: UXTTT0001



UTX™ PV Cable Connector

| Technical Data            |                                                                                                                                    |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Rated current             | 31A(2.5mm <sup>2</sup> /14AWG), 42A(4.0mm <sup>2</sup> /12AWG)<br>53A(6.0mm <sup>2</sup> /10AWG), 75A( 10.0mm <sup>2</sup> /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)<br>TUV PV1-F cable(2.5/4.0/6.0/10.0mm <sup>2</sup> )<br>S-JET PV-CC cable(2.5~10.0mm <sup>2</sup> )    |
| 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<br>UTX UTX                                                                                                                                             | Product<br>C Connector              | Gender<br>F Female+<br>M Male-                                                                | Connector body type<br>A 2.5mm <sup>2</sup> /14 AWG, 4mm <sup>2</sup> /12 AWG,<br>6mm <sup>2</sup> /10 AWG<br>(Stamped & Formed Contacts)<br>L 10.0mm <sup>2</sup> /8 AWG<br>(UTX-XL) (Cold Formed Contacts) |
| Cable Size*<br>0 No Contacts<br>2 2.5mm <sup>2</sup> /14AWG<br>4 4.0mm <sup>2</sup> / 12AWG<br>6 6.0mm <sup>2</sup> /10AWG<br>8 10.0mm <sup>2</sup> /8AWG<br>(UTX-XL) | Approvals<br>A UL/TÜV/JET Certified | Packaging<br>I 1pcs/bag, 800pcs/box<br>C 100pcs/bag, 10bags/box<br>M 500pcs/bag , 2 bags /box | Variations                                                                                                                                                                                                   |

\* Note: 10.0mm<sup>2</sup>/8 AWG (UTX-XL) contacts cannot be ordered separately and must be specified

Ordering Example:

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

| UTX Contact Part Number Ordering Code (For Ordering Contacts on Reels) |                           |                                |                                                                                                         |                              |
|------------------------------------------------------------------------|---------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------|
| Product family<br>UTX UTX                                              | Product type<br>F Contact | Gender<br>F Female+<br>M Male- | Contact size*<br>2 2.5mm <sup>2</sup> /14AWG<br>4 4.0mm <sup>2</sup> / 12AWG, 6.0mm <sup>2</sup> /10AWG | Packaging<br>R 2000 pcs/reel |

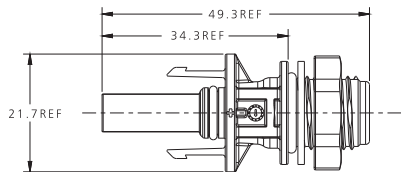
\* Note: 10.0mm<sup>2</sup>/8 AWG (UTX-XL) contacts are not available on reel

Ordering Example:

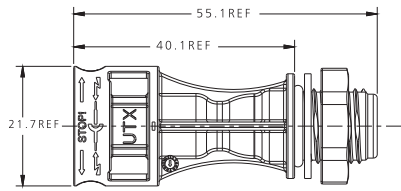
- UTXFF4R UTX female contact size 4.0mm<sup>2</sup>/12 AWG and 6.0mm<sup>2</sup>/10 AWG on reel
- UTXFM2R UTX male contact size 2.5mm<sup>2</sup>/14 AWG on reel

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 1.5mm<sup>2</sup>~10mm<sup>2</sup>  
S&F and machined contact options

With Stamped and Formed Contact

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

- Ordering example:**
- UTXNFA4AM UTX bulkhead, female , 4mm<sup>2</sup>/12AWG & 6.0 mm<sup>2</sup>/10AWG S&F contact
  - UTXNMA4AM UTX bulkhead, male , 4mm<sup>2</sup>/12AWG & 6.0 mm<sup>2</sup>/10AWG S&F contact

UTX™ PV Panel Connector

| Technical Data            |                                                                                                                                                                           |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated current             | 23A ( 1.5mm <sup>2</sup> /16AWG) , 31A ( 2.5mm <sup>2</sup> /14AWG) , 42A ( 4.0mm <sup>2</sup> / 12AWG)<br>53A (6.0mm <sup>2</sup> /10AWG), 75A( 10mm <sup>2</sup> /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 <sup>2</sup> ~10.0mm <sup>2</sup>                                                                                                                                   |
| Flame class               | UL94, V-0                                                                                                                                                                 |
| Ambient temperature range | -40°C~+90°C                                                                                                                                                               |
| Certification No.         | In process                                                                                                                                                                |

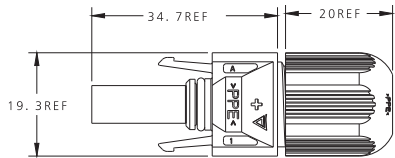
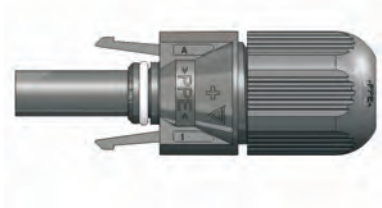
With Machined/Cold Formed Contact

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

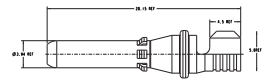
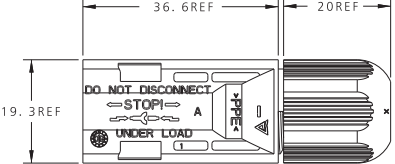
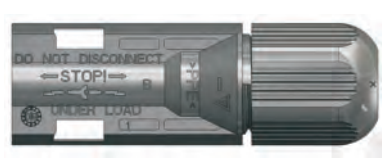
- Ordering example:**
- UTXNFB6AM UTX bulkhead, female , 6mm<sup>2</sup>/10AWG machined contact
  - UTXNMB6AM UTX bulkhead, male , 6mm<sup>2</sup>/10AWG machined contact

H4-R PV Connector

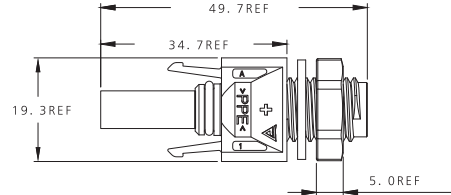
H4-R Female Cable Connector



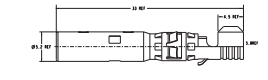
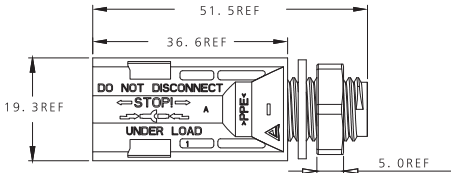
H4-R Male Cable Connector



H4-R Female Panel Connector



H4-R Male Panel Connector



Feature:

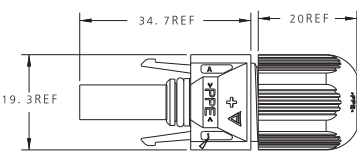
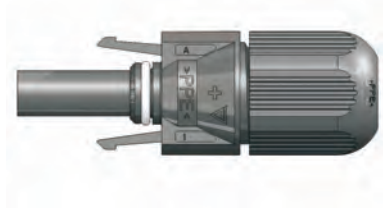
- TUV EN50521 Certified
- IP68 protection
- Compatible with H4
- Manually unlock (for H4-RH)



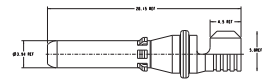
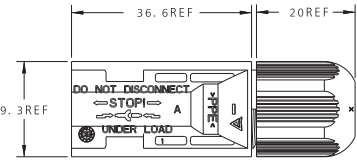
| How to order                                                                      |                                  |                                                                  |                                                                                                                 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

H4-RH PV Connector

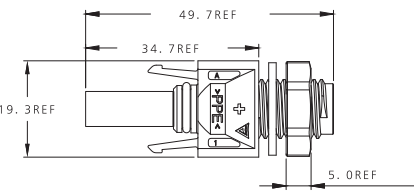
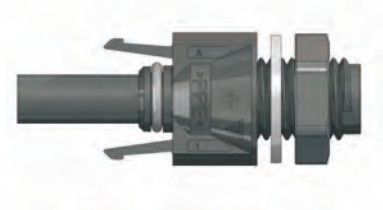
H4-RH Female Cable Connector



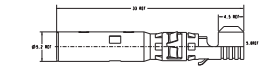
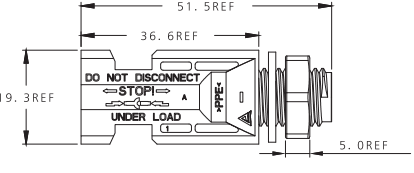
H4-RH Male Cable Connector



H4-RH Female Panel Connector



H4-RH Male Panel Connector



Technical Data

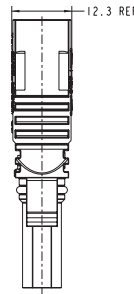
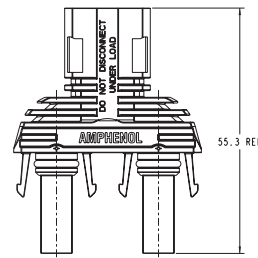
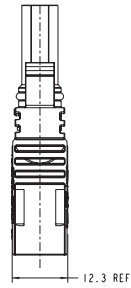
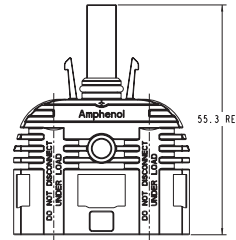
|                           |                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------|
| Rated current             | 31A for 2.5mm <sup>2</sup> , 42A for 4.0mm <sup>2</sup> , 53A for 6.0mm <sup>2</sup> |
| 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 <sup>2</sup> ~6.0mm <sup>2</sup>                                               |
| 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 connecot , 4mm<sup>2</sup> S&F contact
- H4LFM4TMS H4-R type, female panel connecot, 4mm<sup>2</sup> S&F contact
- H4LFD4TMS H4-RH type, female cable connecotr , 4mm<sup>2</sup> S&F contact
- H4LFB4TMS H4-RH type, female panel connecotr , 4mm<sup>2</sup> 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)<br>Y MMF (branch 2 male/1 female) |

## Cable Assy and Overmolded Junctions



### T Junction



### Y Junction



## R Junction

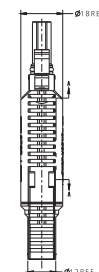
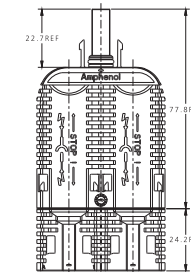
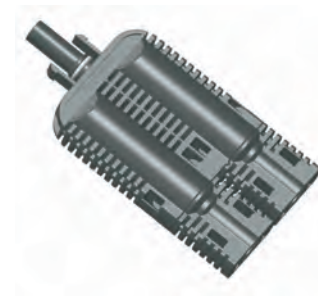
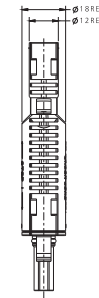
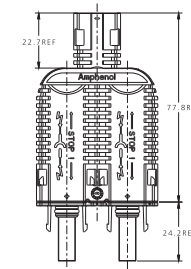


### X Junction

## Technical Information

Ambient Temperature Rating : -40℃---+70℃  
Cable Range (Cable Version): 14AWG (2.5mm<sup>2</sup>) To 8AWG (10mm<sup>2</sup>)  
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<br>MMF Branch 2 male/1 female | 01 1A<br>.....<br>15 15A<br>.....<br>30 30A |

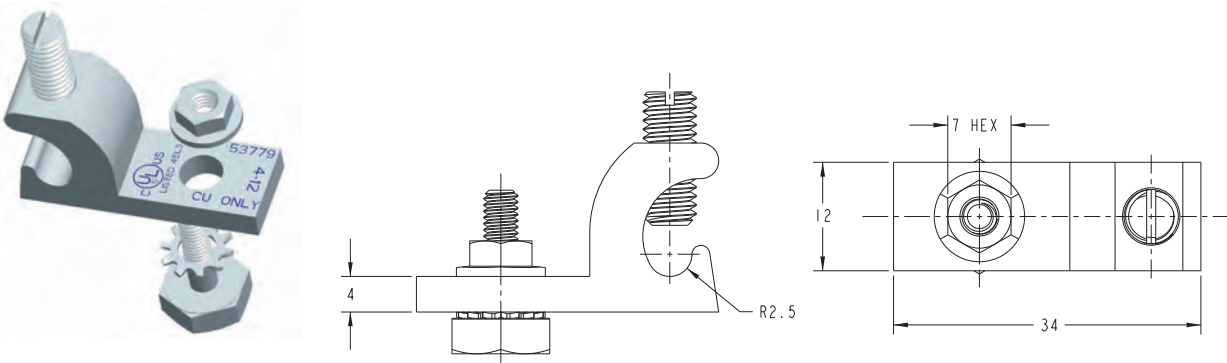
## Technical Data

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

HelioLug



INSTALLATION INSTRUCTIONS:

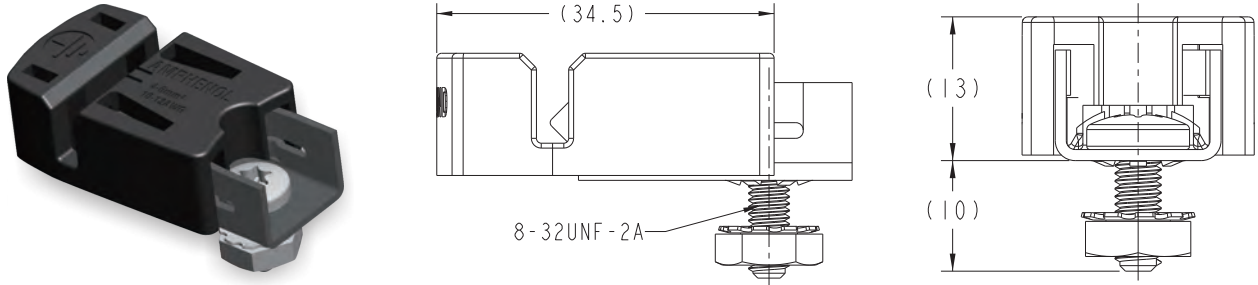
- Place the lug to the designated module grounding hole with the star washer between the grounding lug and the module frame in order to break through the anodizing and establish electrical contact with the aluminum. Torque the bolt and nut to 30 in-lbs. NOTE: These instructions provide guidelines for 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 1/2" 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  |

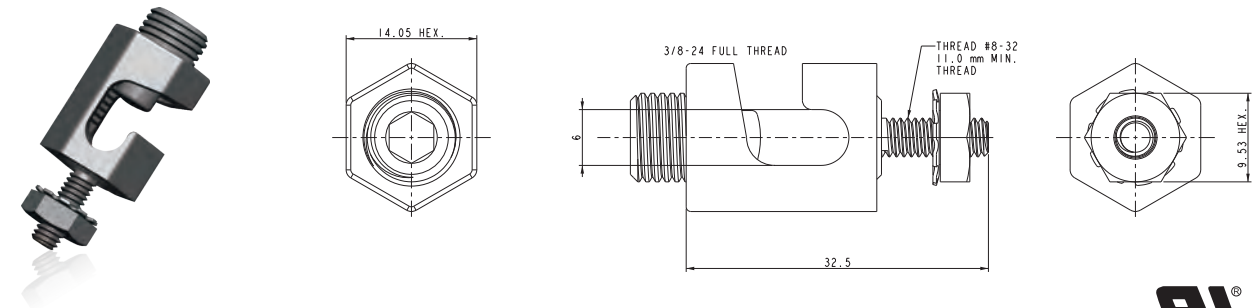
Helio Clip™



Designed for UL2703 - PV Racking and Grounding

| How to order        |                                                                                               |                     |
|---------------------|-----------------------------------------------------------------------------------------------|---------------------|
| Product family      | Type                                                                                          | Approvals           |
| HG Helios Grounding | C HelioClip Selftapping (10~12AWG copper wire)<br>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 1.5mm<sup>2</sup> to 16.0mm<sup>2</sup>





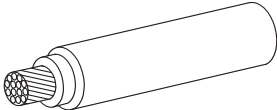
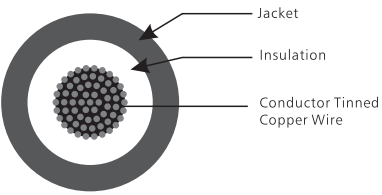
**Certificate:**  
TÜV and UL certified according to the latest regulations, up 2000V

**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

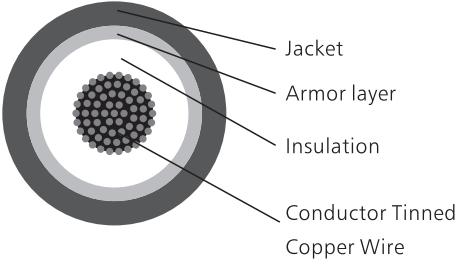


**Advantages:**

- 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

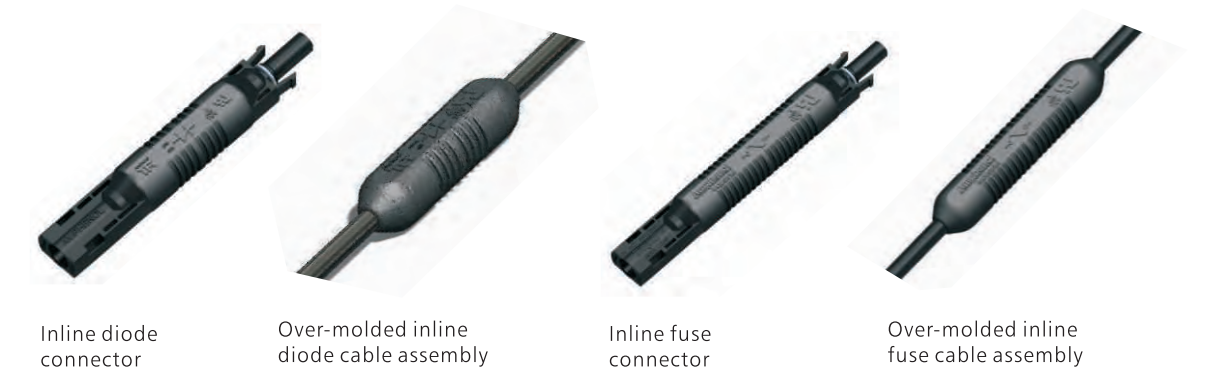
| How to order                                                                                                                                                                                                                               |                                                              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

**Notes:**

UL cable comes in AWG only  
TUV cable comes in mm<sup>2</sup> only  
Dual cable comes marked with AWG and mm<sup>2</sup>

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



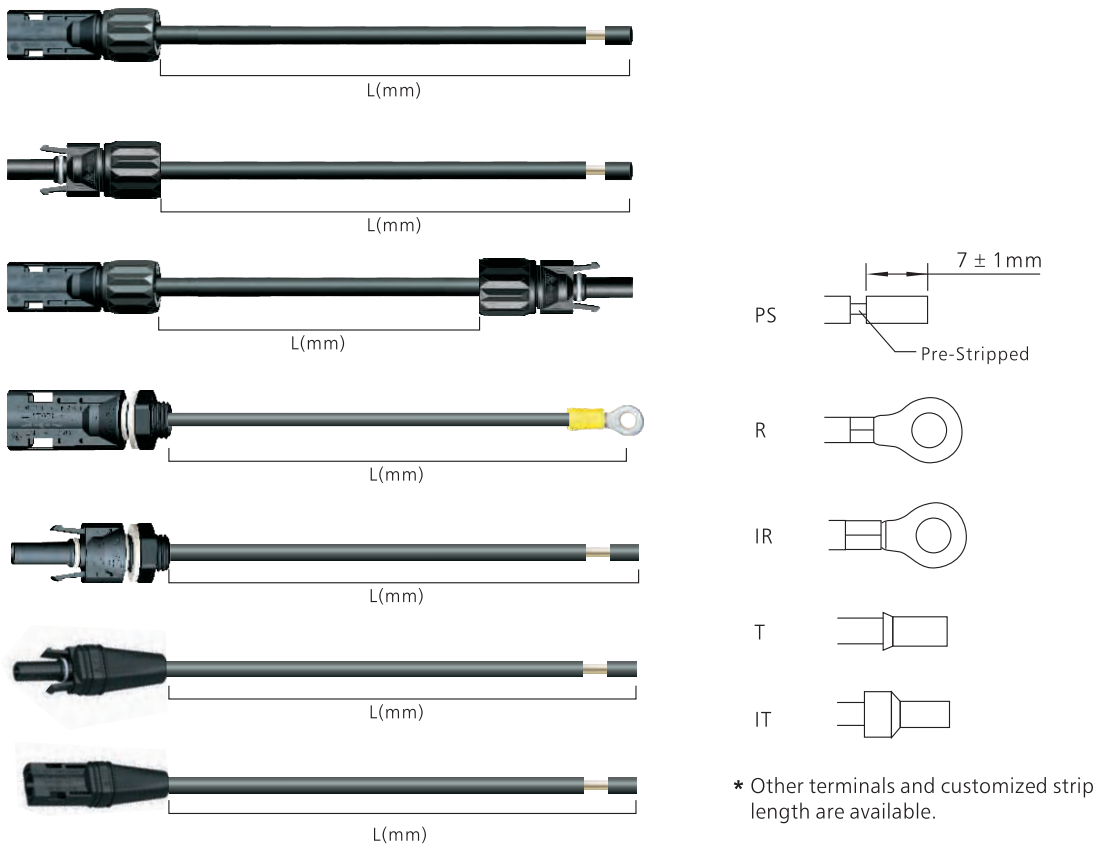
- Protection degree:IP68  
Cable range:2.5mm<sup>2</sup>/14AWG -10.0mm<sup>2</sup>/8AWG  
Temperature range: -40 °C ~+90 °C  
Withstand rating:10kA  
Voltage rating:1500V max  
Amperage rating:30A max  
Connector options: M-M,M-F,F-F
- Protection degree:IP68  
Cable range:2.5mm<sup>2</sup>/14AWG -10.0mm<sup>2</sup>/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 to10A     |

PV Cable Assemblies

| How to order       |                |                                               |                                                                        |                                                                                                                                      |                                     |            |
|--------------------|----------------|-----------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------|
| Product family     |                | Product                                       | Gender                                                                 | Connector type                                                                                                                       | Cable size                          | Approvals  |
| HC    Helico cable | C    Connector | F    Female+<br>M    Male-<br>P    Mated pair | C    Cable gland<br>M    Panel M12<br>N    Panel M14<br>O    Over-mold | 2    2.5mm <sup>2</sup> /14AWG<br>4    4.0mm <sup>2</sup> /12AWG<br>6    6.0mm <sup>2</sup> /10AWG<br>8    10.0mm <sup>2</sup> /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                           |                                                                        | PS    Pre-stripped wire                                                                                                              |                                     |            |
|                    |                | R    Red                                      |                                                                        | R    Ring terminal                                                                                                                   |                                     |            |
|                    |                | L    Blue                                     |                                                                        | IR    Isolated ring terminal                                                                                                         |                                     |            |
|                    |                | G    Grey                                     |                                                                        | T    Tube terminal                                                                                                                   |                                     |            |
|                    |                | O    Brown                                    |                                                                        | IT    Isolated tube terminal                                                                                                         |                                     |            |
|                    |                | OG    Orange                                  |                                                                        |                                                                                                                                      |                                     |            |
|                    |                | Y    Yellow                                   |                                                                        |                                                                                                                                      |                                     |            |

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(10.0mm<sup>2</sup>)  
☐ 10AWG(6.0mm<sup>2</sup>)  
☐ 12AWG(4.0mm<sup>2</sup>)  
☐ 14AWG(2.5mm<sup>2</sup>)

Main cable approval:

☐ UL ☐ TÜV ☐ Dual

Branch cable size:

☐ 8AWG(10.0mm<sup>2</sup>)  
☐ 10AWG(6.0mm<sup>2</sup>)  
☐ 12AWG(4.0mm<sup>2</sup>)  
☐ 14AWG(2.5mm<sup>2</sup>)

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,

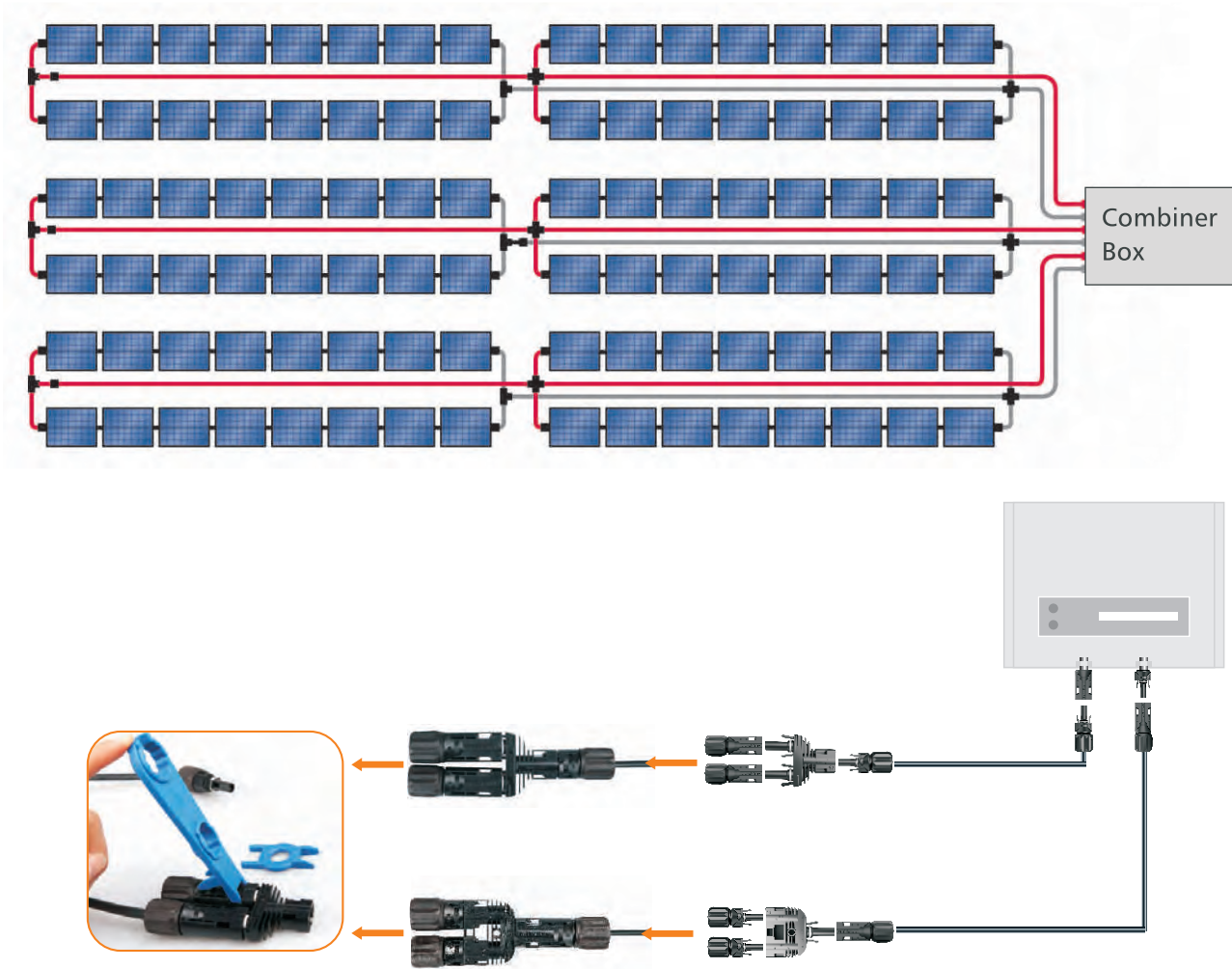
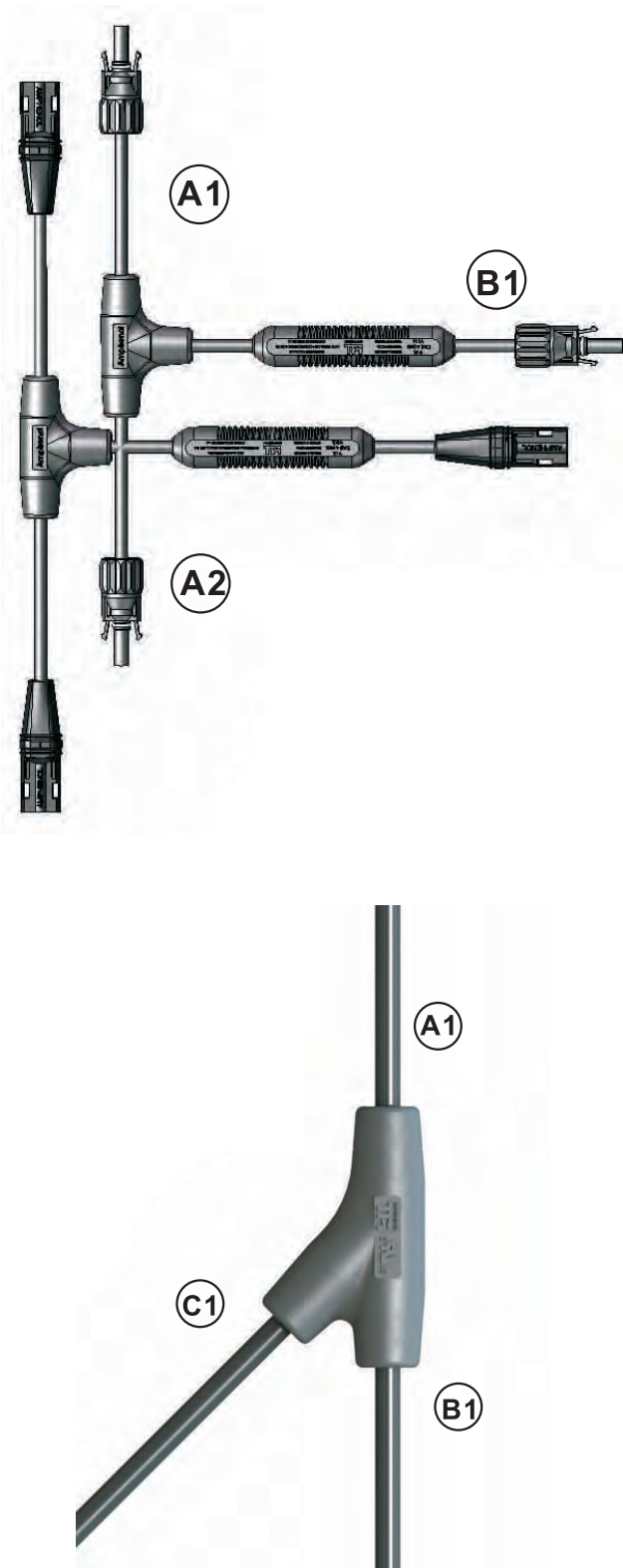
H4F: H4 standard cable connector female part  
H4M: H4 standard cable connector male part  
H4OF: H4 overmolded connector female part  
H4OM: H4 overmolded connector male par

Fuses:

Location of fuse \_\_\_\_\_  
Rating of fuse \_\_\_\_\_ A \_\_\_\_\_ V

Labels:

Label location \_\_\_\_\_  
Label Text \_\_\_\_\_





Hercules™ PV Junction Box



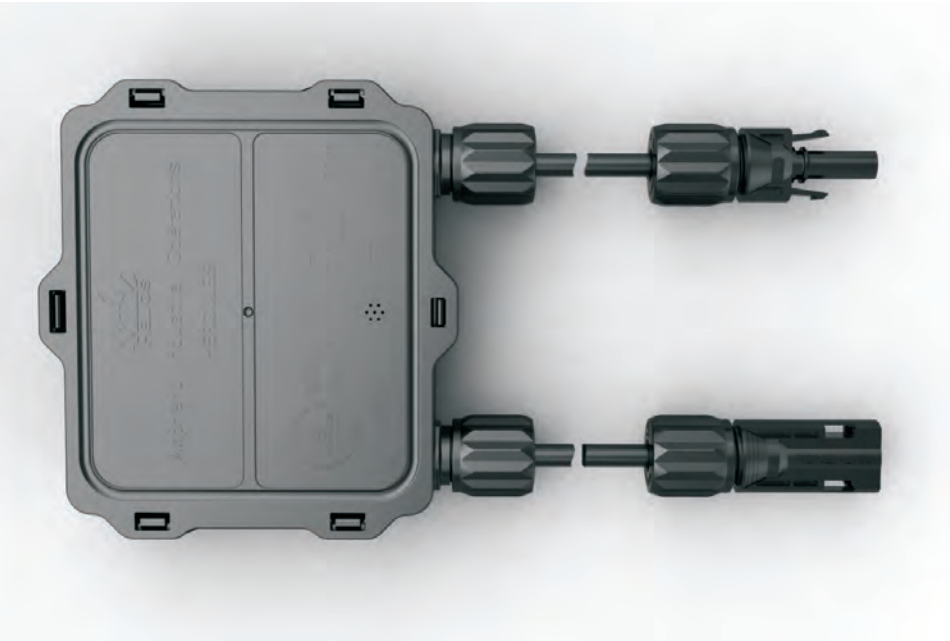
Features:

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



Technical data

|                       |                                                      |
|-----------------------|------------------------------------------------------|
| Rated voltage         | UL 600V /1000V DC<br>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 <sup>2</sup> or 10AWG/6.0mm <sup>2</sup> |
| Size                  | 117x107x22mm                                         |
| Flame class           | UL94 V-0; 5VA                                        |
| Connector type        | Helios H4                                            |
| Temperature range     | -40°C to +90°C                                       |



How to order

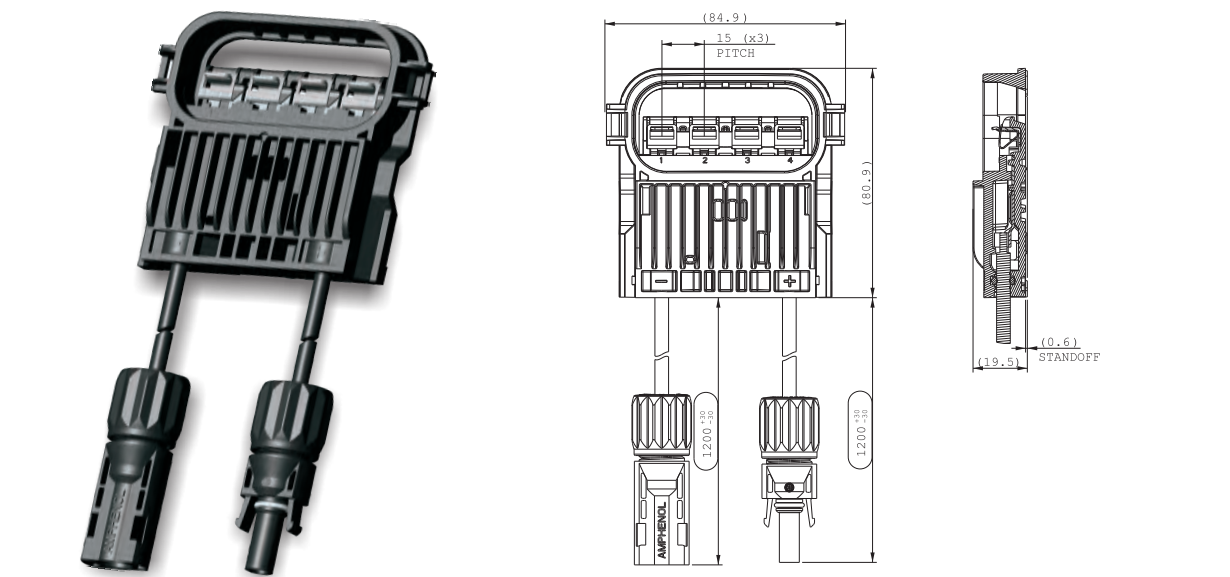
| Product family | Product type              | Terminals and diodes        |                                     | Terminal style |                                       | Diode rating       |         |
|----------------|---------------------------|-----------------------------|-------------------------------------|----------------|---------------------------------------|--------------------|---------|
| HB Helios JB   | H Hercules I Junction box | A                           | 4 contacts/3 diodes                 | A              | Clamping contacts                     | A                  | 12A200V |
|                |                           | B                           | 3 contacts(2 left/1 right)/2 diodes | B              | Soldering contacts                    | B                  | 12A40V  |
|                |                           | C                           | 3 contacts(1 left/2 right)/2 diodes | C              | Soldering contacts left&right opening | C                  | 15A40V  |
|                |                           | D                           | 4 contacts/6 diodes                 | D              | Soldering contacts left opening       | D                  | 30A40V  |
|                |                           | E                           | 3 contacts(2 left/1 right)/4 diodes | E              | Soldering contacts right opening      | E                  | 20A40V  |
|                |                           | F                           | 3 contacts(1 left/2 right)/4 diodes | F              | Spot welding contacts                 | 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 <sup>2</sup> /10AWG | H 1kV/PPE Base                      | Y Yes          | A 1000mm                              | A                  | 1000mm  |
| B O-ring       | N No                      | B 4.0mm <sup>2</sup> /12AWG | J 1kV/PPO Base                      | N No           | B 900mm                               | B                  | 900mm   |
|                |                           |                             | K 600V/PPE Base                     |                |                                       |                    |         |
|                |                           |                             | L 600V/PPO Base                     |                |                                       |                    |         |

\* 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 | ■ With breathing hole                                     | Y  |
| ■ 4 contacts/3 diodes       | A    | ■ 6.0mm <sup>2</sup> /10AWG cable size                    | A  |
| ■ Soldering connection      | B    | ■ Rated 1000V with PPO base                               | J  |
| ■ Diode rated 15A/40V       | C    | ■ Without adhesive tape                                   | N  |
| ■ Potting seal              | A    | ■ 1000mm cable length from both negative and positive end | AA |

Hercules II PV Junction Box

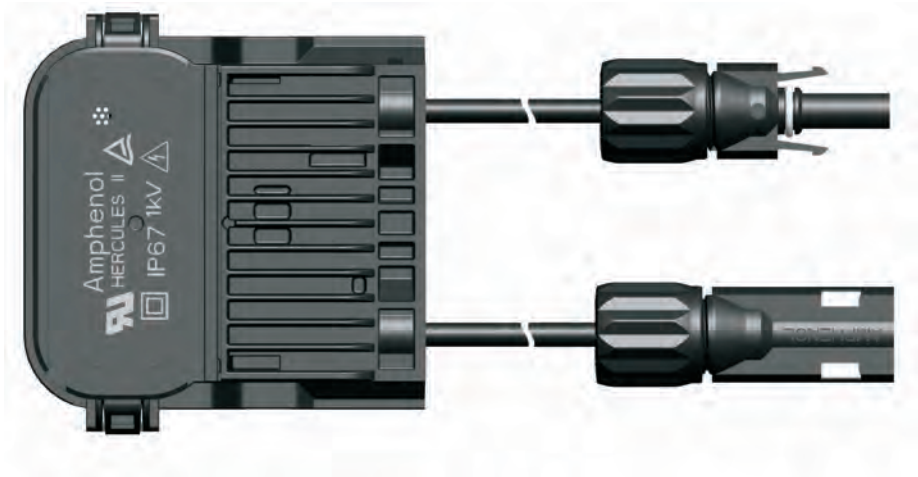


- Feature:**
- Compact size , Pre-potting
  - Good heat dissipation
  - Breathing hole for pressure balance
  - For automatic assembly at PV module side



| 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/4.0mm²       |
| Connector type    | Helios H4          |
| Temperature range | -40°C~85°C         |

Hercules II PV Junction Box



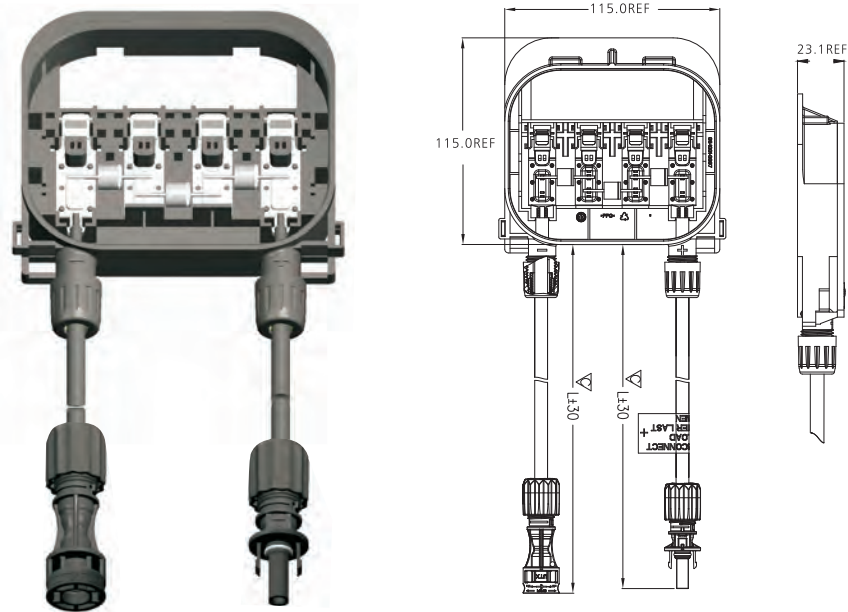
| How to order                   |                                            |                                                            |                                                                                                                     |                                |
|--------------------------------|--------------------------------------------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Product family<br>HB Helios JB | Product type<br>C Hercules II Junction box | Terminals and diodes<br>A 4 contacts/3 diodes              | Terminal style<br>A Clamping contacts<br>B Soldering contacts<br>C Snake wiring contacts<br>D Spot welding contacts | Diode rating<br>A 25A45V       |
| Sealing type<br>A O-ring       | Breathing hole<br>Y Yes                    | Cable size<br>A 4.0mm²/12AWG Dual cable<br>B 4mm² TUV only | Cable length (Ln)*<br>A 1000mm                                                                                      | Cable length (Lp)*<br>A 1000mm |

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

Ordering example:

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

Hercules III PV Junction Box



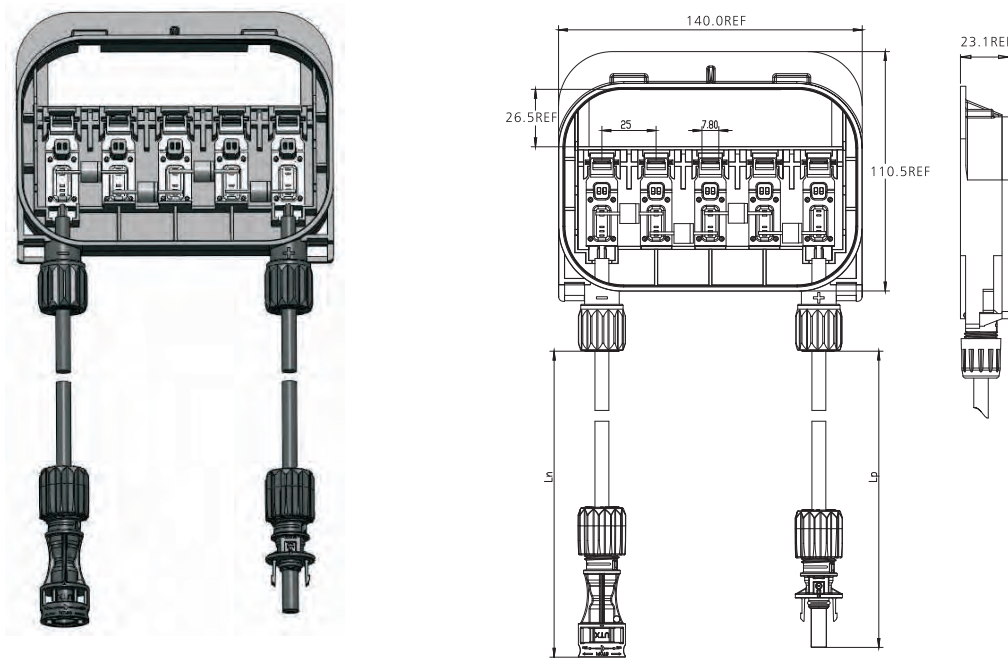
- Feature:**
- Breathing film for pressure balance
  - Wire-locking design for installation of module
  - Multi-diodes options



| 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 <sup>2</sup> |
| 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

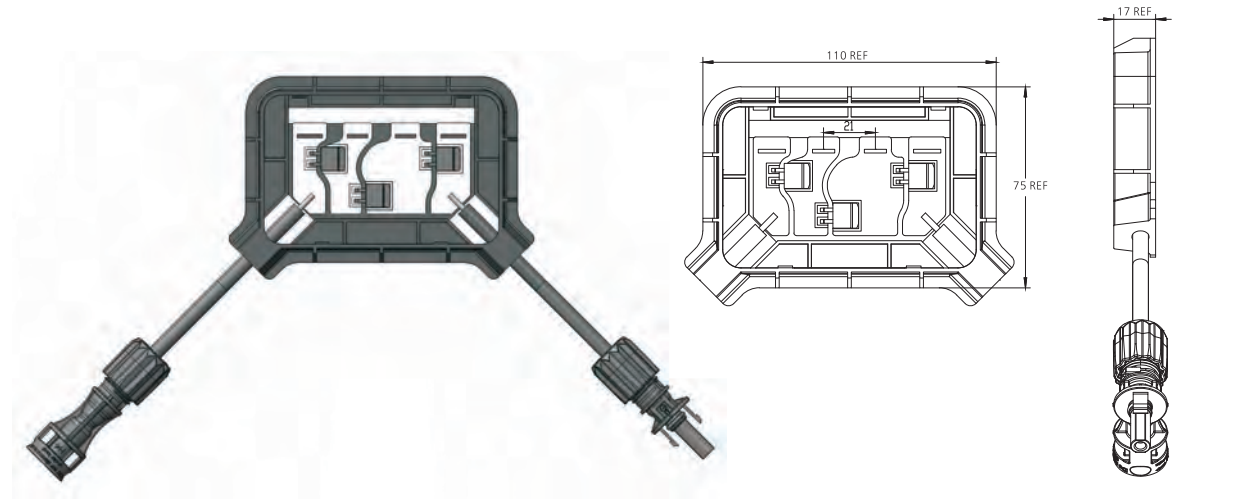


| Technical Data    |                        |
|-------------------|------------------------|
| Rated Voltage     | TUV 1000V UL 1000V     |
| Rated current     | 10A                    |
| Terminal quantity | 5 rails                |
| Number of diodes  | 4                      |
| Ribbon connection | Clamping               |
| Sealing type      | O-ring                 |
| Protection degree | IP67                   |
| Safety class      | II                     |
| Flame class       | UL94 V-0 5VA           |
| Cable size        | 12AWG/4mm <sup>2</sup> |
| 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/4mm²                |
| 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, 1meter cable length

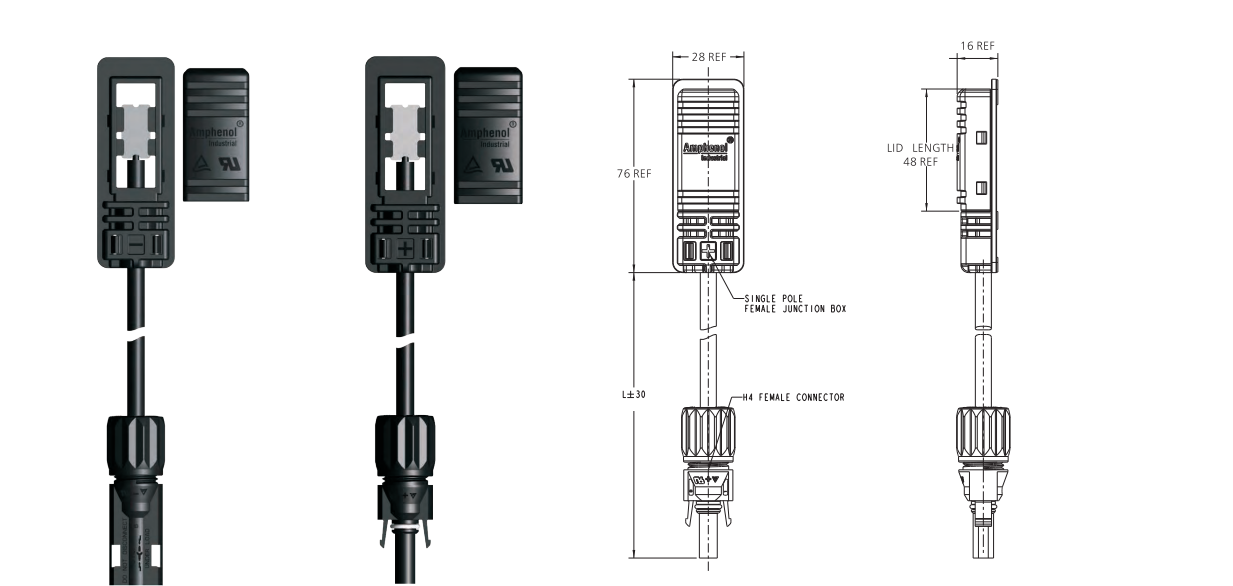
Hercules P PV Junction Box



| 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 mm²/12AWG      | Y Yes<br>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 classs      | UL94 V-0, 5VA      |
| Cable size        | 12AWG/4.0mm²       |
| 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



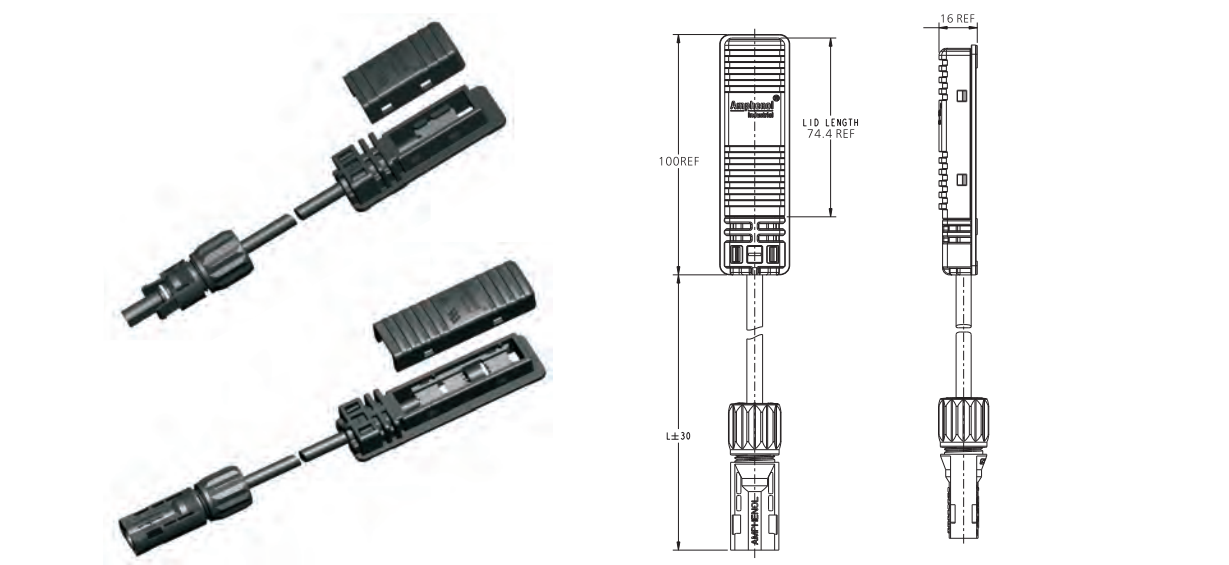
| Technical Data    |                         |
|-------------------|-------------------------|
| Rated voltage     | TUV 1000V/UL 1000V      |
| Rated current     | 20A                     |
| Protection degree | IP68 (Potted)           |
| Flame classs      | UL94 V-0, 5VB           |
| Safety class      | II                      |
| Sealing type      | Potting                 |
| Ribbon connection | Spot welding /Soldering |
| Connector type    | Helios H4               |
| Cable size        | 12AWG/4.0mm²            |
| Temperature range | -40°C~+85°C             |

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

Ordering example:

- HBINFAAAE 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 classs      | UL94 V-0, 5VB           |
| Safety class      | II                      |
| Sealing type      | Potting                 |
| Ribbon connection | Spot welding /Soldering |
| Connector type    | Helios H4               |
| Cable size        | 12AWG/4.0mm²            |
| Temperature range | -40°C~+85°C             |

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

Ordering example:

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

Herclues Triple Pole PV Junction Box



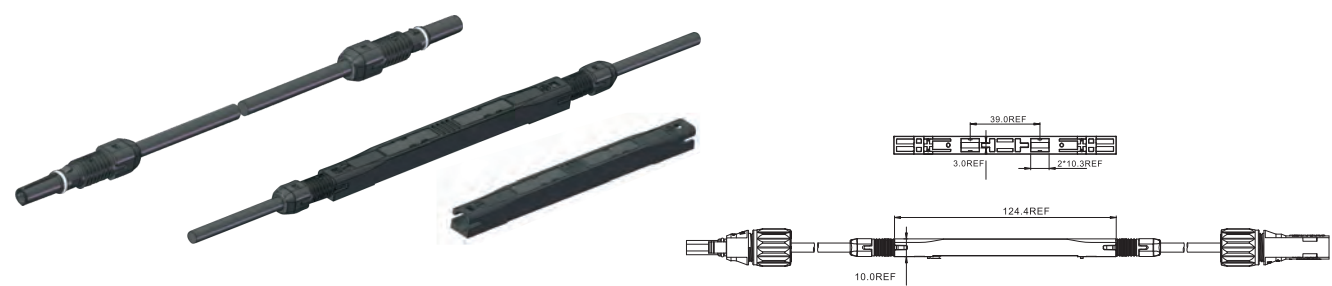
**Feature:**  
3 sets on the right /middle /left of backside panel  
Potting sealing  
Bifacial module’s better choice

| 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/4.0mm²           |
| 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 assmeby 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           | 2.5mm²/14AWG  |
| Temperature range    | -40°C~+85°C   |

How to orde

| For Pencil J-box |                       |                     |
|------------------|-----------------------|---------------------|
| Product family   | Product               | Diode rated current |
| HB Helios JB     | P Pencil junction box | A 15A10G            |

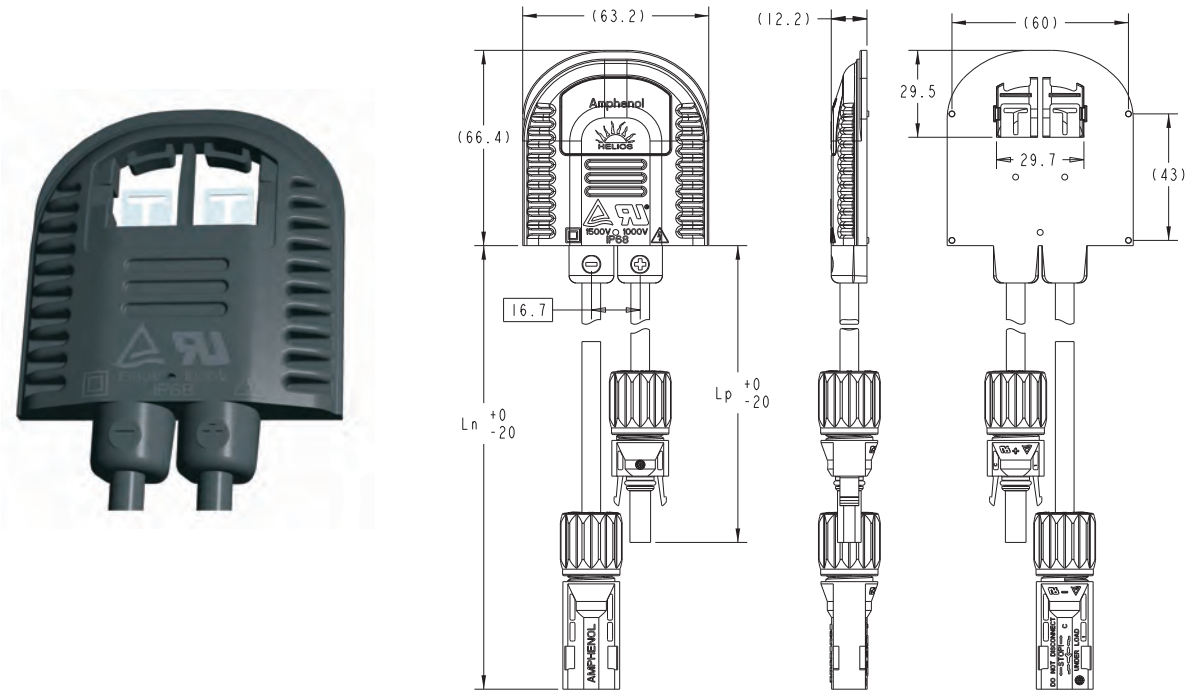
| For Jumper           |                       |                     |                |             |                  |
|----------------------|-----------------------|---------------------|----------------|-------------|------------------|
| Product family       | Gender                | Connector option    | Cable size     | Approvals   | Cable length(mm) |
| HC PV cable assembly | P Mated pair (Jumper) | A H2 Female+H2 Male | A 2.5mm²/14AWG | 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 Jupmer with H2 connectors, 500mm cable length



Thin-film PV Junction Box

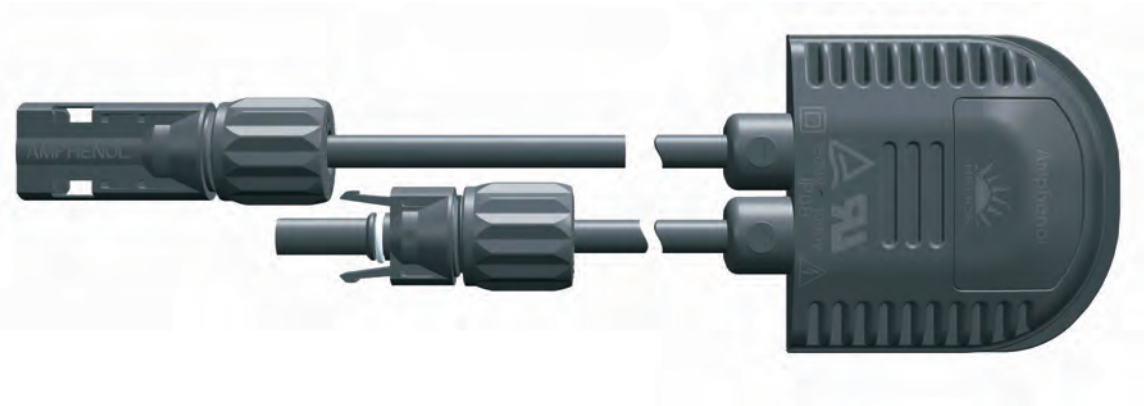


- Features:**
- Low profile
  - Over-molded design for better sealing
  - SMD for efficient heat dissipation



| 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



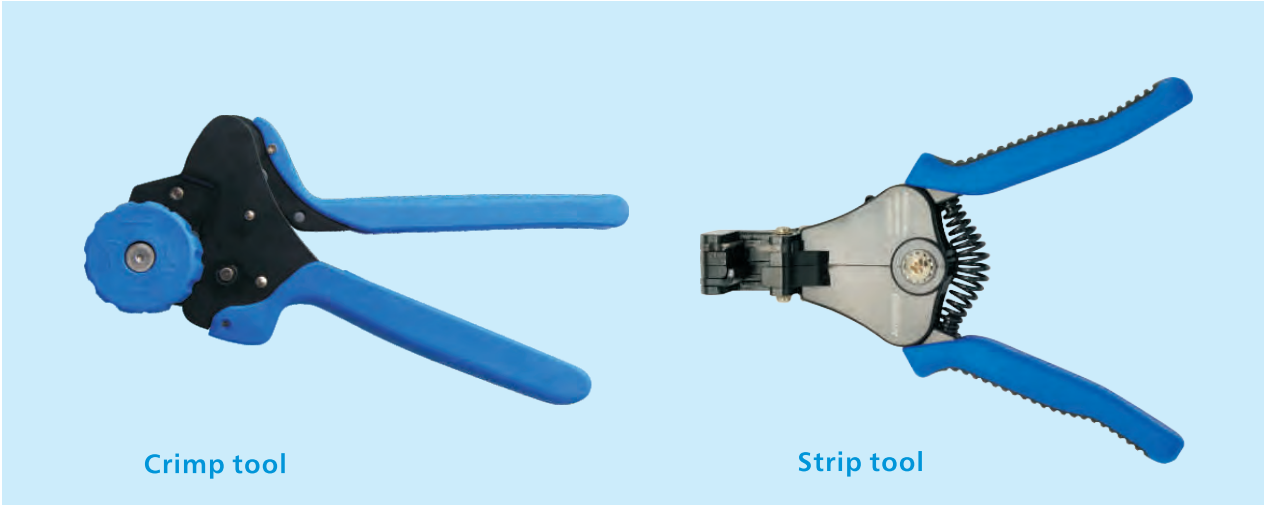
| How to order                   |                                          |                                              |                           |                                           |                                                                                       |
|--------------------------------|------------------------------------------|----------------------------------------------|---------------------------|-------------------------------------------|---------------------------------------------------------------------------------------|
| Product family<br>HB Helios JB | Product type<br>T Thin flim junction box | Terminals and diodes<br>G 2 contacts/1 diode |                           | Terminal style<br>B Soldering contacts    | Diode rating<br>G 5A1000V<br>H 10A1000V<br>J 8A1000V<br>K 20A1200V<br>N Without diode |
| Sealing type<br>A Potting      | Breathing hole<br>N No                   | Cable size<br>C 2.5 mm²/14AWG                | Adhesive<br>Y Yes<br>N No | Cable length (Ln)*<br>A 1000mm<br>B 900mm | Cable length (Lp)*<br>A 1000mm<br>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    | ■ 2.5mm²/14AWG cable size                                 | C  |
| ■ Soldering connection      | B    | ■ Without ahesive 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.



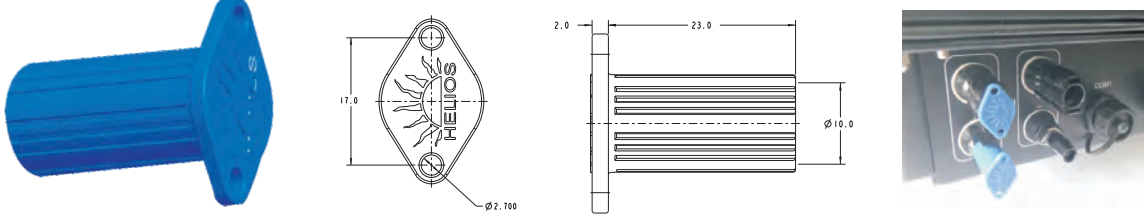
Crimp tool, P/N: H4TC0001 for machined contact, H4TC0002 for stamp & formed contact. Amphenol crimp tool has the capability to crimp both machined contact and stamp&formed contact, the only difference is the insert die. If you need to crimp 2 kinds of contact when you install connector, you can change 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 sopper core; Consistent strip length.

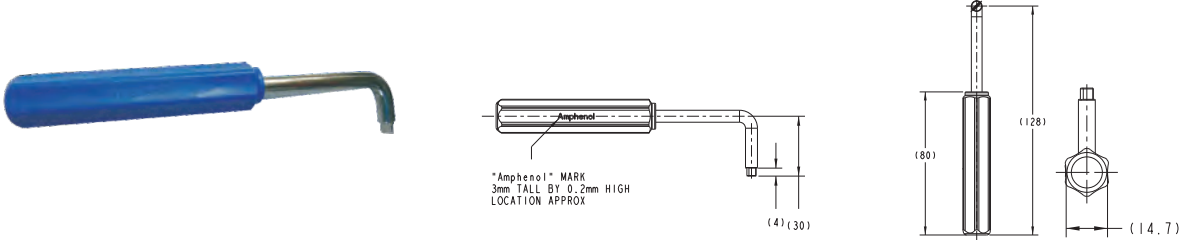


| Parts list    |                                   |          |
|---------------|-----------------------------------|----------|
| P/N           | Description                       | Quantity |
| H4TTW100      | Socket for cable gland            | 1        |
| H4TM1200      | Socket for bulkhead m12           | 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        |

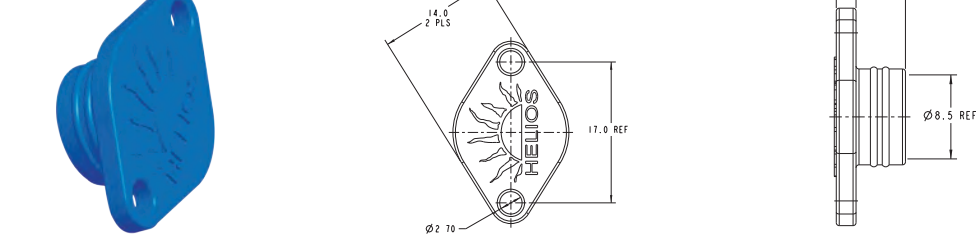
Sealing cap for female connector.  
P/N: H4PF



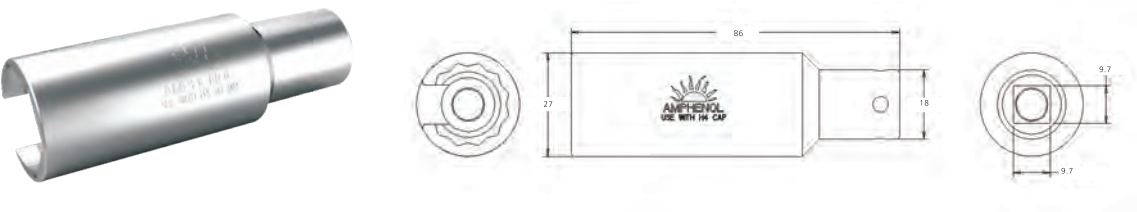
Hercules junction box open tool: HBHTS000



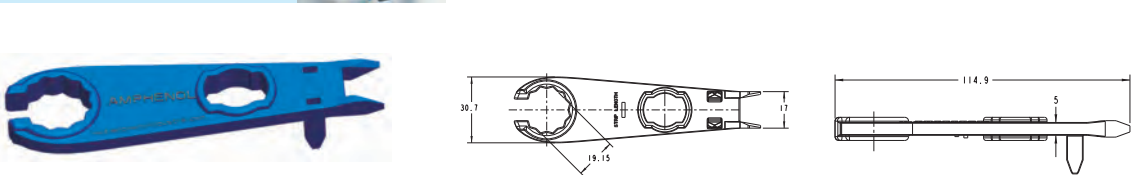
Sealing cap for female connector.  
P/N: H4PM



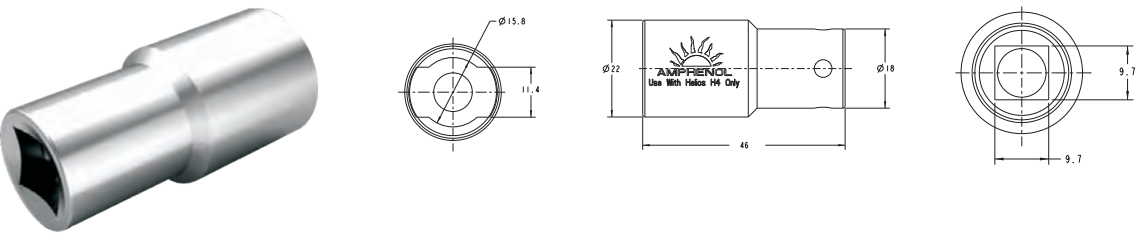
Torch wrench:P/N: H4TTW100



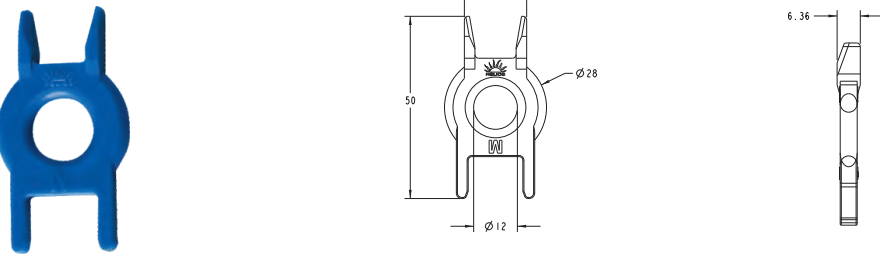
Cable connector wrench tool  
P/N: H4TW0001



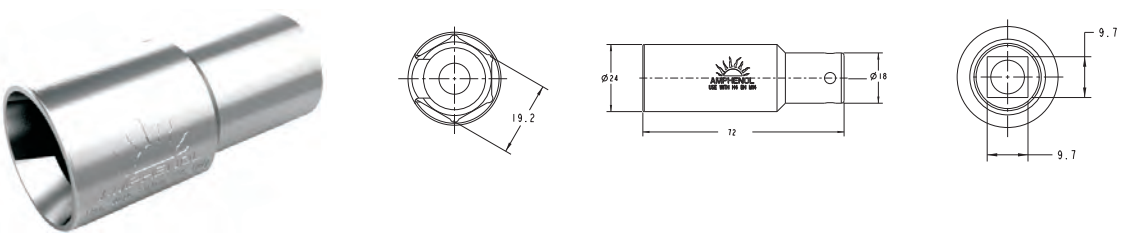
Connector hold tool:P/N: H4TH0000



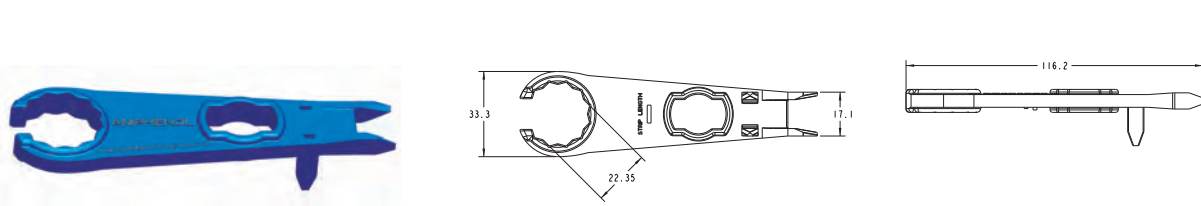
Universal Unlock tool  
P/N: H4TU0000



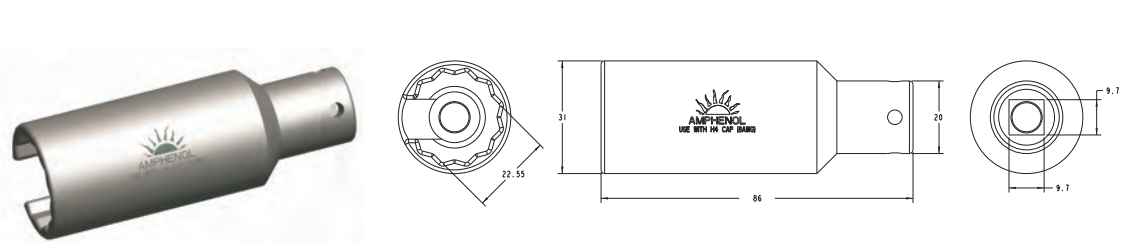
Bulkhead wrech tool:  
P/N for M12:H4TM1200; P/N for M14:H4TM1400



H4-XL connector wrench tool  
P/N: H4TW0004



Enlarge cable connector torch wrench  
P/N: H4TTW400





# A

## mphenol product quality commitment

Amphenol 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

