

HELIOS H4 SERIES



HELIOS H4 FULL ACCORDING NEC 2008

Although the electrical connectors attached to the ends of the module cables are “finger safe” when new, if they are opened under load, the dc arc may damage the insulation and the connectors may then pose a shock hazard.

Therefore, there are new requirements in 690.33 for locking connectors in the 2008 NEC.

A tool will be required to open these locking connectors.

They will also soon be appearing on most, if not all, PV modules, although they are only required when the PV array wiring is operating above 30 volts and is readily accessible (690.33).

Amphenol Helios H4 is designed to meet NEC 2008 standards without requiring additional locking mechanism.

Benefits are:

- Lower overall cost design to comply with the new NEC codes
- Connector can be repeatedly mated and unmated without destroying the locking feature.
- Simple unlocking tool provided with every 10 connectors
- Intermateable with the industry standard connector
- Ratcheting cable seal caps to prevent inadvertent opening

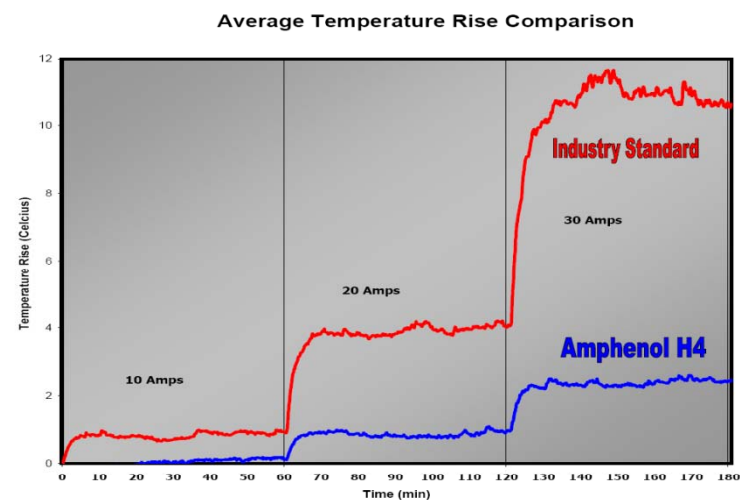
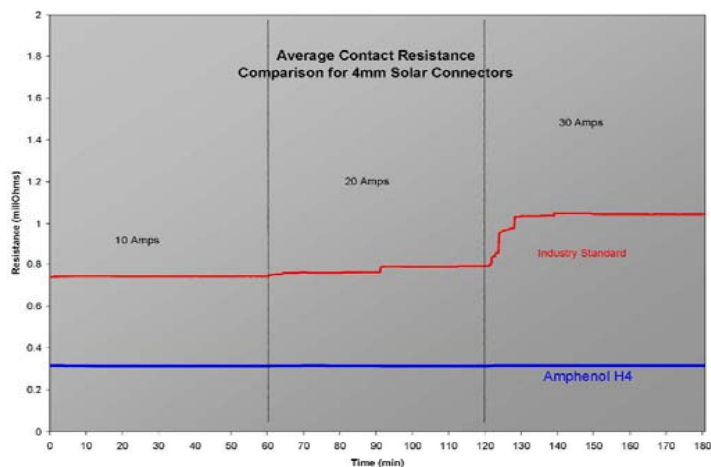


HELIOS H4 CONTACT TECHNOLOGY

H4 uses a newly designed “Radsok” grid machined contact that has superior electrical performance as compared to the competition.

Benefits:

- Self cleaning grid
- Extremely low temperature rise Simple unlocking tool provided with every 10 connectors
- Lowest voltage drop
- Rated to 40A and tested up to 90A
- Delivers the most power from the module



HELIOS H4 CABLE CONNECTOR

- HELIOS H4 FEMALE HALF - PV-080508-F



- HELIOS H4 MALE HALF - PV-080508-M



- HELIOS H4 MATED PAIR - PV-080508-000



HELIOS H4 PANEL CONNECTOR

- HELIOS H4 FEMALE HALF - PV-080509-F

- HELIOS H4 MALE HALF - PV-080509-M



HELIOS H4 ASSEMBLY

- HELIOS H4 DOUBLE ENDED ASSEMBLY- PVC-080508-0XM



- HELIOS H4 DOUBLE ENDED OVERMOLDED ASSEMBLY - PVOM-080508-0XM



NOTE: X = AMOUNT OF METERS CABLE



HELIOS H4 CABLE

- POWERLINK 4MM SOLAR CABLE - 10-663060-005
- ARMORLINK 4MM ARMORED SOLAR CABLE - 10-663060-006



NOTE: REELS OF 4,000 MT IN RED, BLACK AND BLUE (OTHER COLORS ON REQUEST)



HELIOS H4 TOOLING

- H4 STRIPPING TOOL - PV-670509-000



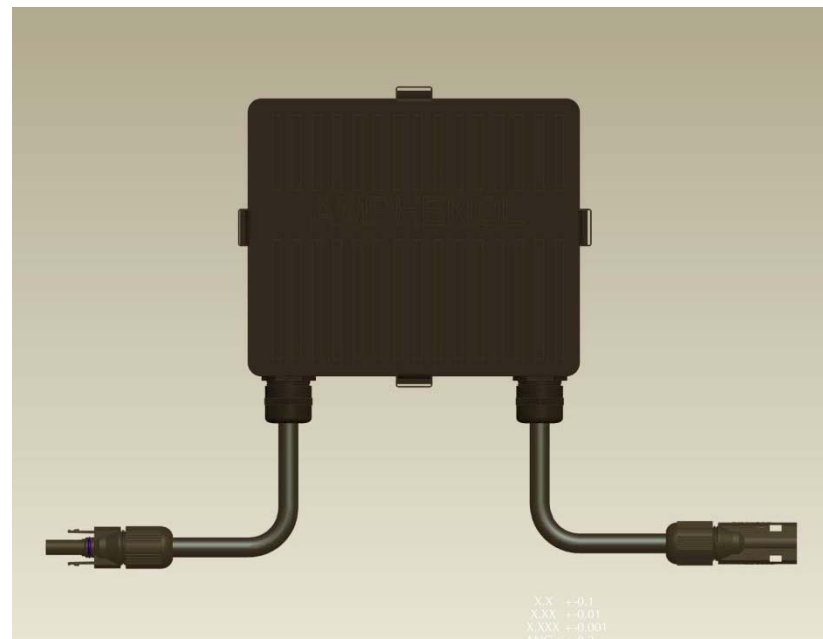
- H4 CRIMPING TOOL - PV-670508-000



- H4 WRENCH TOOL - PV-670803-000



HELIOS JUCTION BOX

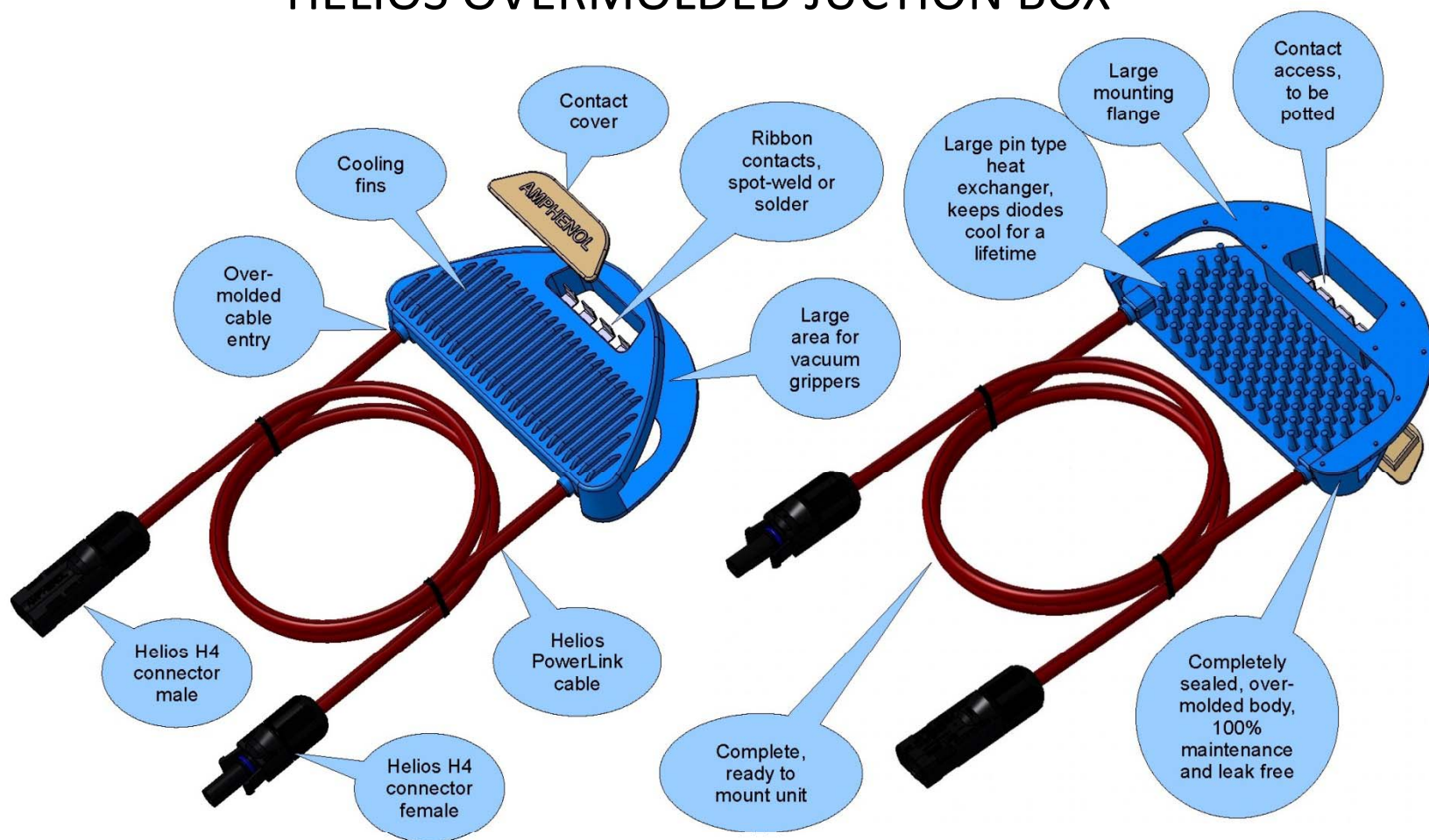


HELIOS JUCTION BOX

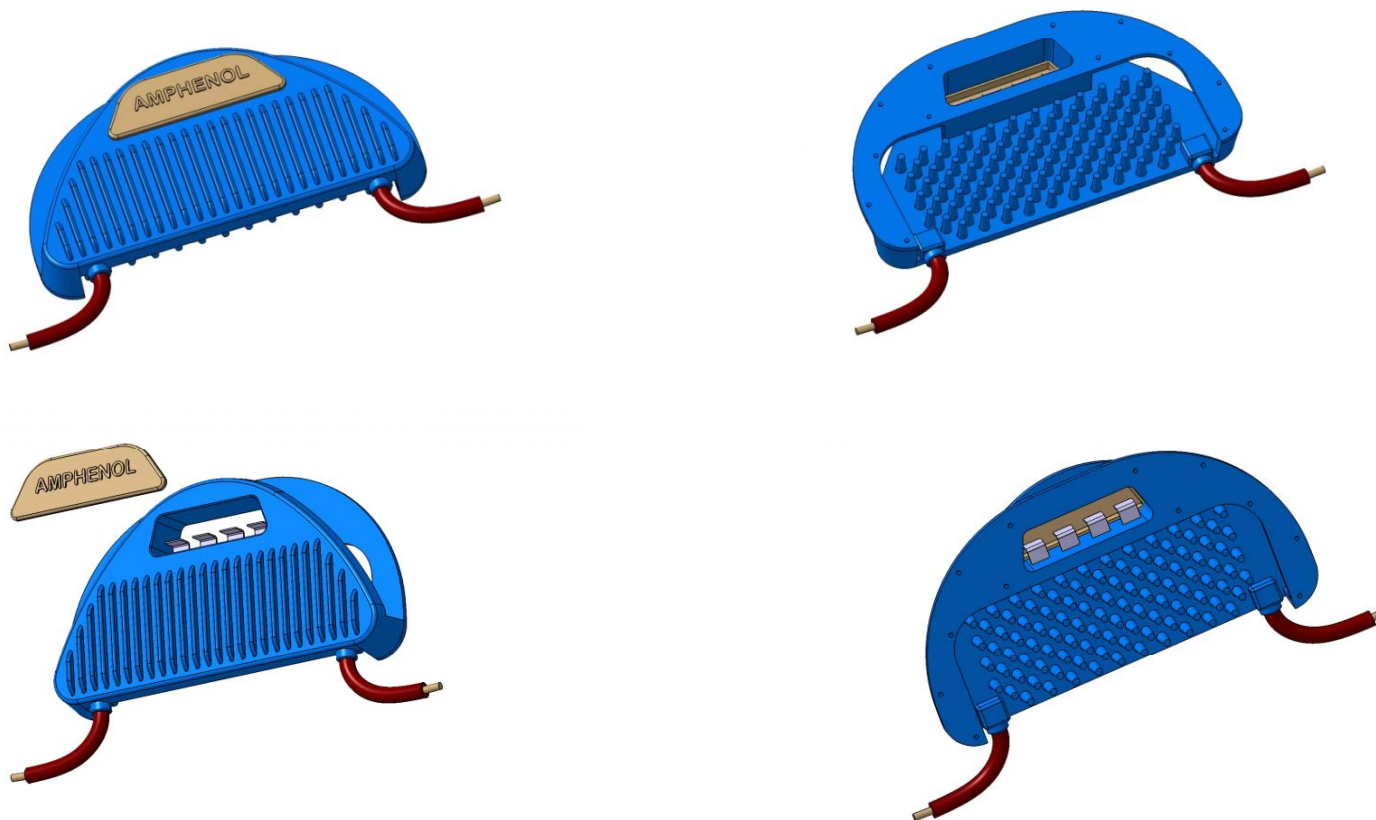
- "Serviceable" gasketed cover -many variations of busbar termination type
- Multiple diode configurations
- Cable Gland or connector cable entry
- Noted for problems with overheating of traditional diodes, and moisture ingress
- Many have a membrane vent, to prevent condensation buildup inside from temp cycling
- Most only IP65, failure of box/module adhesion common which compromises the electronics
- We have preliminary designs on this but have not yet developed



HELIOS OVERMOLDED JUCTION BOX



HELIOS OVERMOLDED JUCTION BOX



HELIOS OVERMOLDED JUCTION BOX

- Easily achieve IP68
- Designed for optimal cooling(remedy to #1 failure mode of overheated diodes)
- Busbar contact tabs area for welding/soldering, with cover for potting area
- Overmolded for optimal sealing, lower cost
- Complete with cables and connectors, ready for automated assembly
- Design can be modified for multiple contact and diode configurations



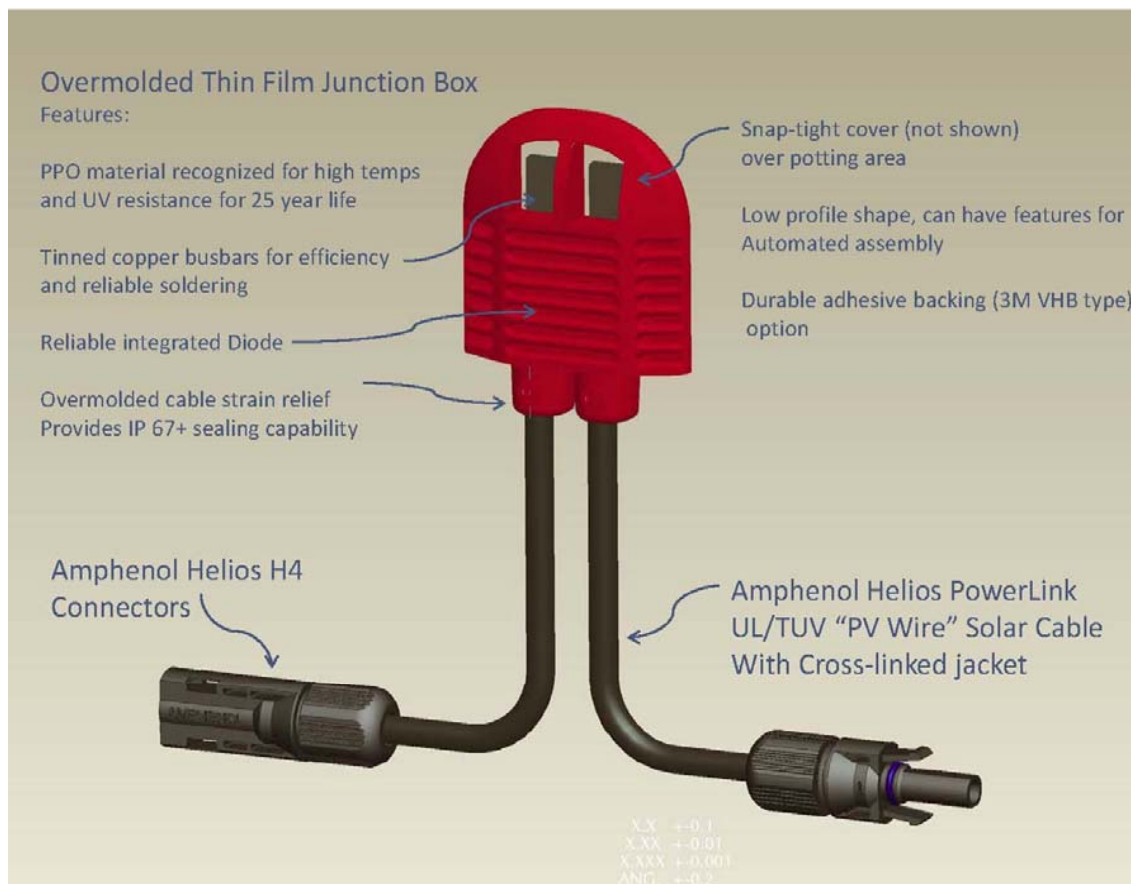
HELIOS OVERMOLDED JUCTION BOX

X1 Junction Box Technical data	
Electrical data	
Voltage rating	1000Vdc
Rated current	15A
Mechanical data	
Overall dimensions	150 × 80 × 22 mm
Insulation materials	PPO
Terminals for ribbons	4 tabs
Contact materials	Copper, tin-plated
Contact principle for copper ribbons	Resistance welded or soldered
Bypass diodes	3, Schottky barrier type, low forward voltage
Cable	2 Powerlink solar cable, 4mm ² PV WIRE rated, 1 meter length.
Connectors	H4 solar connector 4mm ² with snap-in locking.
Environmental data	
Temperature range	-40°C to +105°C
Chemical resistance	UV and ozone resistant
Protection mode	IP 67
Compliance	IEC 61730, IEC 61215, UL-1703, RoHS

Benefits
Preamsembled unit, ready to install
Easy handling and quick assembly, manual or automatic
Reduced installation time
Maintenance free during the entire life cycle
Excellent heat dissipation



HELIOS OVERMOLDED THIN FILM JUNCTION BOX



HELIOS OVERMOLDED THIN FILM JUCTION BOX

- Smaller, low profile junction box (credit card size)
- Geared towards thin film, but suitable for lower power glass panels too
- Totally overmolded with cooling features
- Limited to 2 position, with single diode configuration, common to TF
- Complete with cables, connectors, and ready for automated assembly
- Currently we have used and tested 30A surface mount style diodes

