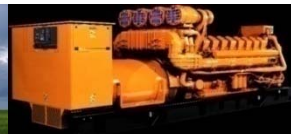




- The Solar Market growth was explosive in 2009.
- The US will emerge as one of the top PV markets worldwide in the near future based on ITC and a strong commitment of President Obama.

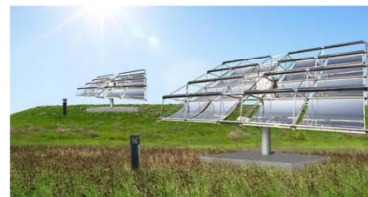
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## Solar Channel



- **Solar OEMS**
  - Solar Module manufactures (Junction box, cable, connector)
  - Solar Inverter manufactures (H4 Bulkhead connector)
  - Solar cable manufactures (connector)
  - PV Junction box manufactures (connector, cable)
  - Wire harness companies for solar market (connector, cable)
- **Installer/Developer** – H4, Cables

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- **Solar Equipment Manufacturer**—“Third-party” channel ( Junction box)

- Automated assembly
- Reduce cost
- Design in
- Indirect selling

Example:

- MC’s SolarMAC, a junction box for thin film solar module, developed together with Applied Materials in its SubFab thin-film production line.
- With 11 SunFab lines purchased in 2008, we anticipate that Multi-Contact SolMAC junction boxes will be found world wide.



## Solar Channel



MY APPLIED MATERIALS | LANGUAGES | LOCATIONS | CONTACT US

SEARCH

- DISPLAY
- ENERGY AND ENVIRONMENT**
- FAB SOLUTIONS
- SEMICONDUCTOR
- BRIGHT FUTURE

PRODUCTS:  
Energy and Environment

A TO Z | SOLUTION | TECHNOLOGY

▶ ALTERNATIVE ENERGIES

▶ GLASS

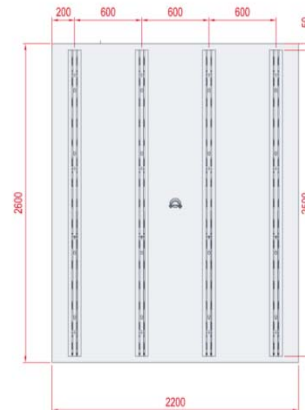
▶ LIGHTING

▶ ROLL-TO-ROLL

▼ SOLAR

- Overview
- Thin Film
- Crystalline Silicon
- Flexible PV
- Resources

Module



Solar Overview THIN FILM Crystalline Silicon Flex PV Resources

SunFab Customers



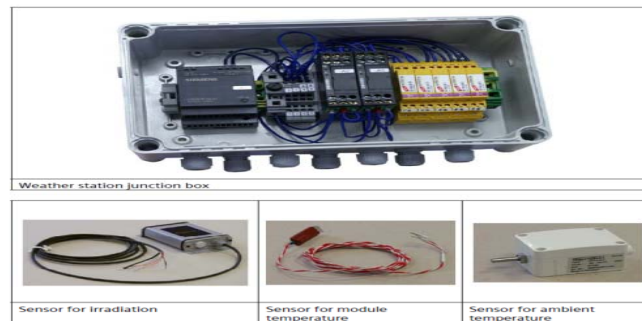
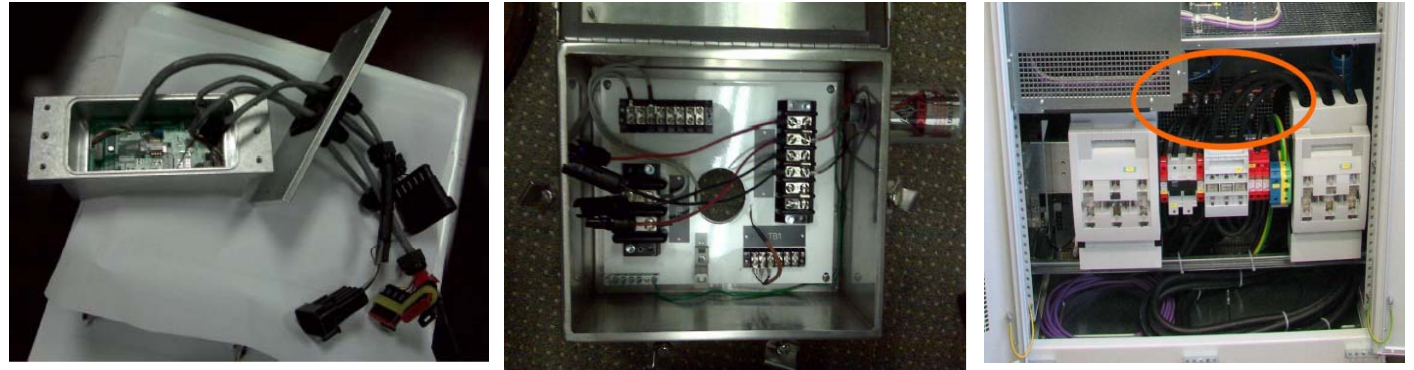
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## Traditional Connectors, renewable new "life"

- GT
- AC
- PT hermetic
- SurLok
- Cable gland
- Flex assembly
- Radsok busbar
- M23/M40
- Terminal block



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## Solar Stirling Engine System



### ■ Amphe-Lite

Designed for manufacturers with signal, power, RF or fiber optic interconnect requirements in harsh environments such as outdoor and roof-top applications.



### ■ Hermetic PT

High pressure laser welded, provides a pass through function to bring the power from the energizing portion of the engine which is pressurized to 700psi during normal operation to the outside power converter.



## H4 Connector Performance Advantage

Higher current, highest IP degree, lower power loss

Items		H4 PV Connector (-40°C up to +90°C)	MC4
Rated current	2.5mm <sup>2</sup> ,AWG14	32A	22A
	4.0mm <sup>2</sup> ,AWG12	40A	30A
	6.0mm <sup>2</sup> ,AWG10	44A	30A
Protection degree		IP68	IP67
Meets NEC2008 (690.33)		Yes	Need extra locking sleeve
Contact resistance		0.25mΩ	0.5mΩ
Lead time		2 weeks	?

### Variation:

- Cable connector
- Bulkhead connector
- Standard cable assembly
- Over-molded cable assembly



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## NEC 2008



H4 complete no extra devices needed



Tyco extra Locking collar



MC extra Locking sleeve



**Amphenol**

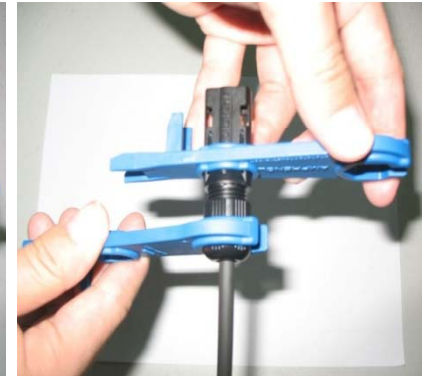
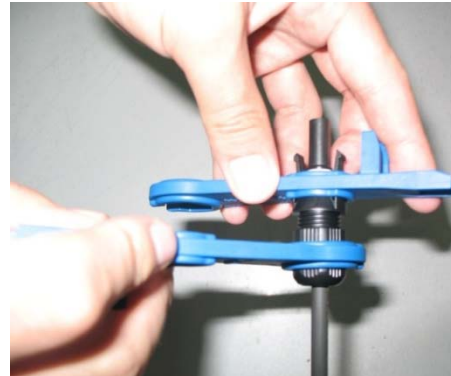
# H4 Assembly Tool



Crimp Tool



Strip Tool



Wrench Tool



Ring Tool



**Automatic assembly and contacts on reels are under development!**

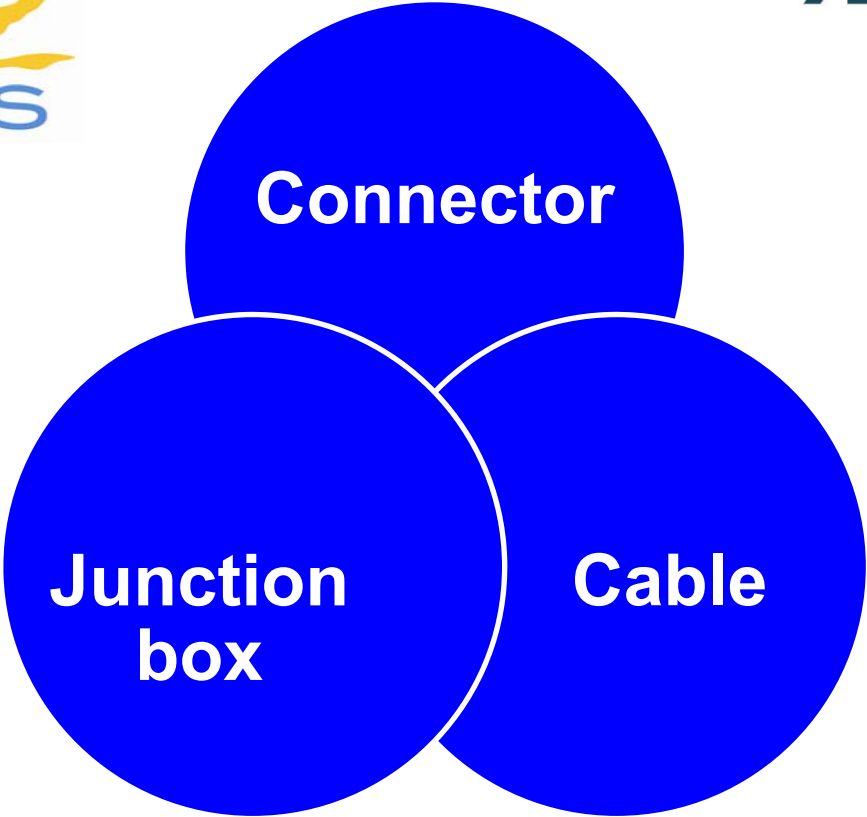
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