IP67-sealed SolarSpec™ panel-mount DC connectors, with tamper-proof latches for superior safety, feature grip location and nut mechanism for simple installation, ensuring durable cable connections in solar inverter applications

SolarSpec™ Panel-Mount DC Connectors

93301 Panel-Mount DC Connectors

Molex is further expanding its range of innovative SolarSpec™ products with pin (male) and socket (female) panel-mount DC connectors for inverter applications. Inverters convert DC current generated by PV panels to AC current suitable for grid supply.

The in-house design and manufacture of SolarSpec™ panel-mount DC connectors enable Molex to deliver a superior quality, reliable and lower-cost solution to the market. Customers benefit from exclusive Molex design features including molded surface ribs and integrated latch protection system.

Molex SolarSpec™ panel-mount DC connectors and crimp terminals are designed to mate with other connectors and cable assemblies in the SolarSpec™ range. For additional information visit: www.molex.com/link/solarjunctionbox.html

Socket/Female Pin/Male

SolarSpec™ Panel-Mount DC Connectors and Terminals

FEATURES AND BENEFITS

• Industry-standard DC interface	• DC connector is globally accepted and marketable
• IP67-sealed when mated; protection against dust and water, resistant to UV and ozone damage	• Rugged, durable connectors for use in solar applications
• Touch-proof safety design	• Protection from electrical current even when connectors are unmated
• Internal locking mechanism protected by latch guards; requires a tool to unlock	• Prevents accidental and unauthorised decoupling of connectors • Ensures reliable connection and safe handling
• Connectors feature exclusive molded surface ribs	• Allows for secure gripping, especially with work gloves
• Simple nut mechanism to secure to bulkhead on inverter panel	• Allows for secure gripping, especially with work gloves
• Polarized panel cut-outs	• Prevents rotation of connectors and ensures no cross-assembly of male and female on the panel
• Utilises the same interface as existing Molex pin and socket terminals	• Proven reliability of terminal interface
• Accommodates 2.50mm² (14 AWG) and 4.00 to 6.00mm² (12 to 10 AWG) cables	• Multiple cable options that meet a wide range of customer requirements
• Meets NEC 2008 (690.33) and NFPA 70 standards	• US-code compliant; no requirement for added protection sleeve
• DC cable assembles available through Molex-certified production sites	• Ensures high-quality assemblies and competitive pricing

Field service tool

Sports stadiums

Home installations

MARKETS AND APPLICATIONS

- Renewable energy
  - DC connections to combiner boxes and inverters
  - Combiner boxes are used to merge electrical voltage and current prior to attaching to the inverter. The inverter then converts DC current, generated by PV grid arrays, to AC current
- Applications for PV arrays include:
  - Stadiums
  - Home installations
  - Public buildings
  - Solar farms

SolarSpec™ Panel-Mount DC Connectors

93301 Panel-Mount DC Connectors

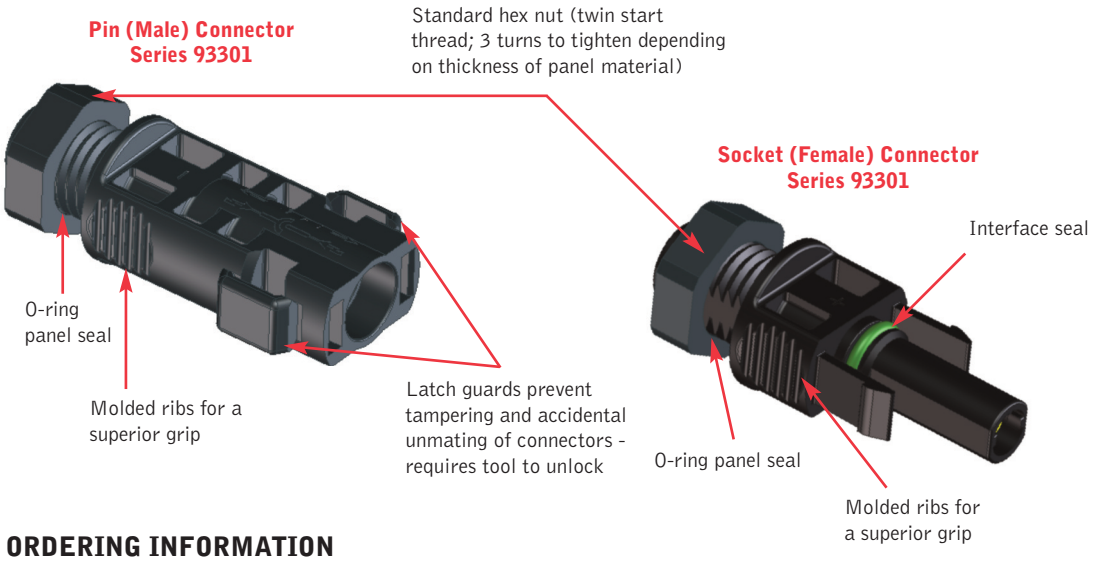
SPECIFICATIONS

Reference Information
Packaging: Bulk packed for volume usage or packs of 5 for distribution
UL File No.: E341346
TUV: R 72111835
Mates With: 130244, 130196 and 130197
Designed In: Millimeters
RoHS: Yes
Halogen Free: Yes
Glow Wire Compliant: Yes

Electrical
Voltage (max.): 1000V DC
Current (max.): 30A with 6.00mm² / 10 AWG cable
Contact Resistance: 5 Milliohms max.
Dielectric Withstanding Voltage: 2,200 UL
Insulation Resistance: 1000 Megohms min.

Mechanical
Contact Insertion Force: 30N max.
Contact Retention to Housing: 50N min.
Mating Force: 50N max.
Unmating Force: 5N min.
Durability (min.): 50 cycles

Physical
Housing: Polycarbonate, Black
Contact: Select silver plated copper alloy
Plating:
Contact Area — Silver (Ag)
Underplating — Nickel (Ni)
Ambient temperature range: -40 to +105°C
Operating Temperature: +105°C max.
Degree of Ingress Protection: IP2X (unmated), IP67 (mated)
Cable Options: 2.50mm² (14 AWG) and 4.00 to 6.00mm² (12 to 10 AWG)



Panel-mount DC connectors have the same mating interface as the standard Molex Solar-Spec™ DC connector

There is no sealing grommet required on the panel side; the retention features in the housing are different and crimp terminals cannot be interchanged between different Molex DC connectors

The same crimp tooling is suitable for all Molex DC terminals

ORDERING INFORMATION

Connectors

Order No.	Pin / Socket Connectors	Wire Gauge mm²	Wire Gauge AWG
93301-0101	Socket housing (Female)	2.50, 4.00 to 6.00	14, 12 to 10
93301-0201	Pin housing (Male)	2.50, 4.00 to 6.00	14, 12 to 10

Terminals

Order No.	Pin / Socket Contact	Packaging Information	Wire Gauge mm²	Wire Gauge AWG
93303-0003	Socket (Female)	Reel	2.50	14
93303-0004		Reel	4.00 to 6.00	10 to 12
93302-0003	Pin (Male)	Reel	2.50	14
93302-0004		Reel	4.00 to 6.00	10 to 12

Tooling

Order No.	Description	Packaging Information
130203-1250	Service Tool	Bulk Packed
63895-2900	MiniMac Applicator (2.50mm / 14 AWG)	Single
63895-2800	MiniMac Applicator (4.00mm, 6.00mm / 12 AWG, 10 AWG)	Single
63823-6400	Hand Tool	Single

Housings are compatible with all above mentioned wire gauges, but require different terminals
Custom cable assemblies are available

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