Rugged and durable, IP67-sealed, SolarSpec™ DC connectors with simple snap-lock mating and internal locking mechanism for superior safety are designed for direct connection to solar junction boxes, field installations and photovoltaic grid wiring and deliver quality and value to module manufacturers, installers and distributors

Molex expands its range of innovative SolarSpec™ products with the introduction of pin (male) and socket (female) DC connectors. The connectors can be sold individually, as standard or custom cable assemblies, or supplied together with the Molex SolarSpec™ Junction Box for Silicon PV panels.

The in-house design and manufacture of SolarSpec™ DC connectors will enable Molex to deliver a superior quality, reliable and lower-cost solution to the market. Customers will benefit from exclusive Molex design features including molded surface ribs and the lowest contact resistance over competitive connector versions.

Molex can supply a service tool to release the internal safety locking mechanism together with a one-hand ratchet-design crimp tool for easy termination. Molex also manufactures standard and custom length cable assemblies for solar applications. For further information on all Molex SolarSpec™ products visit: www.molex.com/link/solarjunctionbox.html

SolarSpec™ DC Connectors

130244 Pin and Socket DC Connectors
130196 Pin Contacts
130197 Socket Contacts
130203 Contact Service Tool

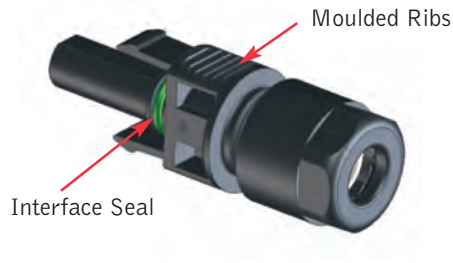
SolarSpec™ Pin (male - left) and Socket (female - right) DC Connectors

FEATURES AND BENEFITS

• SolarSpec™ DC connectors are dual-qualified by TÜV and UL	• Reliable, robust connectors for solar applications • Compliant with most recent stringent quality standards to ensure long life in harsh environments • Product is globally accepted and marketable
• Simple snap-lock mating	• Quick and easy factory or field assembly • Polarisation and an audible click ensure successful mating of the connectors
• 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
• Touch-proof safety design	• Protection from electrical current even when connectors are unmated
• IP67-sealing protection against dust and water; resistant to UV and ozone damage	• Rugged, durable connectors for use in solar applications
• Connectors feature exclusive moulded surface ribs	• Allows for secure gripping, especially with work gloves
• Contact resistance <0.5mΩ	• Lowest contact resistance compared with competitor products for greatest efficiency
• Strain relief	• Ensures strong, secure, enduring cable connections
• Meets NEC 2008 (690.33) and NFPA 70	• US-code compliant; no requirement for added protection sleeve
• Accommodate 2.50mm² and 4.00 to 6.00mm² (14 and 12 to 10 AWG) cable	• Multiple cable options that meet customer requirements

ADDITIONAL PRODUCT FEATURES

Mated Pin and Socket DC Connectors



Socket DC Connector

MARKETS, APPLICATIONS AND DESCRIPTIONS OF TYPICAL CUSTOMERS

- Applications for DC connectors:
  - PV power plants
  - PV grid arrays
  - Inverter cable attachments
- DC connectors, terminated to cables, are used to link solar junction boxes and PV panels in a serial grid array (parallel arrangements are also possible)
- Applications for solar silicon photovoltaic (PV) panels:
  - Stadiums
  - Home installations
  - Public buildings
  - Solar farms

SPECIFICATIONS

SolarSpec™ DC Connectors

130244 Pin and Socket DC Connectors
130196 Pin Contacts
130197 Socket Contacts
130203 Contact Service Tool

Reference Information

Packaging: Bulk
UL File No.: E341346
CSA C22.1: cяUus #E341346
TÜV File No.: 21156060 002
Use With: Contacts:
Pin (130196) and socket (130197)
Designed In: Inches
RoHS: Yes
Halogen Free: Yes
Glow Wire Compliant: Yes

Mechanical

Contact Insertion Force: 30N
Contact Retention to Housing: 20N
Mating Force: 50N
Unmating Force: 5.0N
Durability (min.): 50 Cycles

Physical

Housing: Unfilled PC - Black
Contact: Copper Alloy
Plating:
Contact Area — Selectively silver-plated
Underplating — Nickel (Ni)
Operating Temperature: -40°C to +85°C

Electrical

Voltage (max.): 600V DC
Current (max.): 30.0A
Contact Resistance: 5 Milliohms Max.
Dielectric Withstanding Voltage: 2200V DC
Insulation Resistance: 1000 Megohms Min.

SPECIFICATIONS

Connectors

Order No.	Pin / Socket Connectors	Packaging Information	Wire Gauge mm²	Wire Gauge AWG	MOQ	SPQ
130244-0201	Socket (Female)	Bulk Packaging	4.00 to 6.00	10 to 12	600	600
130244-0203			2.50	14		
130244-0202	Pin (Male)	Bulk Packaging	4.00 to 6.00	10 to 12	600	600
130244-0204			2.50	14		

Connectors supplied as kits for servicing requirements

Order No.	Description	Packaging Information	Wire Gauge mm²	Wire Gauge AWG	MOQ	SPQ
130244-1201	Socket Assembly Kit	Female Housing Assembly with Socket Contact (5 per pack)	4.00 to 6.00	10 to 12	70	70
130244-1203			2.50	14		
130244-1202	Pin Assembly Kit	Male Housing Assembly with Pin Contact (5 per pack)	4.00 to 6.00	10 to 12	70	70
130244-1204			2.50	14		

Contacts

Order No.	Pin / Socket Contact	Packaging Information	Wire Gauge mm²	Wire Gauge AWG	MOQ	SPQ
130197-0347	Socket	Strip	2.50	14	6000	6000
130197-0346			4.00 to 6.00	10 to 12		
130197-0336		Loose	2.50	14	4000	4000
130197-0325			4.00 to 6.00	10 to 12		
130196-0315	Pin	Strip	2.50	14	6000	6000
130196-0314			4.00 to 6.00	10 to 12		
130196-0313		Loose	2.50	14	4000	4000
130196-0310			4.00 to 6.00	10 to 12		

Tooling

Order No.	Description	Packaging Information	MOQ	SPQ
130203-1250	Service Tool	Bulk	300	300
130203-1290	Service Tool	Bagged (4 per pack)	70	70
63823-6400	Hand Tool	Individual	5	5

SolarSpec™ DC cable assemblies, with proven long life cycle and optimum weather resistance, meet the demands of harsh and outdoor solar wiring applications and deliver quality and value to module manufacturers, installers and distributors

SolarSpec™ DC Cable Assemblies

93307 4.00mm² (12AWG) DC Cable Assemblies

The 4.00mm² (12AWG) SolarSpec™ DC cable assemblies from Molex are available for use in serial and parallel solar applications. The range includes single-ended cordsets for use with solar junction boxes and double-ended configurations for array and field installations.

The specified cables are double-insulated with electron beam, cross-linked, jacket insulation material to ensure long life cycles and to meet the demands of harsh, outdoor solar applications. All cable is produced by Molex approved vendors.

Molex SolarSpec™ DC cable assemblies are designed to connect to other products in the SolarSpec™ range. For further information visit: www.molex.com/link/solarjunctionbox.html

SolarSpec™ Pin (male – left) and Socket (female – right) DC Cable Assemblies

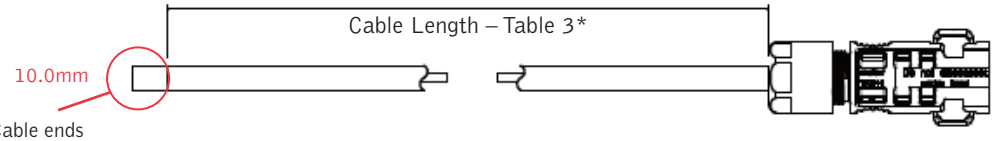
SolarSpec™ Junction Box Assembly

FEATURES AND BENEFITS

• SolarSpec™ DC cable assemblies featuring SolarSpec™ DC connectors	• Rugged, durable and sealed to IP67 for use in solar applications • Designed and assembled in-house by Molex
• Available in 4.00mm² (12AWG) cable	• For use in both series and parallel wiring configurations
• Available in single- or double-ended configurations and a range of standard or custom cable lengths	• Suitable for field installations, PV grid wiring and for direct connection to solar junction boxes • Ordering options for most typical applications
• Specified cable types are UV- and ozone-resistant, single conductor, double insulated with electron beam, cross-linked jacket insulation material	• High temperature resistance and cold temperature flexibility • Long life-cycle and optimum weather resistance; suitable for outdoor and harsh environments
• SolarSpec™ DC cable assemblies are available dual-qualified by TÜV and UL	• Compliant with most recent stringent quality standards • Product is globally accepted and marketable
• Cables include a flame-retardant agent (self extinguishing) with low smoke emissions	• Suitable for home applications

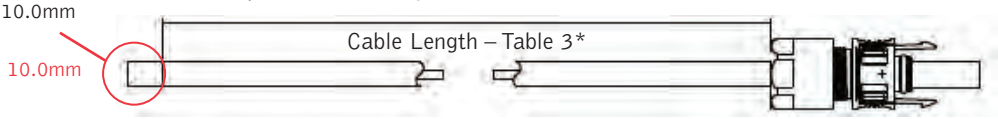
ADDITIONAL PRODUCT FEATURES

Single-ended, male assembly

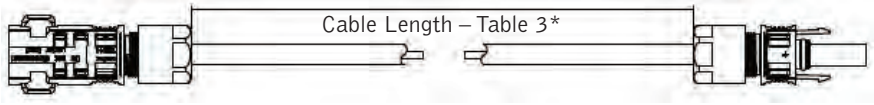


Cable ends supplied partially stripped to 10.0mm

Single-ended, female assembly



Double-ended, male - female assembly



- Cables used in cordsets are single-conductor, double-insulated with fine-wire copper strands. Cable jacket insulation material is UV- and ozone-resistant and chemically cross-linked which makes them suitable for outdoor and rugged environments
- Cables include a flame retardant agent (self-extinguishing) with low smoke emissions and are therefore suitable for home applications
- Molex DC cable assemblies are designed to connect to other products in the SolarSpec™ range

*Cable Length – See Ordering Information

ORDERING INFORMATION

DC Cable Assemblies

SolarSpec™ DC Cable Assemblies

93307 4.00mm² (12AWG) DC Cable Assemblies

Example: DC Cable Assembly Order Number

Order No.	Cable Type	Connector Type		Cable Length
93307-3101	BIZLINK PV (TÜV and UL – TY-2100)	SINGLE-ENDED	MALE (PIN)	0.90m

How to Select Cable Assembly:

Base Part Number **93307-XXXX**

- DIGITS 8 and 9: Cable Length (Table 3)
- DIGIT 7: Connector Type (Table 2)
- DIGIT 6: Cable Type (Table 1)

1. Choose preferred cable type from Table 1
2. Choose DC connector types required from Table 2
3. Choose cable length required from Table 3.
4. Create part number by substituting the appropriate numbers for XXXX

Digit: 6	TABLE 1: CABLE TYPE
1	LEONI STÜDER BETAFLAM (TÜV 224803)
2	LEONI STÜDER BETAFLAM (TÜV and UL 224780)
3	BIZLINK PV (TÜV and UL – TY-2100)

Digit: 7	TABLE 2: CONNECTOR TYPE	
1	SINGLE-ENDED	MALE (PIN)
2		FEMALE (SOCKET)
3	DOUBLE-ENDED	MALE - FEMALE

Digits 8 + 9	TABLE 3: CABLE LENGTH OPTIONS
01	0.90m
02	1.00m
03	1.50m
04	3.0m
05	5.0m
06	10.0m
07	20.0m

Other options available on request include non-standard lengths with lug attachments and alternative wire gauges (volume dependent)
For further information and more detailed ordering information please refer to SD-93307-001

APPLICATIONS