

Male and Female Cable Coupler

**Product Facts**

- Simple on-site processing
- Semi-automatic assembly capability available
- Multiple plugging and unplugging cycles
- Accommodates solar cable with different insulation diameters
- High current carrying capacity
- Wide temperature operating range
- Mating safety provided by keyed housings

**Material and Finish**

**Socket and Pin Contacts:**  
CuZn

**Housing:**  
PPO, weatherproof against UV radiation and ozone

**Color:** Black



SOLARLOK male and female cable couplers were designed for high voltage and high current-carrying capacity in addition to the well-established IP 67 sealing requirement in the photovoltaic industry.

Mating safety is provided by polarity keyed housings, fully shrouded contacts, reliable high cycle life, and squeeze to release connection system. In addition, a wide temperature range and fulfillment of world-

wide standards for photovoltaic connection systems complement the robust product specification.

**Mechanical Features**

**Dimensions:**  
Diameter 18 mm (0.71 inch)

**Temperature Range:**  
-40 °C to +115 °C

**Wire Size Range:**  
2.5 mm<sup>2</sup>, 4.0 mm<sup>2</sup>, 6.0 mm<sup>2</sup>  
(AWG 14, AWG 12, AWG 10)  
stranded wire

**Protection Degree:**  
IP 67, mated

**Contact Finish:**  
Silver plated

**Mating Cycles:**  
50, silver plated

**Unmating Force:**  
30–40 Newton

**Additional Features:**  
Coded housing ensures mating safety  
Contact voltage-proof  
Connector with crimp technology

**Electrical Features**

**Withstanding Voltage:**  
1000 V DC

**Current Rating:**  
25 A

**Contact Resistance (typical):**  
<1 mΩ

**Protection Class:** II

**Standards**

**TÜV Rheinland Köln, Germany:**  
IEC 61215, 61646,  
Protection Class II, UL 1703.

**Technical Documents**

**Product Specifications:**  
Connection System for Photovoltaic Panel #108-18701

**Application Specification:**  
SOLARLOK #114-18488

**Product Catalog:**  
SOLARLOK Interconnection System #889753-2

**Customer Drawings:**  
#1394461 (Male cable coupler)  
#1394462 (Female cable coupler)  
#1534611 (T-Branch connector)  
#1740277 (T-Distributor)  
#1394738 (DC/AC converter receptacle)  
#1534226 (Interlock clip)

**For complete product information, please order Catalog 889753-2**

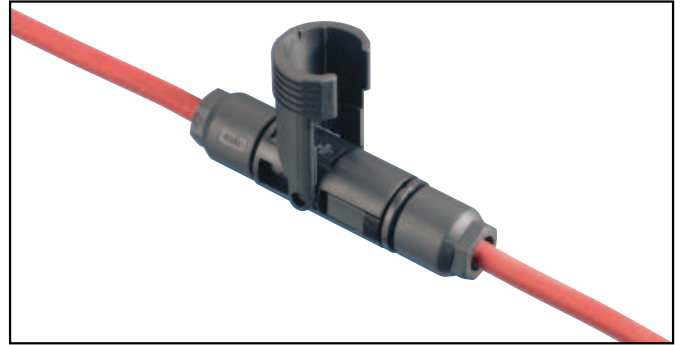
**Cable Coupler**



Female Cable Coupler



Male Cable Coupler



Cable Coupler with Connector Latch Locking Clip

Cable Coupler Polarity	Wire Size			Cable Coupler				Part Number	Package Quantity
	2.5 mm <sup>2</sup> (AWG 14)	4.0 mm <sup>2</sup> (AWG 12)	6.0 mm <sup>2</sup> * (AWG 10)	Female Cable Coupler		Male Cable Coupler			
				Plus Keyed	Minus Keyed	Plus Keyed	Minus Keyed		
Plus Coupler	<input type="checkbox"/>			<input type="checkbox"/>				1394462-1	100
	<input type="checkbox"/>					<input type="checkbox"/>		1394461-1	100
Minus Coupler	<input type="checkbox"/>				<input type="checkbox"/>			1394462-2	100
	<input type="checkbox"/>						<input type="checkbox"/>	1394461-2	100

Plus Coupler		<input type="checkbox"/>		<input type="checkbox"/>				1394462-3	100
		<input type="checkbox"/>				<input type="checkbox"/>		1394461-3	100
Minus Coupler		<input type="checkbox"/>			<input type="checkbox"/>			1394462-4	100
		<input type="checkbox"/>					<input type="checkbox"/>	1394461-4	100

Plus Coupler			<input type="checkbox"/>	<input type="checkbox"/>				5-1394462-5	100
			<input type="checkbox"/>			<input type="checkbox"/>		6-1394461-5	100
Minus Coupler			<input type="checkbox"/>		<input type="checkbox"/>			5-1394462-6	100
			<input type="checkbox"/>				<input type="checkbox"/>	6-1394461-6	100

**Male Cable Coupler – Not Keyed – for Serial Interconnection**

Neutral	<input type="checkbox"/>							6-1394461-1	100
Neutral		<input type="checkbox"/>						6-1394461-2	100
Neutral			<input type="checkbox"/>					6-1394461-4	100

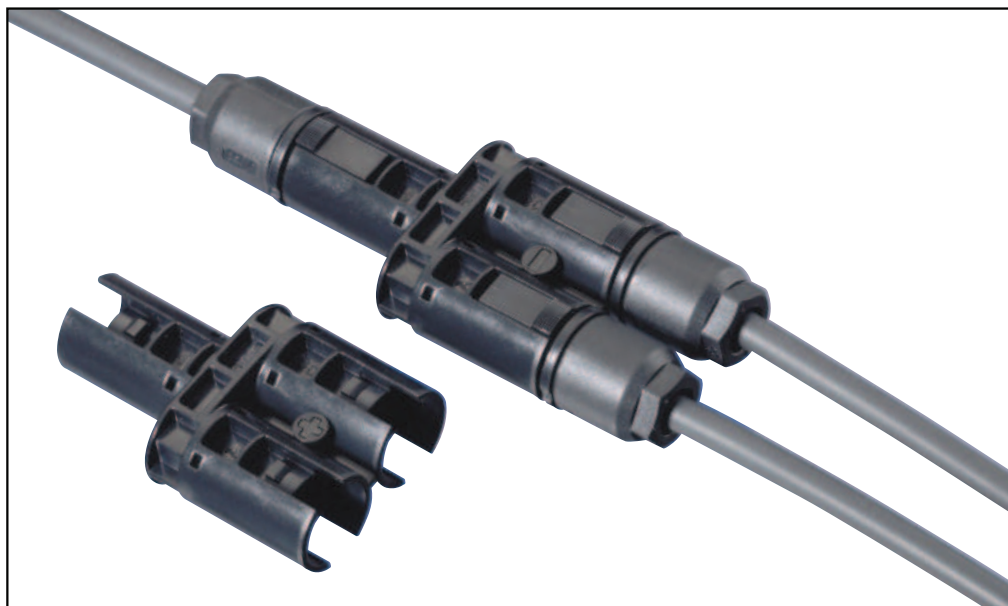
**Connector Latch Locking Clip**

								1534226-1	100
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\*) Only in conjunction with Tyco Electronics Solar Cable (Part No. 956299-1, 956299-2 and 956299-3).

T-Branch Connector

**Parallel Interconnection  
using T-Branch Connector  
(Male-to-Male)**



T-Branch Connector		Part Number	Package Quantity
Plus Keyed	Minus Keyed		
<input type="checkbox"/>		1534611-1	20
	<input type="checkbox"/>	1534611-2	20

**Parallel Interconnection  
using T-Branch Connector  
(Female-to-Male)**



T-Distributor		Part Number	Package Quantity
Plus Keyed	Minus Keyed		
<input type="checkbox"/>		1740277-1	20
	<input type="checkbox"/>	1740277-2	20

DC/AC Converter Receptacle



O-Ring and Metal Nut



Flat Seal and Plastic Nut



With Cover

Wire Size		Keying		Part Number	Package Quantity	Remarks
2.5 mm <sup>2</sup> (AWG 14)	4.0 mm <sup>2</sup> (AWG 12)	Plus	Minus			
<input type="checkbox"/>		<input type="checkbox"/>		1394738-1	100	O-Ring and Metal Nut
<input type="checkbox"/>			<input type="checkbox"/>	1394738-2	100	
	<input type="checkbox"/>	<input type="checkbox"/>		1394738-3	100	
	<input type="checkbox"/>		<input type="checkbox"/>	1394738-4	100	

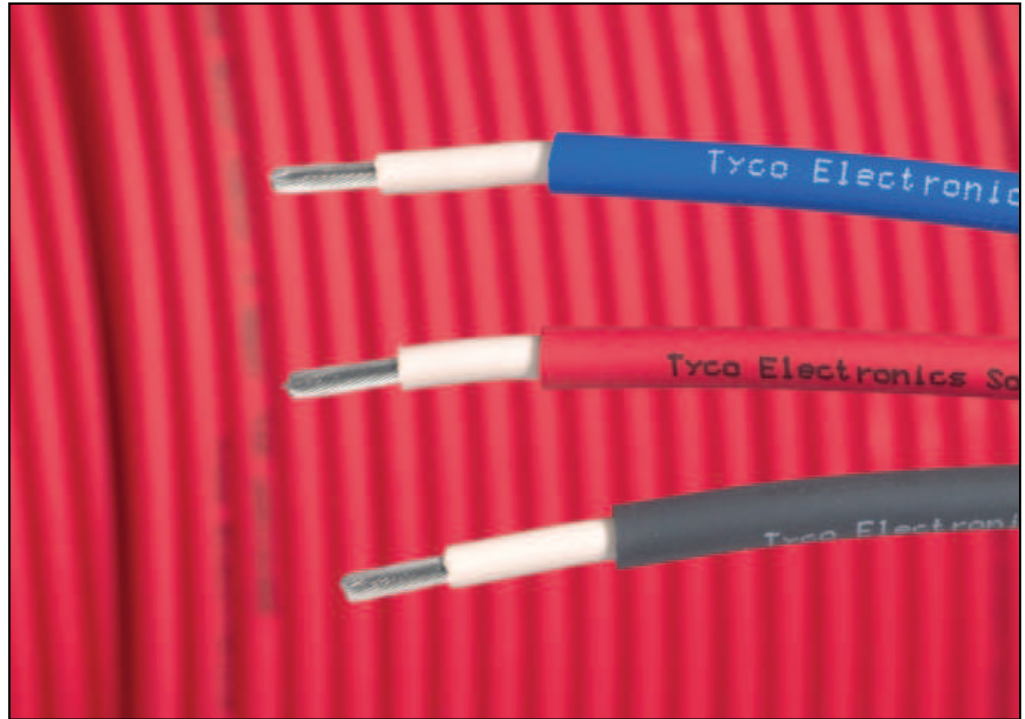
<input type="checkbox"/>		<input type="checkbox"/>		1740210-1	100	Flat Seal and Plastic Nut
<input type="checkbox"/>			<input type="checkbox"/>	1740210-2	100	
	<input type="checkbox"/>	<input type="checkbox"/>		1740210-3	100	
	<input type="checkbox"/>		<input type="checkbox"/>	1740210-4	100	

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1394739-1	100	Cover
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Solar Cable

**Product Facts**

- Dual wall insulation
- Electron beam cross-linked
- Excellent resistance to UV, water, ozone, fluids, salt, general weathering
- Excellent resistance to abrasion
- Halogen free, flame retardant, low toxicity
- Very low smoke emissions
- Excellent flexibility and stripping performance
- Wire size from 2.5 mm<sup>2</sup> up to 6.0 mm<sup>2</sup>



As part of expanding the SOLARLOK Product Line, Tyco Electronics has specified a wire that is designed to meet the harsh environmental conditions typical in the wiring of photovoltaic installations.

The flexible, dual wall, halogen free and cross linked solar wire offers long term stability and TÜV approval.

Its outstanding features include: high resistance against environmental conditions like humidity, UV-radiation and ozone.

In addition, it has excellent resistance to abrasion and temperature extremes.

The wire has a high dielectric withstand voltage and with its fine-stranded, tin plated copper conductor, it is easy to handle and to strip.

**Material and Finish**

**Conductor:**  
Stranded tin plated copper

**Insulation:**  
Electron beam cross-linked Polyolefin

**Sheath:**  
Electron beam cross-linked halogen free Polyolefin

**Color:**  
Black, blue, red

**Standards:**  
IEC 60228 classe 5 (Stranded tin plated copper and flexible); TÜV certified

**Mechanical Features**

**Max. Conductor Temperature**  
**Continuous:** +110 °C  
**At Short Circuit:** +250 °C

**Min. Operating Temperature**  
**Free Installation:** -25 °C  
**Fixed Installation:** -40 °C

**Wire Size Range:**  
2.5 mm<sup>2</sup> (AWG 14),  
4.0 mm<sup>2</sup> (AWG 12),  
6.0 mm<sup>2</sup> (AWG 10)

**Min. Bending Radius:**  
5 x cable wire diameter, fixed installation

**Electrical Features**

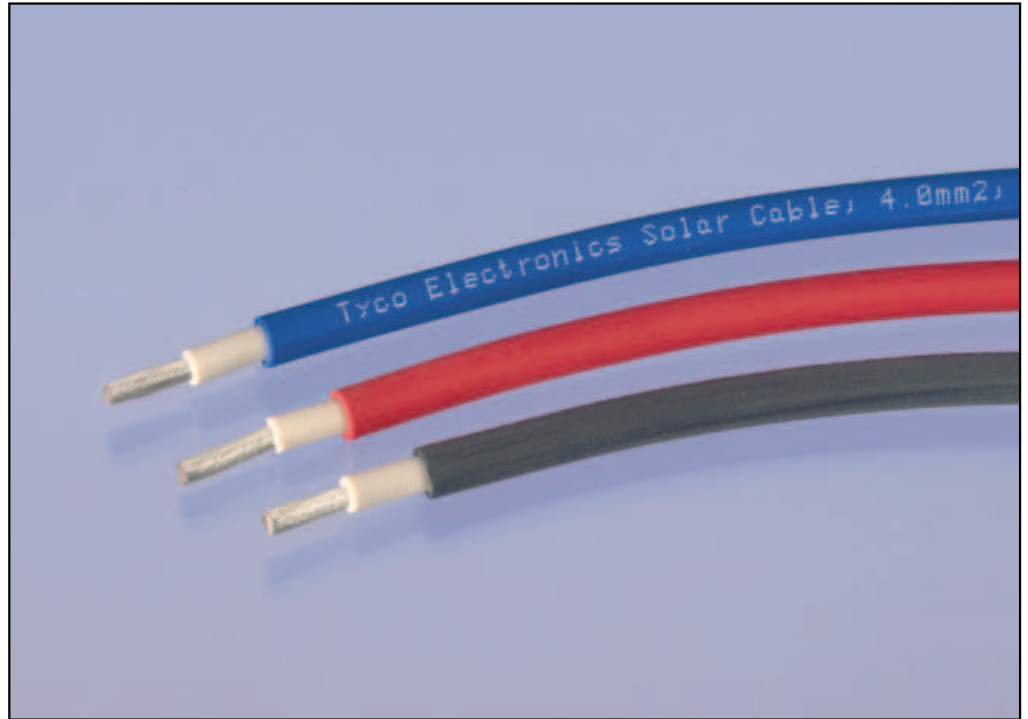
**Voltage Rating U<sub>0</sub>/U:**  
1800/3000 V AC / 2600 V DC

**Test Voltage for 5 Minutes:**  
6000 V

**Max. Current Carrying Capacity (Free in Air):**  
36 A up to 116 A (size dependant)

Solar Cable, 1-Pole

**Tyco Electronics**  
Solar Cable, 1-Pole



Wire Size Range (mm <sup>2</sup> )	Outer Diameter		Color	Part Number	Package Quantity (m)
	(mm)	(Inch)			
2.5	5.1	0.20	Black	956297-1	500
				1-956297-1	100
			Red	956297-2	500
				1-956297-2	100
			Blue	956297-3	500
				1-956297-3	100
4.0	5.7	0.22	Black	956298-1	500
				1-956298-1	100
			Red	956298-2	500
				1-956298-2	100
			Blue	956298-3	500
				1-956298-3	100
6.0	6.2	0.24	Black	956299-1	500
				1-956299-1	100
			Red	956299-2	500
				1-956299-2	100
			Blue	956299-3	500
				1-956299-3	100

Application Tooling

**Cable Assembly Tooling**



**Hand Crimping Tool**  
includes Vario Crimp Head  
(1.5 mm<sup>2</sup>/2.5 mm<sup>2</sup>) and Locator  
Part No. **1-1579004-1**



**Replacement Vario Crimp Head**  
1.5 mm<sup>2</sup>/2.5 mm<sup>2</sup>  
Part No. **7-1579001-8**



**Hand Crimping Tool**  
includes Vario Crimp Head  
(4.0 mm<sup>2</sup>/6.0 mm<sup>2</sup>) and Locator  
Part No. **1-1579004-2**



**Replacement Vario Crimp Head**  
4.0 mm<sup>2</sup>/6.0 mm<sup>2</sup>  
Part No. **7-1579001-9**



**Hand Crimping Tool**  
includes Vario Crimp Head  
(AWG 10) and Locator  
Part No. **2-1579004-0**



**Replacement Vario Crimp Head**  
AWG 10  
Part No. **8-1579001-2**



**Hand Crimping Tool**  
includes Vario Crimp Head  
(AWG 12) and Locator  
Part No. **1-1579004-9**



**Replacement Vario Crimp Head**  
AWG 12  
Part No. **5-1579001-5**



**Hand Crimping Tool**  
includes Vario Crimp Head  
(AWG 14) and Locator  
Part No. **1-1579004-8**



**Replacement Vario Crimp Head**  
AWG 14  
Part No. **5-1579001-4**



**Hand Crimping Tool**  
includes Crimp Head  
(1.5 mm<sup>2</sup>/2.5 mm<sup>2</sup>/4.0 mm<sup>2</sup> and  
6.0 mm<sup>2</sup>) and Locator  
Part No. **1579004-8**



**Replacement Crimp Head**  
1.5 mm<sup>2</sup>/2.5 mm<sup>2</sup>/4.0 mm<sup>2</sup>  
and 6.0 mm<sup>2</sup>  
Part No. **6-1579001-6**

Application Tooling (continued)

**Cable Assembly Tooling**



**Insulation Stripper**

includes length stop for all wire sizes: 1.5 mm<sup>2</sup>, 2.5 mm<sup>2</sup>, 4.0 mm<sup>2</sup> and 6.0 mm<sup>2</sup>.

Suitable for Tyco Electronics Solar Cable, Series ZHSC-35.

Part No. **4-1579002-2**



**Extraction Tool**

suitable for all wire sizes

Part No. **1102855-3**

**Field Service Kit**



**Field Service Kit**

includes the following parts:

- 100 Cable Couplers (Housings, Plus and Minus coded)
- Crimp Contacts (4.0 mm<sup>2</sup> and 6.0 mm<sup>2</sup>)
- Strain Relief
- Seals (4.0 mm, 5.0 mm, 6.0 mm, 7.0 mm and 8.0 mm)
  
- Hand Crimp Tool (Part No. **1-1579004-2**)
- Insulation Stripper (Part No. **4-1579002-2**)

Part No. **1534858-1**  
(Metric Wire)



Application Tooling (continued)

**SOLARLOK**  
**Crimping Machine AM 05**

**Product Facts**

- Electro-pneumatic driven crimping machine
- Contact feed via vibration feeders
- Particularly easy operation
- Continuously adjustable crimp height
- Adjustments can be saved

**Technical Data**

- **Cycle Time:** approx. 1.5 s
- **Wire Size Range:** 2.5 mm<sup>2</sup> and 4.0 mm<sup>2</sup>, 6.0 mm<sup>2</sup> optionally
- **Power Supply:** 230 V / 50 Hz / 250 VA
- **Pneumatic Supply:** 500 – 600 kPa (5–6 bar)
- **Dimensions:** 530 mm x 400 mm x 700 mm
- **Weight:** 45 kg



**Crimping Machine AM 05**  
Part No. 528375-4

**Tool Kit for 6.0 mm<sup>2</sup> Wire Size, Optionally:**  
Part No. 1-528491-0

The Crimping Machine AM 05 is suitable for rapid and reliable processing of the variety of loose-piece screw machined male and female SOLARLOK contacts.

Different crimp height adjustments can be programmed and saved due to a keypad. Machine sequences and malfunctions will be shown on the display.

**SOLARLOK**  
**Terminator CS 200**

**Product Facts**

- Simple handling
- Simple and quick crimp-head change
- Perfect precision due to linear techniques of the tool heads (good crimp quality)
- Adjustable double step
- Integrated counter
- Activation with safety foot pedal
- Crimping of wire and contact in one machine cycle

**Technical Data**

- **Cycle Time:** approx. 1.1 s
- **Power Consumption:** max. 0.7 kV/A
- **Power Supply:** 230 V or 110 V, changeable
- **Weight:** 13 kg
- **Dimensions:** 390 mm x 260 mm x 200 mm



**Terminator CS 200**

**Base Machine:**  
Part No. 539630-1

**Adapter for Vario Crimp Head:**  
Part No. 1579000-4

**Vario Crimp Head (1.5/2.5 mm<sup>2</sup>):**  
Part No. 7-1579001-8

**Vario Crimp Head (4.0/6.0 mm<sup>2</sup>):**  
Part No. 7-1579001-9

**Vario Crimp Head (AWG 10):**  
Part No. 8-1579001-2

**Vario Crimp Head (AWG 12):**  
Part No. 5-1579001-5

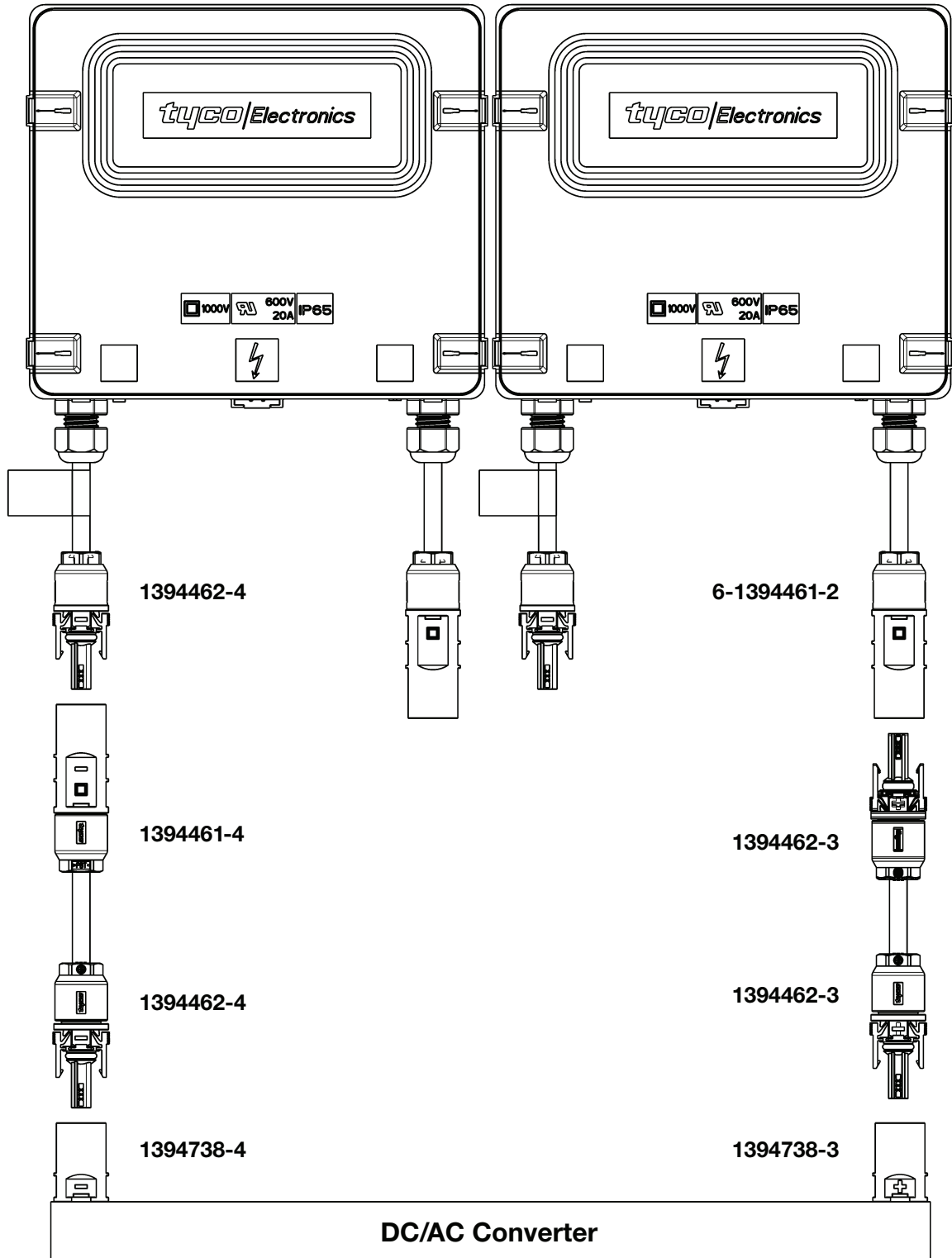
**Vario Crimp Head (AWG 14):**  
Part No. 5-1579001-4

Electric bench terminator for SOLARLOK Terminating Loose-Piece Machined Contacts. The machine works with the linear crimping technique.

A flexible application range is ensured by the extensive range of crimp heads and the quick interchangeability between them.

Interconnection Examples

**Serial Interconnection for Junction Boxes with Cable Glands  
(4.0 mm<sup>2</sup> Wiring)**



Interconnection Examples

**Serial Interconnection for Junction Boxes with Plug Connectors  
(4.0 mm<sup>2</sup> Wiring)**

