



SOLARLOK

Interconnection System

Installation Manual

Installation Manual

1. Safety Note

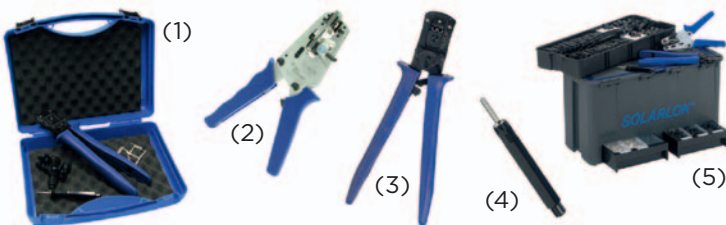


- The SOLARLOK connector is to be used only to interconnect firmly fixed cables.
- **Do not disconnect under electrical load!**
- Electrical current path should only be disconnected using approved devices.
- Only cables released from TE Connectivity (TE) are permitted to be used with SOLARLOK component cable assemblies.
- SOLARLOK component cable shall be labelled with label PN 1718077-1 “Do not disconnect under load”.
- To protect against shock, ensure that conductors and their associated connectors are separated from opposite polarity components.
- Unconnected connectors **must** always be protected from pollution (e.g. dust, humidity, foreign particles, etc.), prior to installation. Do not leave unconnected (unprotected) connectors exposed to the environment. The usage of TE connector dust caps is strongly recommended.
- Connectors that are unmatned in the field should also be protected from pollutants.
- Do **NOT** use any **oil or lubricants** during mounting.



2. Tools

Installer Starter Kit	(1)	Crimping Tool +++	PN	5-1579010-4
Stripping Tool	(2)	2.5 mm ² – 6.0 mm ²	PN	4-1579002-2
Crimping Tool	(3)	4.0 mm ² and 6.0 mm ²	PN	1-1579004-2
Extraction Tool	(4)	all terminals	PN	1102855-3
Field Service Kit	(5)	all in one	PN	1534858-1



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3. Assembly Steps

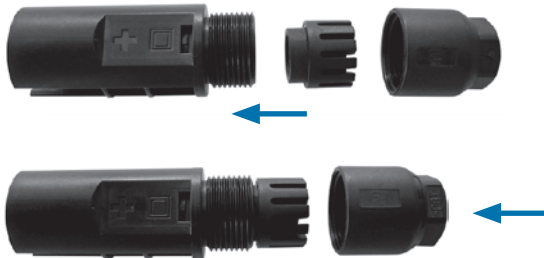
- 3.1** Using the appropriate wire stripping tool, strip the wire **9 mm ± 1 mm** without damaging the strands.



- 3.2** Insert the stripped wire into the terminal wire crimp barrel until it stops. While holding the wire in place, squeeze the crimp tool handles together until the ratchet releases.



- 3.3** Press the seal and cable pinch ring assembly into the connector housing until it stops. **If you use the pre-assembled connector kit, please go to 3.5!**



- 3.4** Screw back shell nut onto connector housing.



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Pre-Assembled (Connector Kit)

- 3.5** Push contact with cable into the connector housing until you hear the contact give an audible click and you feel the contact reach the end position. To verify contact engagement, give a slight gentle pull back on the cable, to be sure that the contact is locked.



- 3.6** Tighten the cable screw lock. The initial assembly tightening torque is **1.3 + 0.2 Nm**. For this, a slotted socket wrench with wrench size 13 mm, is recommended **PN 523229-1**.



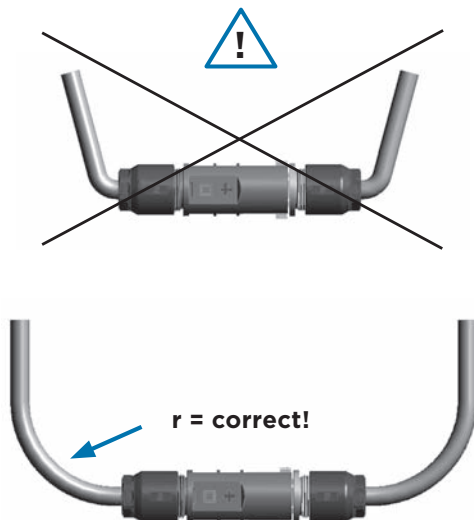
4. Connector Mating

- When mating the SOLARLOK connectors, connectors labelled with a “+” or “-” are keyed and can only be mated with equally (same polarity) marked and keyed connectors.
- **The connector system is fully latched only when the latches have clicked onto the mating connector.**
- The “neutral” designated male connector incorporates no keying features and may be freely mated to either “+” or “-” keyed plug connectors. The neutral product should not be used when maintaining polarity is critical. It is only permitted for serial connections.

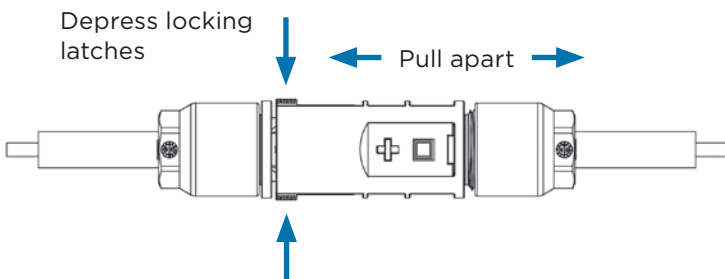
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5. Wiring

Radius (r) min. 5x cable Ø

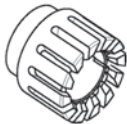



6. Connector Unmating



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Table 1

Available Connector Kits* for SOLARLOK Interconnection System					
Wire Gauges	Polarity	Male PN	Female PN	Cable Diameter	Pinch Ring Style
2.5 mm ²	+	0-1394461-1	0-1394462-1	Cable Diameter (Outside) from 5.5 mm up to 7.8 mm	1987056-1 
2.5 mm ²	-	0-1394461-2	0-1394462-2		
2.5 mm ²	N	6-1394461-1	-		
4.0 mm ²	+	0-1394461-3	0-1394462-3		
4.0 mm ²	-	0-1394461-4	0-1394462-4		
4.0 mm ²	N	6-1394461-2	-		
6.0 mm ²	+	6-1394461-5	5-1394462-5		
6.0 mm ²	-	6-1394461-6	5-1394462-6		
6.0 mm ²	N	6-1394461-4	-		
2.5 mm ²	+	0-1394461-7	4-1394462-6	Cable Diameter (Outside) from 4.5 mm up to 5.5 mm	1740379-2 
2.5 mm ²	-	0-1394461-8	4-1394462-7		
2.5 mm ²	N	6-1394461-3	-		
4.0 mm ²	+	7-1394461-0	4-1394462-8		
4.0 mm ²	-	7-1394461-1	4-1394462-9		
4.0 mm ²	N	7-1394461-2	-		

*all necessary parts including the crimp contact



Male housing



Female housing

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Table 2

Replacement Contacts (screw-machined) for SOLARLOK System		
Wire Gauges	Male Contact PN	Female Contact PN
2.5 mm ²	0-1987280-1	0-1987281-1
4.0 mm ²	0-1987280-2	0-1987281-2
6.0 mm ²	0-1987280-4	0-1987281-3



Mounting and installation must be done by qualified and trained staff considering all applying safety regulations.

Failure to follow all instructions in Application Specification 114-18488-1 including using only approved TE tooling (if applicable) can result in improper installation and/or crimping which is dangerous and may cause or contribute to electrical fires.

Maximum Operating Conditions

Max. system voltage:

1000V (for UL 600V), max. current 25A@85°C

Ambient operating temperature:

-40°C up to 115°C, (for UL 75°C) at full load

Please also refer to the following specifications:

Application specification 114-18488-1 as well as instruction sheets 411-18305-1 and 114-94061-1 to ensure correct connector assembly and crimp quality. For additional details, please refer to product specification 108-18701.

For additional info, please visit our website at:

te.com/solar

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Accessories: Dust Covers

Female Housing - Dust Cap	
PN	Package Quantity
1987424-1	100



Male Housing - Dust Plug	
PN	Package Quantity
1987419-1	100



The usage of connector re-usable dust covers until final assembly is strongly recommended.
When the dust cover is mounted, the connector fulfils IP44 (dust and splash proof) according to IEC 60529.

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Connector Safety Devices

Locking Collar				
PN	Unlock through	Required	Instruction Sheet	Package Quantity
2106207-1	Flat-blade-screwdriver	NEC* / USA UTE C15-712 / France	408-10296	100

*for detailed information see NEC 2008: 690.33



Safety Clip Pivoted			
PN	Unlock through	Required	Package Quantity
1534226-1	toolless	-	100



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Solar Cable TÜV and UL Certified

TÜV PV1-F/UL type ZKLA					
Part Number	Cable Cross Section		Outer Diameter	Color	Package Quantity*
	(mm ²)	(AWG)	(mm)		(m)
1-956297-4	2.5	14	6.65	Black	100
1-956297-5	2.5	14	6.65	Red	100
1-956297-6	2.5	14	6.65	Blue	100
1-956298-4	4.0	12	6.90	Black	100
1-956298-5	4.0	12	6.90	Red	100
1-956298-6	4.0	12	6.90	Blue	100
1-956299-4	6.0	10	7.35	Black	100
1-956299-5	6.0	10	7.35	Red	100
1-956299-6	6.0	10	7.35	Blue	100

*also in 500m PQ deliverable



Approval:

- IEC 60228 Class 5 (stranded tin plated copper and flexible)
- TÜV certified according to 2Pfg1169/08.2007
- UL certified acc. Subject 4703



System Voltage:

1000 VAC TÜV (600 VAC UL) 1800 VDC

Temperature Range:

-40 °C - +125 °C

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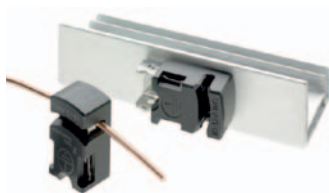
Grounding Solutions

Grounding Connectors and Grounding Bolts Only for solid un-insulated copper wire			
PN	Description	Instruction Sheet	Package Quantity
1954381-1	Grounding Connectors with Self-Tapping Screw	408-10160	100
1954381-2	Grounding Connectors with Screw and Nut	408-10160	100
1954381-3	Grounding Connectors with Screw, Nut and Locking Ring	408-10160	100
2106831-1	AWG 6-12 Grounding Bolts, # 10-32 UNC Long Tail	408-10262	100
2058729-1	AWG 6-12 Grounding Bolts, # 8-32 UNC Std Tail	408-10262	100

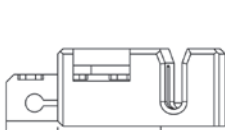
Grounding Connectors

12-10 AWG (4 mm²)

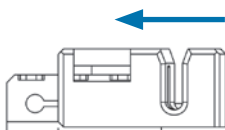

Grounding Bolts

12-6 AWG (4-16 mm²)


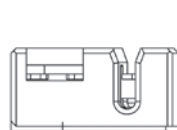
3 easy steps to ground your PV system:



1. Insert



2. Push



3. Ready!

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