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SOLAR PRODUCTS





Helio Fuse

Amphenol Technical Products International (ATPI) offers products and solutions for all segments of the solar electric system. ATPI understands the need for efficient (low loss) power transfer, highly reliable, and cost effective solutions that are required to be competitive in this industry. We can provide panel manufacturers, installers, and OEM's with connectivity products for both thin film and crystalline silicon technologies.

ATPI molded in-line fuse, HelioFuse, provides a quick replaceable solution for installing in-line solar fuses. The molded construction provides weather tight housing preventing moisture from getting to the fuse construction. The in-line fuse provides the needed electrical protection to prevent damage to the solar array should a ground fault occur. The connectorized fuse construction allows for rapid removal and replacement upon correction of a ground fault.

HelioFuse is offered in two configurations; a connector version which plugs right into an industry standard solar connector (Helios H4 Connector) and our wire overmold version for custom harnesses.

Amphenol Technical Products International can help you power the planet with the sun. The HelioFuse is just one of the solar solutions Amphenol Technical Products International has to offer.

Features

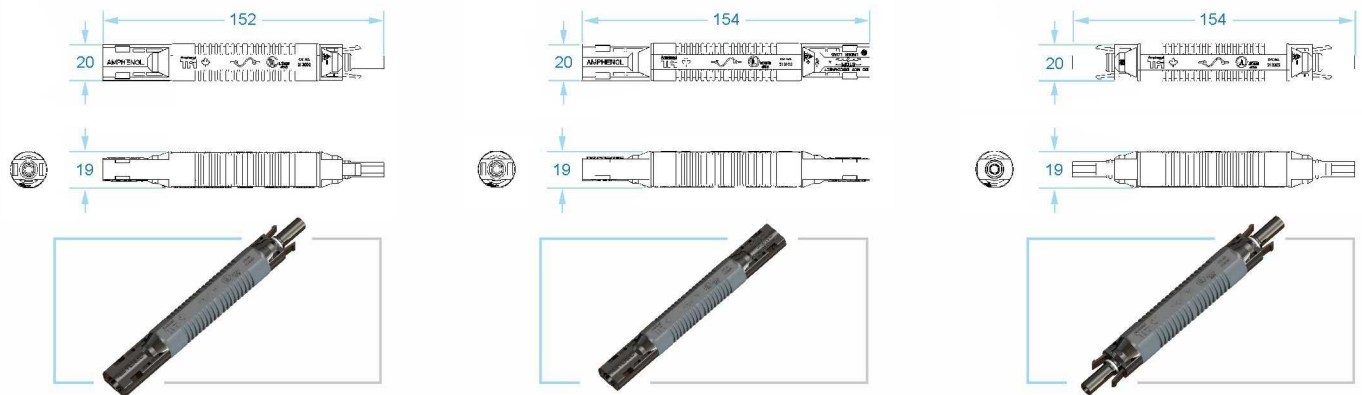
- 1A to 32A current rating
- 600V/1000V/1500V versions
- IP68 protection degree
- Meets UL94-V0 flammability rating
- UL approved



1000V Helio Fuse

Specifications

Description	Connector Version	Wire Overmold Version
DC Current Ratings	1,2,3,3.5,4,5,6,8,10,12,15A	1,2,3,3.5,4,5,6,8,10,12,15A
DC Voltage Ratings	1000V	1000V
Protection Degree	IP68	IP68
Operating Temperature Range	-40°C to + 50°C	-40°C to + 50°C
Flammability Rating	UL94 - V0	UL94 - V0
Connector Options	Helios H4 Connector(M-M,M-F,F-F)	12AWG (4mm ²) to 8AWG (10mm ²)
Approvals	UL Listed	UL Recognized



Ordering Information (Connector Version Only)

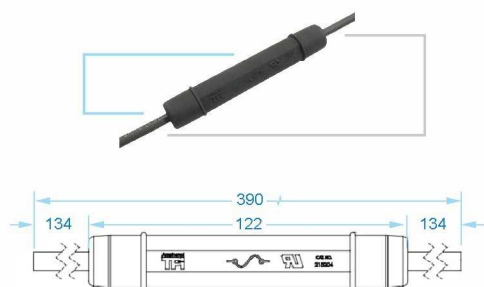
Product Type		Voltage Rating (UL)		Connector Configuration		Fusing Current Rating	
21	Helio Fuse	3	1000 V	0	Male/Female	01	1 amp
						02	2 amp
						03	3 amp
						035	3.5 amp
				1	Male/Male	04	4 amp
						05	5 amp
						06	6 amp
						08	8 amp
				2	Female/Female	10	10 amp
						12	12 amp
						15	15 amp

1500V HelioFuse

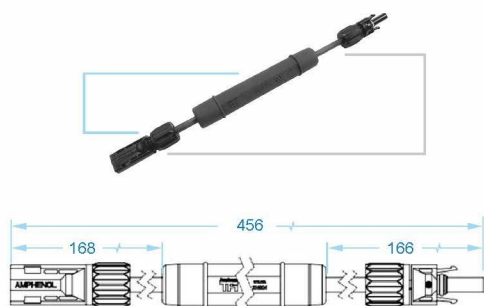
Specifications

Description	1500V Helio Fuse
Rated Voltage Fuse	1500V
Rated Current Fuse	2.5A, 3.5A, 4A, 6A, 8A, 10A, 12A, 15A, 20A, 25A, 30A, 32A
Connector Options	UL Listed Connectors: H4, MC4, EVO2
Cable Size Options	12AWG/4.0mm ² or 10AWG/6.0mm ² or 8AWG/10mm ² 2kv PV Wire
Ingress Protection Degree	IP 68 (1 Meter, 1 Hour)
Ambient Temperature Range	-40°C to +65°C
Material Safety	RoHS2 Compliant
Flammability Classifications	UL94-V0
Outdoor Suitability	UV Resistance, F1 Rated
Approvals	UL4248-1; UL4248-18 Recognized (File#: E352863) UL9703 Listed (File#: E498904)

1500V 2.5A-4A FUSE



1500V FUSE/4A/12AWG/BLUNT CUT
END TO END CABLE LENGTH 390MM
(PART NUMBER: **2421000**)

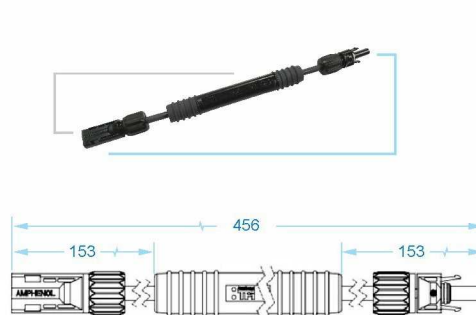


1500V FUSE/4A/10 AWG/H4 M-F
END TO END CABLE LENGTH 390MM
(456MM REF OVERALL W/CONNECTORS)
(PART NUMBER: **2420020**)

1500V 6A-15A FUSE



1500V FUSE/15A/10AWG/BLUNT CUT
END TO END CABLE LENGTH 390MM
(PART NUMBER: **2470000**)



1500V FUSE/15A/10 AWG/H4 M-F
END TO END CABLE LENGTH 390MM
(456MM REF OVERALL W/CONNECTORS)
(PART NUMBER: **2470020**)

Ordering Information

PRODUCT TYPE		RATED CURRENT		PV WIRE SIZE		END TERMINATION / CONNECTORS		END TO END CABLE LENGTH	CUSTOM LENGTH
24	1500V Helio Fuse	0	2.5 A	0	10AWG	00	BLUNT CUT BOTH ENDS	0	STANDARD (390 MM)
		1	3.5 A			01	BOTH END PRESTRIPPED (8MM, SLUGS ON)		
		2	4 A			02	AMPHENOL H4 MALE TO H4 FEMALE (M-F)		
		3	6 A			03	MULTI CONTACT MC4 MALE TO FEMALE (M-F)		
		4	8 A	1	12AWG	04	MULTI CONTACT EVO2 MALE TO FEMALE (M-F)	1	CUSTOM
		5	10 A			05	AMPHENOL H4 MALE TO MULTI CONTACT MC4 FEMALE (M-F)		
		6	12 A			06	AMPHENOL H4 MALE TO MULTI CONTACT EVO2 FEMALE (M-F)		
		7	15 A	2	8AWG	07	MULTI CONTACT MC4 MALE TO AMPHENOL H4 FEMALE (M-F)	1	CUSTOM
		8	20 A			08	MULTI CONTACT EVO2 MALE TO AMPHENOL H4 FEMALE (M-F)		
		9	25 A			09	MULTI CONTACT MC4 MALE TO MULTI CONTACT EVO2 FEMALE (M-F)		
		A	30 A			10	MULTI CONTACT EVO2 MALE TO MULTI CONTACT MC4 FEMALE (M-F)		
		B	32 A			11	OTHER		

Assembly Instructions:

Always follow the manufacturer's recommended installation instructions for the connectors used in the assemblies that are specified by the system designer.

If Amphenol H4 has been specified, please find the Amphenol H4 Assembly Instructions here:
www.amphenolindustrial.com/index.php/literature/catalogs

Always follow PPE protocol when handling these assemblies under source load. Please ensure necessary PPE actions are employed before handling any of the components used in these assemblies (including but not limited to overmolds, connectors, wire) while under source load.

OVERMOLDED SOLAR JUNCTIONS

Amphenol Technical Products International (ATPI) offers products and solutions for all segments of the solar electric system. ATPI understands the need for efficient (low loss) power transfer, highly reliable, and cost effective solutions that are required to be competitive in this industry.

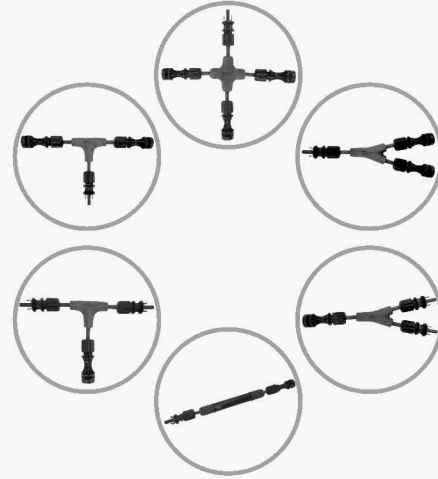
ATPI's overmolded solar junctions provided the ideal low cost, high quality solution for commercial photovoltaic installations. The molded construction provides weather tight housing preventing moisture from getting to the cable joints and provides the needed electrical protection with rugged design. They can be pre-fabricated with various lengths, number of branches and distance between branches and cable end options according to customer's specification.

Amphenol Technical Products International maintains the highest standards for excellence. The 1500V overmolded solar junctions is just one of the cost effective solar solutions Amphenol Technical Products International has to offer.



Features

- 600V/1000V/1500V DC current rating
- 8AWG, 10AWG, 12AWG, 14AWG cable options for 600V/1000V/1500V
- IP 68 ingress protection
- Long term UV resistance
- Ready for field assembly
- UL9703 Listed
- Customer wiring harness services

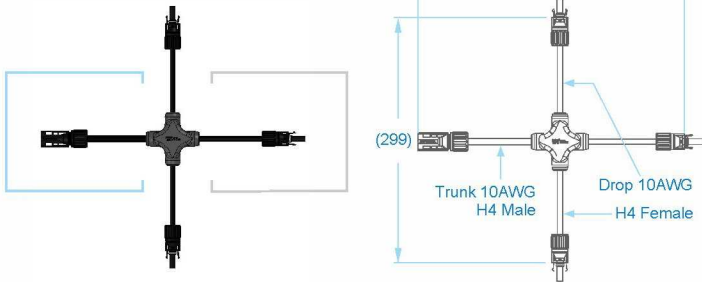


Specification

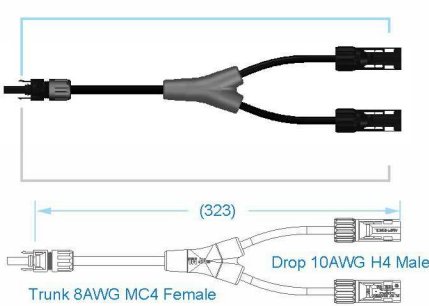
DC Current Rating	600V	1000V	1500V
Junction Current Rating	50A	50A	50A
Connector Options	H4/MC4	H4/MC4	H4/MC4/EVO2
Cable Size Options	8AWG, 10AWG, 12AWG	8AWG, 10AWG, 12AWG	8AWG, 10AWG, 12AWG
Ingress Protection Degree	IP 68 (1m water/24 hours)	IP 68 (1m water/24 hours)	IP 68 (1m water/24 hours)
Ambient Temperature Range	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C
Material Safety	RoHS2 Compliant	RoHS2 Compliant	RoHS2 Compliant
Flammability Classifications	UL94-V0	UL94-V0	UL94-V0
Outdoor Suitability	UV Resistance, F1 Rated	UV Resistance, F1 Rated	UV Resistance, F1 Rated
Approvals	UL Recognized	UL6703; UL4248-1; UL4248-18 Recognized UL9703 Listed	UL6703; UL4248-1; UL4248-18 Recognized UL9703 Listed

1500V Solar Junction

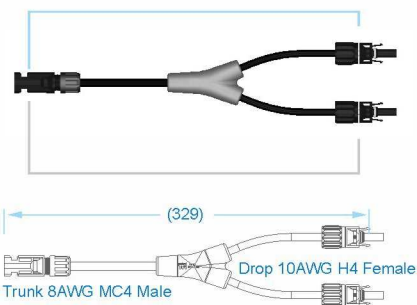
X Junction PN: 2210100



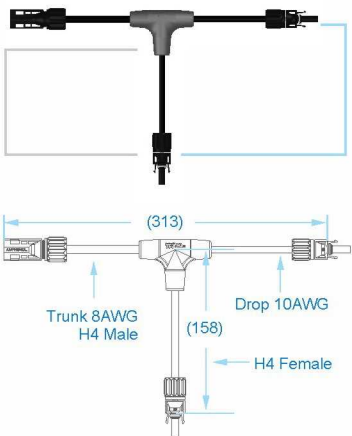
Y Junction PN: 2200900



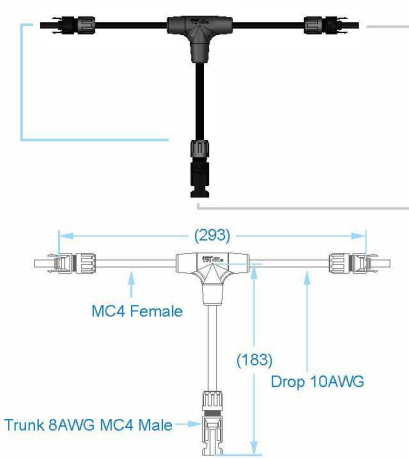
Y Junction PN: 2200801



T1-Top Junction PN: 2220600



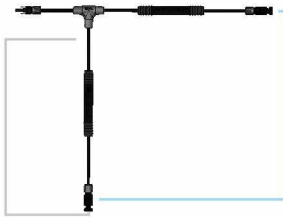
T2-Bottom Junction PN: 2230803



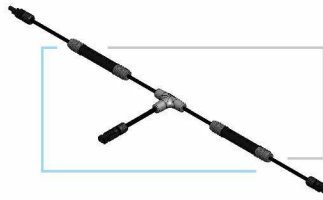
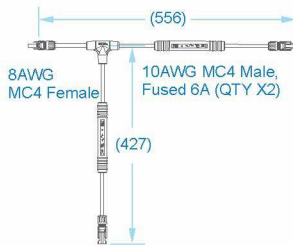
Ordering Information

STANDARD PRODUCT		TYPE		TRUNK SIDE		DROP SIDE	
22	1500V OVERMOLD JUNCTION	0	Y	00	10AWG H4 MALE	00	10AWG H4 MALE
				01	10AWG H4 FEMALE	01	10AWG H4 FEMALE
				02	10AWG MC4 MALE	02	10AWG MC4 MALE
				03	10AWG MC4 FEMALE	03	10AWG MC4 FEMALE
		1	X	04	10AWG EVO2 MALE	04	10AWG EVO2 MALE
				05	10AWG EVO2 FEMALE	05	10AWG EVO2 FEMALE
				06	8AWG H4 MALE	06	8AWG H4 MALE
				07	8AWG H4 FEMALE	07	8AWG H4 FEMALE
		2	T1-TOP	08	8AWG MC4 MALE	08	8AWG MC4 MALE
				09	8AWG MC4 FEMALE	09	8AWG MC4 FEMALE
				10	8AWG EVO2 MALE	10	8AWG EVO2 MALE
				11	8AWG EVO2 FEMALE	11	8AWG EVO2 FEMALE
		3	T2-BOT	12	10AWG BLUNT CUT	12	10AWG BLUNT CUT
				13	8AWG BLUNT CUT	13	8AWG BLUNT CUT
				14	OTHER CONNECTORS	14	OTHER CONNECTORS

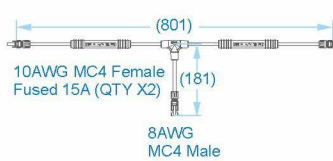
1500V Solar Junction



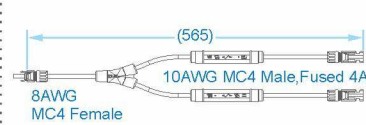
T1-Top Junction with Fuses
PN: **29209023**



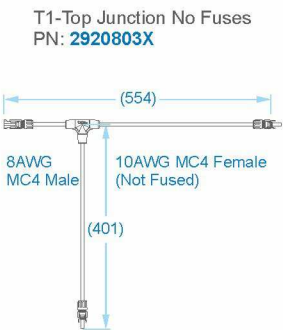
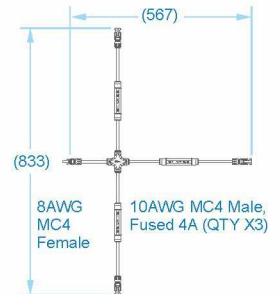
T2-Bottom Junction with Fuses
PN: **29308037**



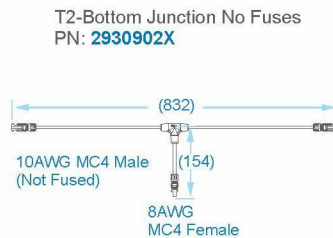
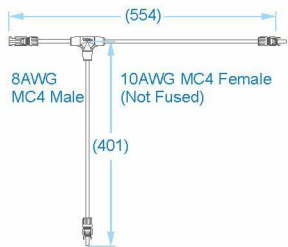
Y Junction with Fuses
PN: **29009022**



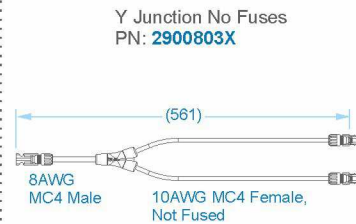
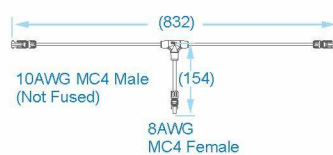
X Junction with Fuses
PN: **29109022**



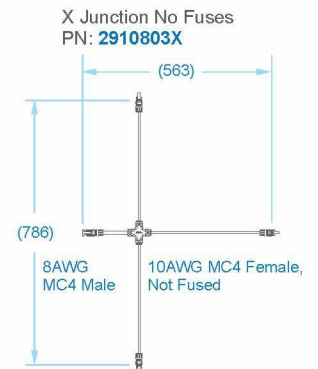
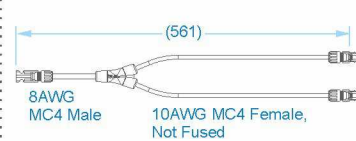
T1-Top Junction No Fuses
PN: **2920803X**



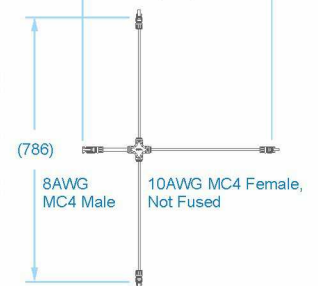
T2-Bottom Junction No Fuses
PN: **2930902X**



Y Junction No Fuses
PN: **2900803X**



X Junction No Fuses
PN: **2910803X**



Ordering Information

29 0 01 01 3

STANDARD PRODUCT		TYPE		TRUNK SIDE		DROP SIDE		DROP WITH FUSES	
29	1500V OVERMOLD JUNCTION	0	Y	00	10AWG H4 MALE	00	10AWG H4 MALE	0	FUSED (2.5A)
				01	10AWG H4 FEMALE			1	FUSED (3.5A)
				02	10AWG MC4 MALE	01	10AWG H4 FEMALE	2	FUSED (4A)
				03	10AWG MC4 FEMALE			3	FUSED (6A)
		1	X	04	10AWG EVO2 MALE	02	10AWG MC4 MALE	4	FUSED (8A)
				05	10AWG EVO2 FEMALE			5	FUSED (10A)
				06	8AWG H4 MALE	03	10AWG MC4 FEMALE	6	FUSED (12A)
				07	8AWG H4 FEMALE			7	FUSED (15A)
		2	T1-TOP	08	8AWG MC4 MALE	04	10AWG EVO2 MALE	8	FUSED (20A)
				09	8AWG MC4 FEMALE			9	FUSED (25A)
				10	8AWG EVO2 MALE	05	10AWG EVO2 FEMALE	A	FUSED (30A)
				11	8AWG EVO2 FEMALE			B	FUSED (32A)
		3	T2-BOT	12	10AWG BLUNT CUT	06	10AWG BLUNT CUT	X	NO FUSED
				13	8AWG BLUNT CUT				
14	OTHER CONNECTORS			07	OTHER CONNECTORS				

BALANCE OF SYSTEM (BOS) SOLUTION FOR FIRST SOLAR WIRE HARNESS

Solar projects need custom wire harness solutions. Amphenol TPI developed and certified a configurable product line to fit your project requirements and specifications.

Certifications

UL9703 Listed Product
UL4703 PV Wire
UL4248 Overmolded Fuse
UL6703 Connectors

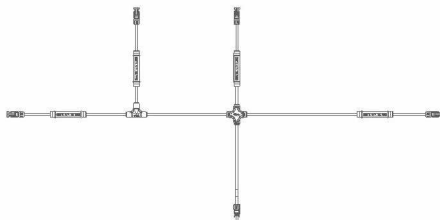
Quality Inspection

100% Electrically Tested Point To Point
Ensuring Each Harness is Defect Free
Visual Inspection, Continuity Test, Resistance Check, Water Leakage Test

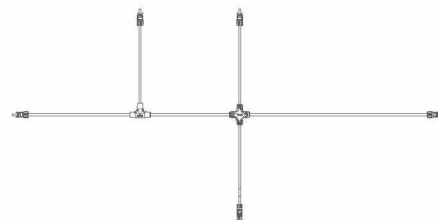
APPLICATION EXAMPLE

Cable Harness Assemblies for First Solar Panels

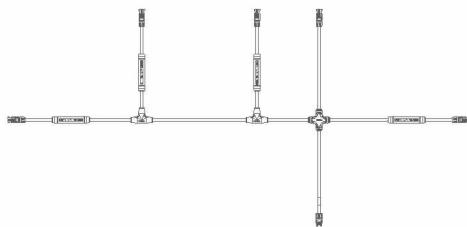
POSITIVE HARNESS



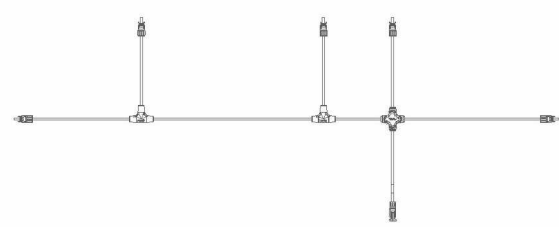
NEGATIVE HARNESS



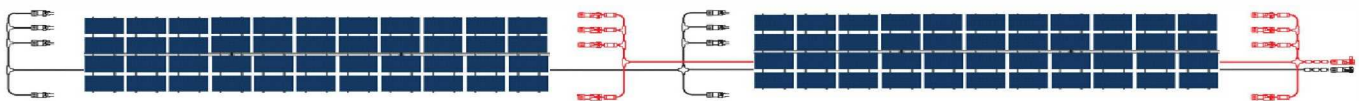
POSITIVE HARNESS



NEGATIVE HARNESS



Series 4: 8 String Harness



Series 6: 6 String Harness



Assembly Instructions:

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Always follow PPE protocol when handling these assemblies under source load. Please ensure necessary PPE actions are employed before handling any of the components used in these assemblies (including but not limited to overmolds, connectors, wire) while under source load.

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