HellermannTyton



Solar Advantage

Fastening and Identification Solutions for Solar Applications

MADE FOR REAL®

About HellermannTyton



HellermannTyton is the leading global manufacturer of fastening and identification solutions for the solar industry. Our products protect some of the largest solar installations in the world. The recognized authority in safety and code compliance, our design engineers drive innovation through advanced materials, superior insertion/extraction ratings, and reduced labor costs and installation times. We are proud to manufacture products at our North American headquarters in Milwaukee, Wisconsin.

The Proven Solar Industry Leader

Powerful Capabilities

HellermannTyton commits exceptional people and capabilities to the solar industry. Our insightful engineering and design team leverages unmatched materials expertise and agile manufacturing processes. We have the diligence and persistence to develop proprietary resins that deliver extraordinary performance and maximum value. Our position in the global marketplace – supported by a large distribution network – enables us to deliver these solutions whenever and wherever you need them.

Proven Performance in Solar

We understand the harsh environmental conditions that affect solar installations, and our products have a record of proven performance in all types of solar applications – including residential, commercial and utility-scale projects. HellermannTyton's long history of providing premium fastening solutions reveals a track record of challenging the industry norms. Our solar team takes pride in being the industry trailblazer, which has led to HellermannTyton being approved and installed on some of the largest solar installations in North America.

Setting New Industry Standards

Our knowledge of codes and regulations for photovoltaic labeling is unmatched. We are working to deliver clearer, safer and easier to understand National Electrical Code (NEC) labeling requirements to the solar industry. Our solar identification solutions make it possible to go from label creation to code compliance in minutes. HellermannTyton employees chair or sit on the boards of several industry associations, helping to elevate product performance standards and quality.

You're More Connected Than You Know

Working with HellermannTyton means you also benefit from our extended knowledge base. Collaboration with solar industry experts, customers and installers has led HellermannTyton to develop specific products for use in all types of solar applications. Whether it is an existing product or a solution developed especially for your application, we are the proven and preferred cable fastening, protection and identification solutions resource for the solar energy market.

Material Expertise



HellermannTyton's product engineers and chemical scientists work every day to develop the longest lasting products in the industry while protecting your bottom line.

Off-the-shelf materials are appropriate for general-purpose applications, but in solar, will provide short-term value that can quickly lead to uncontrolled maintenance costs. Simple UV rated and PA66 outdoor grade materials deliver in certain situations, but fail to measure up to environmental extremes.

Our solar materials are formulated with UV stabilizers, UV absorbers or exceptionally durable base plastics designed for extended lifespans. Depending on your application, we offer budget-friendly solutions that outlast so-called value-priced products – all the way up to our new 25-year PVDF for the most maintenance-free cable management you can get.

Did you know?

Water Content in Polyamide (PA66, PA12)

Polyamide is a hygroscopic material, meaning it absorbs and releases water. The mechanical properties of polyamide are significantly affected by its water content – especially flexibility and minimum tensile strength. Polyamide is most stable at optimum atmospheric conditions of 73° F (23° C) and 50 percent relative humidity. Under these conditions, the degree of water saturation of PA66 is around 2.5 percent. For PA12, the water saturation rate under these conditions is 0.7 percent.

HellermannTyton

Plastic or Metal?

There was a time when metal rivaled available plastics in withstanding the harsh conditions delivered by Mother Nature. Today, however, we're making highly sophisticated plastics for the most extreme industrial applications, including heavy equipment, military, aerospace – and yes, solar.

Which is better depends on your application and, just as important, your supplier. Metal offers long service life, and so do the engineered plastics HellermannTyton makes for solar. Metal is conductive, and plastic is not. If a cable becomes nicked by the fastener, metal can cause a short. Our metal fasteners have coined edges to reduce the chances of this happening. Plastic is softer than metal and less likely to slice through a cable jacket. When opting for plastic, controlling O&M costs requires choosing a material engineered for tough solar conditions. Climate and site conditions will determine which products make the most sense for a given application.

How Our Materials Compare

Consider the environmental factors working against the wire management in a PV system. Temperatures alone routinely reach 150° F at the module – and 170° F at the racking. Fasteners must be able to consistently withstand exposure to UV light, moisture, chemicals and more, and only those engineered for the harshest weather will suffice. Extreme cold also takes its toll on wire management products. Fasteners can become brittle and dry, leading to premature failure.

UV exposure can be an issue even on the back of a panel. Up to 40 percent of the sunlight hitting the front of the panel can be deflected off the ground, especially where there is bright sand, soil or or a lack of vegetation.

PA66HIRHSUV

As a base material, PA66 is a weak UV resistant material. HellermannTyton's unique blend includes an added UV stabilizer, high-impact resin and heat stabilizers. This material offers excellent cost savings while withstanding the everyday wear and tear in most solar applications

POMUV

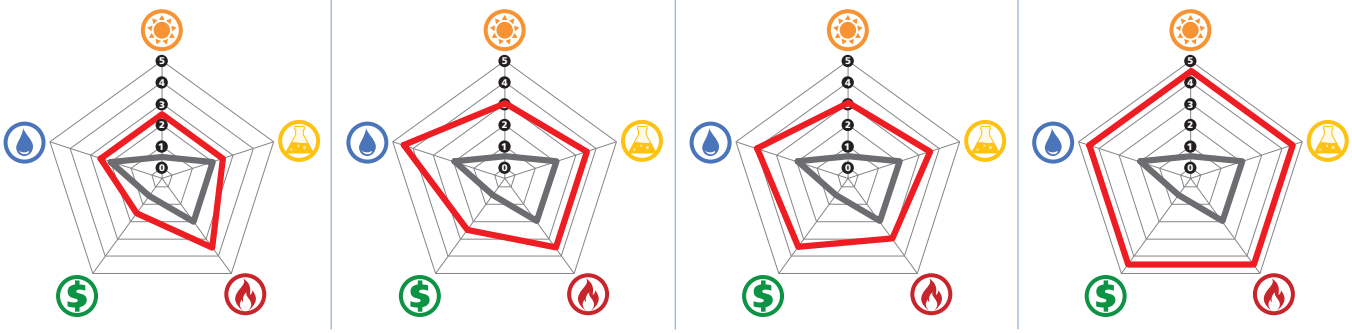
Also known as Polyacetal, a crystalline copolymer. With added UV stabilizers, this material delivers predictable, long-term performance over a wide range of temperatures. It has good chemical resistance with increased strength and rigidity

Nylon 12

This material absorbs minimal moisture, even in environments with frequent humidity cycling. Basic PA12 provides strong resistance to chemicals, oils and salts, while providing excellent UV resistance. We add UV and heat stabilizers to enhance strength and durability

PVDF

Our fluoropolymer-based material provides some of the highest UV, chemical and thermal resistance of any plastic resin. Tough and extraordinarily long lasting, PVDF is designed to virtually eliminate wire management failure over the life of a PV system.



Design Expertise



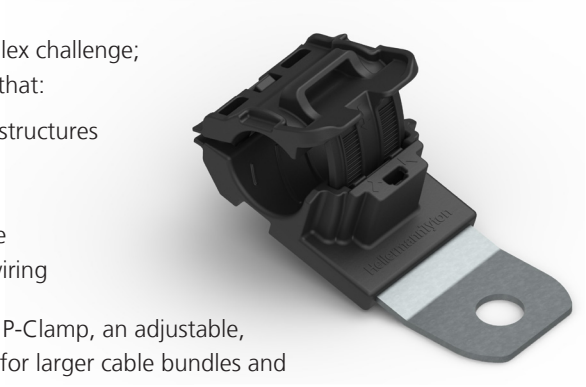
Sometimes customers have unique applications that fall outside our thousands of existing solutions. At HellermannTyton, we embrace new challenges to solve our customers' needs. Our engineering and design teams consider a host of variables relative to productibility, function, performance, code compliance and value. Extensive thought goes into a HellermannTyton solution because ultimately, it will affect our customers' businesses. Since we own our molds and manufacturing facilities, HellermannTyton can be especially responsive to the needs of our customers while maintaining the highest quality standards and competitive pricing.

How HellermannTyton Does "Game-Changing"

Challenging the way things have always been done – it's a way of life at HellermannTyton. Before developing our revolutionary Ratchet P-Clamp, we surveyed over 700 solar installers and engineers to dig deep into every installation concern.

The results defined a complex challenge; deliver a more robust part that:

- integrates with different structures
- is more universal
- offers more flexibility
- requires less maintenance
- maintains the safety of wiring



Our response: The Ratchet P-Clamp, an adjustable, releasable solution perfect for larger cable bundles and home runs, all the way down to module lead wires and microinverter trunk cables. The Ratchet P-Clamp can be mounted with a bolt or self-tapping screw to almost any structure, reducing the number of attachment points, and securing cables quickly and effectively.

We Improved It Because We Could



Nobody asked us to improve our nylon Solar E-clip. But when our product development team sees an opportunity, they act.

In this case, they upgraded the nylon material blend. The insertion force remains easy, and the extraction force is vastly improved. In tests, this edge clip maintains its shape and integrity 25 to 30 percent longer than the previous product when exposed to heat and UV light.

Tomorrow always brings the prospect of making a new solution or improving a classic. We never stop working to deliver the best.

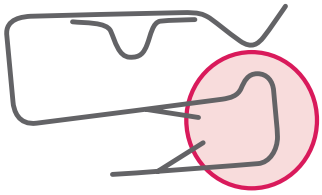
Small Difference, Major Results

These illustrations show how some solar edge clips have small push points that cause thumb pain with repeated use.

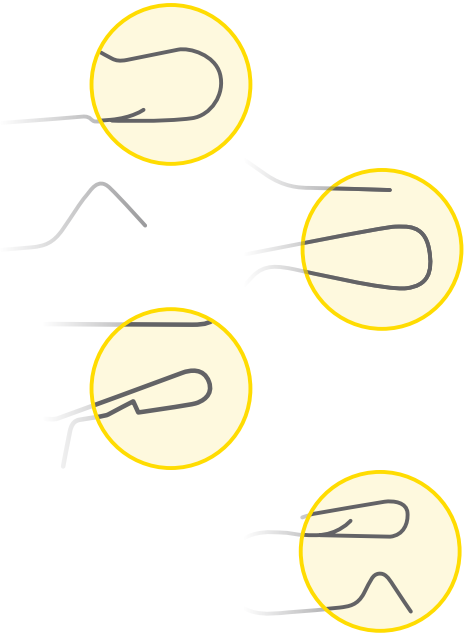
Installers inspired the design of HellermannTyton's Low Profile Edge Clip. Installing hundreds of thousands of them on the average solar farm, efficiency and quality go up, saving hundreds of hours in labor and strain-related downtime.

And thanks to remarkable engineering, ours also offers the lowest insertion force and highest extraction resistance in the industry.

HellermannTyton's Low Profile Metal Edge Clip



Competitors' Metal Edge Clips



Many Sizes, One Solution



Module-Level Wire Management

Major considerations for correct module-level wire management:

- Home run routing
- Movement from wind and/or tracker rotation
- Lateral pulling from thermocycling
- Installation factors

When securing PV wires, never run cable ties through a module's razor-sharp mounting holes. This is one of the most common causes of premature failure on solar installations. In addition to being a problem on stationary panels, single-axis trackers will quickly sever a cable tie, regardless of material. There is a "right" part for every job, including edge clips, fir trees and arrowhead fasteners, among others, designed for solar applications.

HellermannTyton delivers exactly what solar installers need to do the job right.

Solar Locking Clamp

This self-locking clamp with a living hinge is designed to hold cables in place while allowing for thermocycling and blowing winds.



Solar E-Clips

Our E-Clip has proven itself in the field on over 5 GWs. We recently upgraded the Solar E-Clip with a new reinforced material blend to make it even stronger. It's the most universal and versatile wire management part in the solar industry.



Metal Clips

Our metal edge clips are designed for the installer, with their unique, flat edge to ease installation and reduce repetitive injuries. Rounded edges will assure site owners that chaffing is next to impossible.



HellermannTyton



Utility-Scale and Commercial Solar

When choosing components for supersized solar projects, driving down costs is often the highest priority. HellermannTyton makes it possible to do that while making the best decisions for the installation. Here are some of the considerations that go into making cost-effective components:

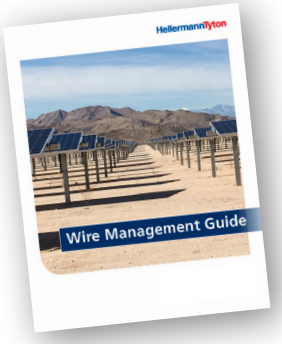
- Quicker installs – make parts easier to manipulate and attach.
- Superior design – engineer parts to withstand the factors working against them.
- Longer-lasting materials – formulate resins and UV tested label materials that stand up better to harsh elements and cost less to produce
- Best practices – share our extensive knowledge base with site owners, distributors and installers.

Wire management and large-scale solar projects are a growing challenge. As voltages increase, so does the amount of weight and wiring. As trackers become more dominant in the market, installers must account for movement.

Make HellermannTyton your experienced wire management consultant on every project. We take the time to advise you on the best product to route around the ballasts on a commercial rooftop system, or around a control system for every tracker design. Wire management isn't as easy as employing a single fastener, but we can take the mystery out of safe, long-term installations for any site and requirement.







Learn more by visiting
http://hellermann.tyton.com/utilitysolar

Get The Job Done Right The First Time



Residential Wire Management

You do all you can to manage the hard costs for a PV system. But inferior labels, low-quality parts and unapproved wire management result in unnecessary truck rolls, rework, repeat inspections, replacement parts and labor. The hidden costs are several times greater than the cost of correct wire management.

Through surveys of solar installers and solar engineers, HellermannTyton learned what concerned them most about residential solar installations.

- Most solar engineers believe quality and life expectancy of solar wire management are of utmost importance.
- For solar installers, getting the job done right the first time is most important.

While other key factors – such as safety and code compliance – broke the top five for these groups, solar pros appear to align on what's most important. Quality components and a quality installation are what really matter.

Match materials to the application; consider temperature extremes, water ingress, sharp edges, etc. Using high quality, highly engineered fasteners and routing products can reduce the number of parts on a PV system. They also last longer and help to eliminate risks versus inferior products.







Large Bundle Applications



Among the many considerations for managing large wire bundles, weight and movement are key. Trackers move all day, shifting the weight of large bundles, which are further affected by wind. Care must be taken so products will last years instead of months.

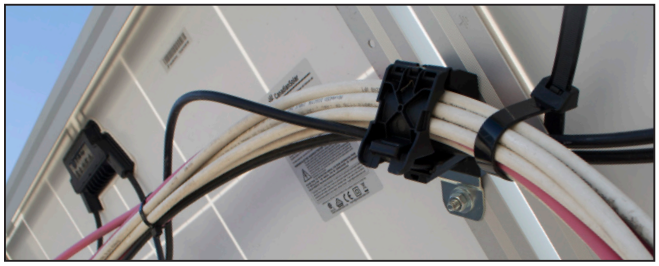
The jumpers around tracker motors and at the ends of rows are especially prone to movement. Installing an arrest mechanism at these points is critical, because the weight of the row combined with the changing direction places great strain there.

Ratchet P-Clamp

HellermannTyton's revolutionary Ratchet P-Clamp delivers some of the most rugged, versatile wire management solutions in the solar market. The clamp can be attached easily with a self-tapping screw or using an existing bolt.

The Ratchet P-Clamp can be mounted before or after wires are added. With just four sizes, it closes and locks to perfectly fit bundle sizes from ¼" to 2" wide. If changes need to be made in the future, the clamp opens without removing it from the mounting surface. Multiple mounting bases provide nearly endless configuration options.





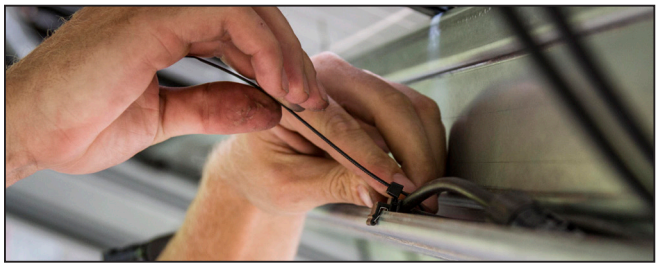
Large Solar Ties

HellermannTyton Heavy Duty and Wide Strap Solar Ties perform perfectly for large bundles and torque tubes. These ties feature many unique features that make wire management cost effective and easy. As you can see in the image, the HIRHSUV-formulated T250M in combination with another tie make an excellent solution for your cable routing needs.

Solar Ties

This common fastener will determine the future reliability of your PV system. Our Solar Ties are made specifically for solar applications, using proprietary, engineered plastics matched to the environment to deliver more years of dependable service no matter the weather.







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Solar Ties



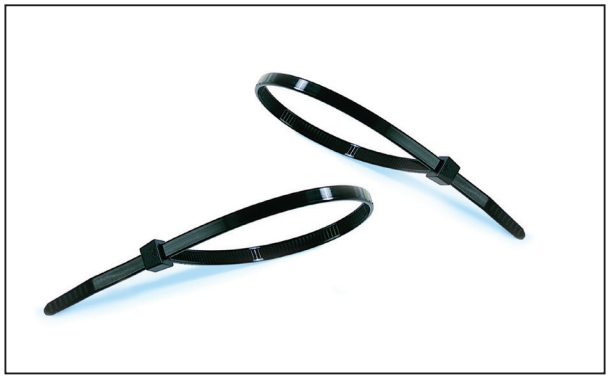
HellermannTyton offers a wide selection of high quality Solar Ties manufactured in materials suited for solar applications. Solar Ties are offered in a variety of environmentally matched materials based on your region and climate conditions.

Some things to consider when choosing a Solar Tie:

- Substrate material
- Humidity level
- Temperature
- Exposure to salt spray

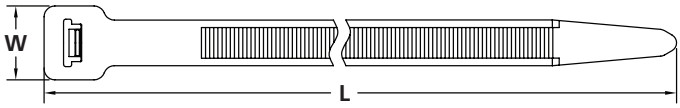
UV Stabilized Solar Ties (PA66UV)

Used in the solar industry and other applications, HellermannTyton offers Solar Ties made of UV stabilized PA66 material. This material provides additional protection against UV radiation for long-term outdoor use and is available in various styles, tensile strengths and bundle diameters.

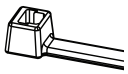


MATERIAL	Polyamide 6.6 UV-resistant (PA66UV)
Operating Temperature	-40°F to +185°F (-40°C to +85°C)
Flammability	UL 94 V-2

HF ✓ RoHS ✓



ARTICLE NO.	PART NO.	TYPE	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Max. Bundle Diameter in. (mm)	Color	Pkg. Qty.	
112-03060	**T30R0UVC2***	**T30R**	30 (135)	5.8 (148.0)	0.14 (3.6)	1.38 (35.0)	Black	100	
111-00439	**T30R0UVM4***		30 (135)	5.8 (148.0)	0.14 (3.6)	1.38 (35.0)	Black	1000	
112-05060	**T50R0UVC2***	**T50R**	50 (225)	8.0 (202.0)	0.18 (4.6)	1.97 (50.0)	Black	100	
111-04913	**T50R0UVM4***		50 (225)	8.0 (202.0)	0.18 (4.6)	1.97 (50.0)	Black	1000	
112-05460	**T50L0UVC2***	**T50L**	50 (225)	15.4 (390.0)	0.19 (4.8)	4.33 (110.0)	Black	100	
111-05478	**T50L0UVM4***		50 (225)	15.4 (390.0)	0.19 (4.8)	4.33 (110.0)	Black	1000	
111-00400	**T120R0UVC2***	**T120R**	120 (535)	15.2 (387.0)	0.30 (7.6)	4.13 (105.0)	Black	100	

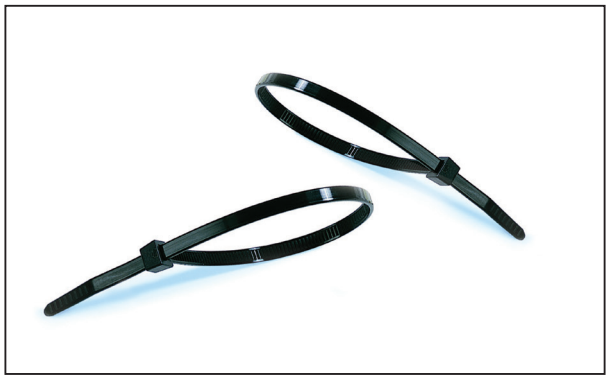


Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
*Installation tools: EVO7, MK7HT, MK7P, MK9, MK9P. *This product meets UL standards. Please go to hellermanntyton.us for specific file numbers.*

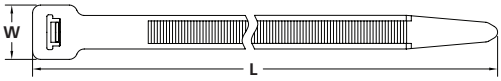
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Impact Modified Heat/UV Stabilized Solar Ties (PA66HIRHSUV)

Manufactured from a specially formulated impact modified, heat and UV stabilized PA66 material, these Solar Ties offer increased flexibility, impact strength, heat and UV resistance to endure moisture fluctuations. These cable ties feature inside serrations, providing a positive hold onto wire and cable bundles. The head design guarantees high tensile strength, as well as a low insertion force. The bent tail allows for quick and simple installation by hand.

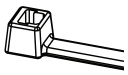


MATERIAL	Polyamide 6.6 high impact modified, heat and UV stabilized (PA66HIRHSUV)
Operating Temperature	-40°F to +221°F (-40°C to +105°C)
Flammability	UL 94 HB



RoHS ✓ HF ✓

ARTICLE NO.	PART NO.	TYPE	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Max. Bundle Diameter in. (mm)	Color	Pkg. Qty.	
111-00931	111-00931*	T50R	50 (225)	8.0 (202.0)	0.18 (4.6)	1.97 (50.0)	Black	500	
111-01742	111-01742*		50 (225)	8.0 (202.0)	0.18 (4.6)	1.97 (50.0)	Black	100	
111-01566	T50R0HIRM4*		50 (225)	8.0 (202.0)	0.18 (4.6)	1.97 (50.0)	Black	1000	
111-01601	111-01601*	T50I	50 (225)	12.0 (305.0)	0.18 (4.6)	3.15 (80.0)	Black	1000	
111-01128	111-01128*	T50L	50 (225)	15.4 (390.0)	0.19 (4.8)	4.33 (110.0)	Black	1000	
111-01138	111-01138*	T120S	120 (535)	8.9 (225.0)	0.30 (7.6)	2.17 (55.0)	Black	500	
111-12217	T120I0HIRUVH4*	T120I	120 (535)	11.8 (300.0)	0.30 (7.6)	3.15 (80.0)	Black	500	
111-02054	111-02054*	T120R	120 (535)	15.2 (387.0)	0.30 (7.6)	4.13 (105.0)	Black	100	
111-12054	T120R0HIRH5		120 (535)	15.2 (387.0)	0.30 (7.6)	4.13 (105.0)	Black	500	
111-12706	111-12706	T120X	120 (535)	21.0 (530.0)	0.30 (7.6)	5.94 (151)	Black	500	
111-12870	111-12870	T120XLM	120 (535)	24.9 (632)	0.30 (7.6)	7.24 (184.0)	Black	50	
111-25400	T255R0HIRX2*	T255R	250 (1115)	20.0 (508.0)	0.50 (12.7)	5.00 (127.0)	Black	25	
111-01196	111-01196*	T250M	250 (1115)	22.3 (565.3)	0.49 (12.4)	5.91 (150.0)	Black	25	
111-25300	T255M0HIRX2*	T255M	255 (1134)	22.0 (560.0)	0.50 (12.7)	6.30 (160.0)	Black	25	

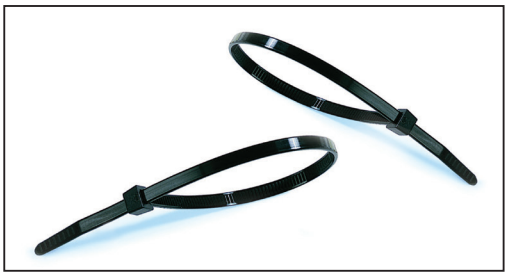


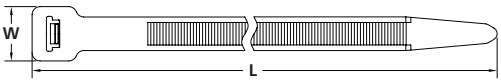
Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
*Installation tools: EVO7, EVO7SP, EVO9, EVO9HT, MK7P, MK7HT, MK9P. *This product meets UL standards. Please go to hellermanntyton.us for specific file numbers.*

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POMUV (Polyacetal) Solar Ties

Made of non-hygroscopic acetal, these Solar Ties are extremely UV and chemical resistant. Because the acetal material is non-hygroscopic, meaning it will not absorb or lose moisture, these ties are ideal for use in areas with extremely dry or humid conditions, as the material will remain stable and performance will not be affected over time.





MATERIAL	Polyacetal (POM)
Operating Temperature	-40°F to +194°F (-40°C to +90°C)
Flammability	UL 94 HB

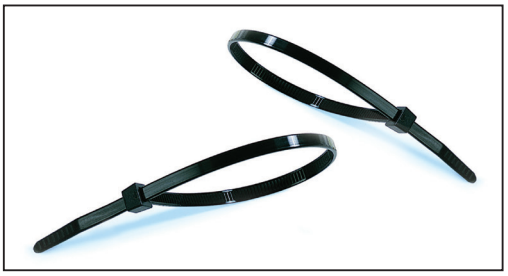
RoHS ✓ HF ✓

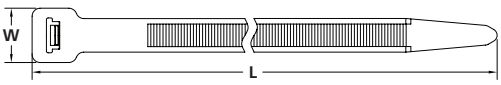
ARTICLE NO.	PART NO.	TYPE	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Max. Bundle Diameter in. (mm)	Color	Pkg. Qty.	Drawing
111-01571	**111-01571**	**T50L**	45.0 (200.0)	15.4 (389.89)	0.19 (4.8)	4.33 (110.0)	Black	1000	
111-01569	**111-01569**	**T50R**	50.0 (225.0)	8.0 (203.2)	0.18 (4.6)	1.97 (50.0)	Black	1000	
111-01572	**111-01572**	**T150M**	175.0 (780.0)	21.0 (530.0)	0.35 (8.9)	5.90 (150.0)	Black	25	

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
Installation tools: EVO7, MK7HT, MK7P.

PA12 Solar Ties

These inside serrated Solar Ties are manufactured from Polyamide 12, which provides excellent UV, chemical and moisture resistance, allowing a longer lifespan in outdoor use. Polyamide 12 material absorbs slightly less moisture than Polyamide 11, yet is equally resistant to metal oxides. The bent tail allows for quick and simple installation through the head of the tie. The tie strap has smooth edges to prevent bundle damage.





MATERIAL	Polyamide 12 (PA12)
Operating Temperature	-40°F to +248°F (-40°C to +120°C)
Flammability	UL 94 HB

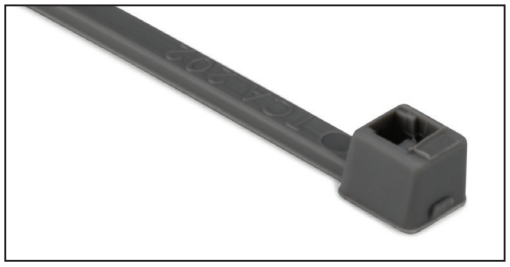
RoHS ✓ HF ✓

ARTICLE NO.	PART NO.	TYPE	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Max. Bundle Diameter in. (mm)	Color	Pkg. Qty.	Drawing
111-01560	**111-01560**	**T50R**	45.0 (200.0)	8.0 (203.2)	0.18 (4.6)	1.97 (50.0)	Black	100	
111-01564	**111-01564**		45.0 (200.0)	8.0 (203.2)	0.18 (4.6)	1.97 (50.0)	Black	1000	
111-01561	**111-01561**	**T50L(US)**	45.0 (200.0)	15.4 (389.89)	0.19 (4.8)	4.33 (110.0)	Black	1000	
111-01562	**111-01562**		45.0 (200.0)	15.4 (389.89)	0.19 (4.8)	4.33 (110.0)	Black	100	
111-01563	**111-01563**	**T50XL(US)**	45.0 (200.0)	18.4 (467.6)	0.19 (4.8)	5.28 (134.0)	Black	100	
111-01752	**111-01752**	**T150M**	175.0 (780.0)	21.0 (530.0)	0.35 (8.9)	5.90 (150.0)	Black	25	

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
Installation tools: EVO7, MK7HT, MK7P.

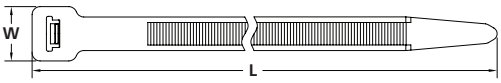
PVDF Solar Ties

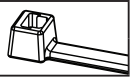
HellermannTyton is the solar industry's only manufacturer to offer 25-year-rated plastic wire management products. These extraordinarily tough solar ties are manufactured from Polyvinylidene fluoride and feature some of the highest UV, chemical and thermal resistance of any plastic resin. PVDF is designed to virtually eliminate wire management failure over the life of a PV system. The tie strap has smooth edges to prevent bundle damage.



MATERIAL	Polyvinylidene Fluoride (PVDF)
Operating Temperature	-40°F to +284°F (-40°C to +140°C)
Flammability	UL 94 V0

RoHS



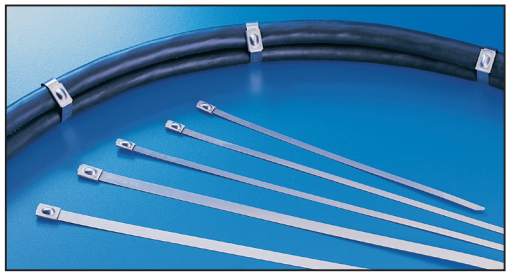
ARTICLE NO.	PART NO.	TYPE	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Max. Bundle Diameter in. (mm)	Color	Pkg. Qty.	Drawing
111-02390	**111-02390**	**T50R**	50.0 (225.0)	8.0 (202.0)	0.18 (4.6)	1.97 (50.0)	Gray	100	
111-02391	**111-02391**	**T120R**	120.0 (535.0)	15.2 (387.0)	0.30 (7.6)	4.10 (104.1)	Gray	100	

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
Installation tool: MK9SST.

Stainless Steel Solar Ties

HellermannTyton's stainless steel Solar Ties are designed for use in applications where corrosion, vibration, weathering, radiation and temperature extremes are a concern. Stainless steel Solar Ties secure cables, poles and pipes in harsh environments and are appropriate for indoor, outdoor and underground uses.

304 Material
Grade 304 stainless steel cable ties are designed for general purpose bundling requirements.



MATERIAL	Stainless Steel (SS304)
Operating Temperature	-112°F to +1000°F (-80°C to +538°C)
Flammability	Non-Burning

RoHS

ARTICLE NO.	PART NO.	TYPE	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Max. Bundle Diameter in. (mm)	Color	Pkg. Qty.	Drawing
111-93088	**MBT8S-S**	**MBT8SS**	202.0 (900.0)	7.9 (201.0)	0.18 (4.6)	2.00 (50.0)	Metal	100	
111-93148	**MBT14S-S**	**MBT14SS**	202.0 (900.0)	14.3 (362.0)	0.18 (4.6)	4.00 (102.0)	Metal	100	
111-93208	**MBT20S-S**	**MBT20SS**	202.0 (900.0)	20.5 (521.0)	0.18 (4.6)	6.00 (152.0)	Metal	100	
111-93278	**MBT27S-S**	**MBT27SS**	202.0 (900.0)	27.0 (685.0)	0.18 (4.6)	8.00 (203.0)	Metal	100	

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
Installation tool: MK9SST.

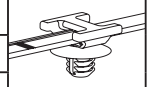
Solar Heavy Duty Cable Ties

The Heavy Duty Wide-Strap Solar Tie was designed to minimize the pinching of soft bundles and the potential of lateral movement along the bundle. The low-profile head and underside clamping rails increase the grip around the bundle. The proprietary material blend delivers years of dependable performance in any environment.



MATERIAL	Polyamide 6.6 high impact modified, heat and UV stabilized (PA66HIRHSUV)
Operating Temperature	-40°F to +230°F (-40°C to +110°C)
Flammability	UL 94 HB

RoHS

ARTICLE NO.	PART NO.	TYPE	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Max. Bundle Diameter in. (mm)	Color	Pkg. Qty.	Drawing
111-12300	**111-12300**	**WSS**	120 (535)	9.1 (231.0)	0.50 (12.7)	2.20 (58.4)	Black	300	
111-12301	**111-12301**	**WSI**	120 (535)	12.1 (307.0)	0.50 (12.7)	3.20 (83.8)	Black	300	
111-12302	**111-12302**	**WSR**	120 (535)	15.1 (383.5)	0.50 (12.7)	4.10 (104.1)	Black	300	
111-25500	**T255S0HIRX2***	**T255S**	250.0 (1,115.0)	8.9 (225.0)	0.50 (12.7)	2.20 (55.9)	Black	25	

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
**This product meets UL standards.*

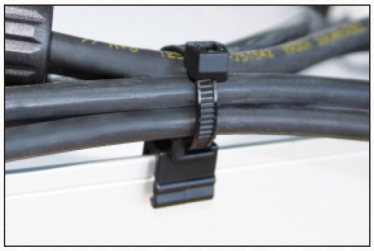
Solar E-Clips

Solar E-Clips include a wide selection of edge clips, clips and mounts to accommodate user preferences for bundling and routing applications. Made of materials that stand up to the harshest of environments, Solar E-Clips are designed for easy placement and removal for faster installations and reduced labor costs.

Solar E-Clips Applications:

- Solar farms
- Municipal projects
- Commercial rooftops
- Residential systems





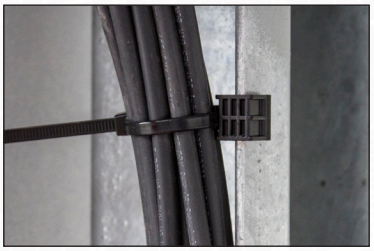
Type: T50REC4A, Part: 156-02230

Edge clip assemblies can be used to secure PV cable bundles of varying widths.



Type: T50REC5B, Part: 156-02225

Depending on wire routing needs, Solar E-Clip assemblies provide attachment on any edge of the solar module frame, to route cables parallel or perpendicular (as seen above).



Type: T50REC23, Part: 156-00592

Larger panel thicknesses call for larger Solar E-Clips. The versatility of the E-Clip is shown above, where the 3-6 mm clip applies perfectly to the end of a tracker row post, and combined with long lasting Solar Ties, can fit a wide range of bundle diameters.



Type: MSC2, Part: 151-00982

Metal Edge Clips feature a large thumb surface to allow for quick and easy installation.



Type: T50RPBM9SET, Part: 156-02512

Fits module holes and requires zero insertion force. Includes formula-matched Solar Tie to manage several cables.



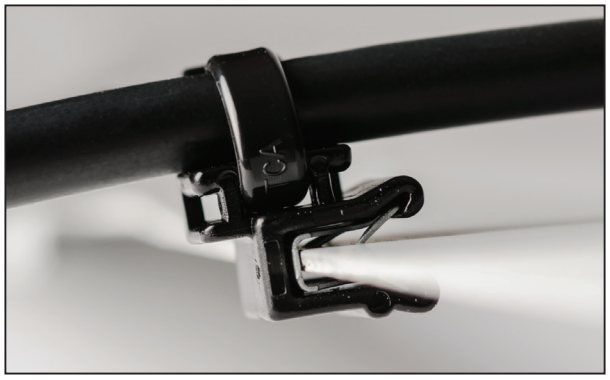
Type: LOC1014FT9x12, Part: 151-02218

Can fully close and lock over a cable bundle. Features a fir tree mount for easy installation. An integrated saddle allows an optional Solar Tie to be added.

While all Solar E-Clips products are made of UV stable material, HellermannTyton has the ability to customize these products for your specific preferences and applications.

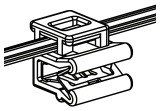
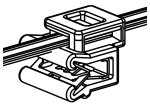
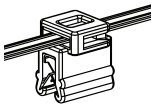
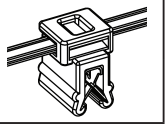
Solar Edge Clip and Cable Tie Assemblies (1 - 3 mm)

Part of the Solar E-Clip family, this solar cable tie and edge clip assembly is made of a proprietary, reinforced HIRHSUV to ensure years of reliable performance in any weather. The clip delivers high extraction force due to the integrated metal clamp, eliminating the need for mounting holes or adhesives, which can fail under temperature extremes. This combination part is perfect for routing one to eight cables along any solar module edge or similar application.



MATERIAL EDGE CLIP	Polyamide 6.6, high impact modified, heat and UV stabilized, proprietary blend (PA66HIRHSUVR5)
Material Cable Tie	Polyamide 6.6 high impact modified, heat and UV stabilized (PA66HIRHSUV)
Operating Temperature	-40°F to +239°F (-40°C to +115°C), -40°F to +230°F (-40°C to +110°C)
Flammability	UL 94 HB

RoHS

ARTICLE NO.	PART NO.	TYPE	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Max. Bundle Diameter in. (mm)	Color	Pkg. Qty.	Drawing
156-02224	**156-02224**	**T50REC5B**	50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	100	
156-02225	**156-02225**		50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	500	
156-02226	**156-02226**	**T50REC5A**	50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	100	
156-02227	**156-02227**		50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	500	
156-02228	**156-02228**	**T50REC4B**	50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	100	
156-02229	**156-02229**		50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	500	
156-02230	**156-02230**	**T50REC4A**	50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	100	
156-02231	**156-02231**		50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	500	

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.

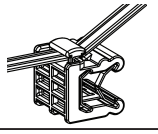
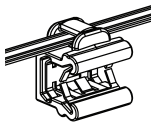
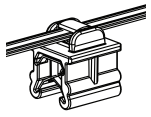
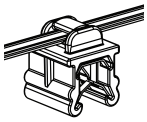
Solar Edge Clip and Cable Tie Assemblies (3 - 6 mm)

Part of the Solar E-Clip family, this solar cable tie and edge clip assembly is made of a proprietary, reinforced HIRHS to ensure years of reliable performance in any weather. The clip delivers high extraction force due to the integrated metal clamp, eliminating the need for mounting holes or adhesives, which can fail under temperature extremes. This combination part is perfect for routing one to eight cables along any solar module edge or similar application.



MATERIAL EDGE CLIP	Polyamide 6.6, high impact modified, heat stabilized (PA66HIRHS)
Material Cable Tie	Polyamide 6.6 UV-stabilized (PA66UV)
Operating Temperature	-40°F to +185°F (-40°C to +85°C), -40°F to +230°F (-40°C to +110°C)
Flammability	UL 94 HB

RoHS

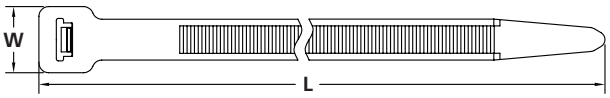
ARTICLE NO.	PART NO.	TYPE	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Max. Bundle Diameter in. (mm)	Color	Pkg. Qty.	Drawing
156-00592	**156-00592**	**T50REC23**	50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	100	
156-00593	**156-00593**	**T50REC24**	50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	100	
156-00590	**156-00590**	**T50REC19**	50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	100	
156-00591	**156-00591**	**T50REC20**	50.0 (225)	8.0 202.0)	0.18 4.6)	2.00 50.0)	Black	100	

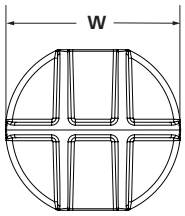
Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.

Button Mount with Cable Tie

This button head mount includes a Solar Tie to secure cables and wire bundles on solar modules. The mount conveniently fits existing holes in most solar modules with zero insertion force. Made from impact-modified, heat-resistant, UV stabilized Polyamide 6.6 material, it is specifically formulated for extreme environments. The mount is designed to withstand movement, particularly on single-axis tracker systems, for years of dependable performance.







MATERIAL	Polyamide 6.6 high impact modified, heat and UV stabilized (PA66HIRHSUV)
Operating Temperature	-40°F to +221°F (-40°C to +105°C)
Flammability	UL 94 HB

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ARTICLE NO.	PART NO.	TYPE	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Max. Bundle Diameter in. (mm)	Color	Pkg. Qty.
156-02512	**156-02512***	**T50RPBM9SET**	50 (225)	8.0 (203.2)	0.67 (17.0)	1.97 (50.0)	Black	500
156-02513	**156-02513***		50 (225)	8.0 (203.2)	0.67 (17.0)	1.97 (50.0)	Black	1000
156-03335	**156-03335**	**T50RUPBM9SET**	50 (225)	8.0 (203.2)	0.67 (17.0)	1.97 (50.0)	Black	1000

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
**This product meets UL standards. Please go to hellermanntyton.us for specific file numbers.*

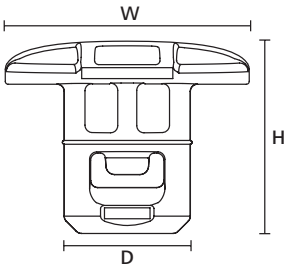
Button Mount with Cable Tie

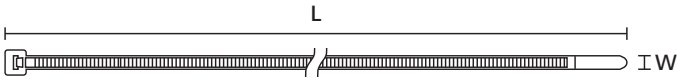
For Oval Holes

This button head mount includes a cable tie to secure cables and wire bundles to panels. Once placed through a panel hole, installers can insert the cable tie through the mount on the panel's opposite side. The button head mount is designed to fit pre-stamped oval hole sizes 7x10 mm, 7x12 mm, 8.5x16 mm, 9x12 mm and 9x14 mm with zero insertion force.



MATERIAL	Polyvinylidene Fluoride (PVDF), Polyamide 6.6 high impact modified, heat and UV stabilized (PA66HIRHSUV)
Operating Temperature	-40°F to +221°F (-40°C to +105°C)
Flammability	UL 94 HB





PART NO.	TYPE	Max. Bundle Diameter in. (mm)	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Height (H) in. (mm)	Mounting Hole Dia. in. (mm)	Color	Pkg. Qty.
156-03335	**T50RUPBM9SET**	2.0 (50.0)	50.0 (225.0)	8.0 (203.2)	0.7 (17.0)	0.5 (13.4)	0.28 x 0.39, 0.34 x 0.63, 0.35 x 0.47, 0.35 x 0.55, 0.35, 0.33 (7.0 x 10.0, 9.0 x 12.0, 9.0 x 14.0, 8.5 x 16.0, 8.5, 9.0)	Black	1000
156-03738		2.0 (50.0)	50.0 (225.0)	8.0 (203.2)	0.7 (17.0)	0.5 (13.4)	0.28 x 0.39, 0.34 x 0.63, 0.35 x 0.47, 0.35 x 0.55, 0.35, 0.33 (7.0 x 10.0, 9.0 x 12.0, 9.0 x 14.0, 8.5 x 16.0, 8.5, 9.0)	Gray tie, Black button mount	3000

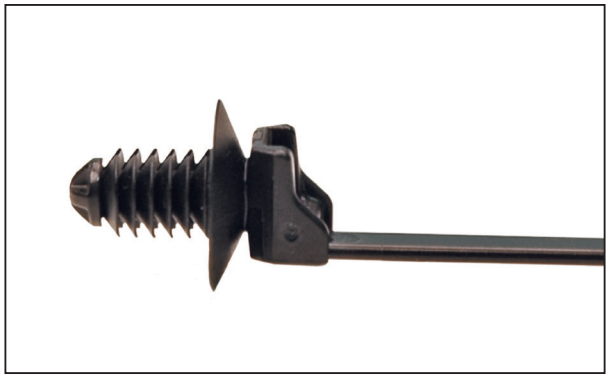
Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.

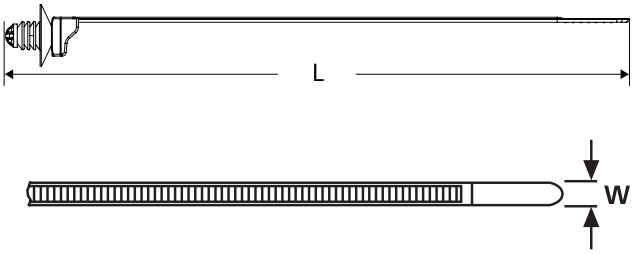
Cable Tie with Fir Tree Mount

The Cable Tie with Fir Tree Mount provides a low insertion force and a high extraction force. Manufactured of impact-modified Polyamide 6.6 material, it offers increased flexibility, heat resistance and UV stabilization.

MATERIAL	Polyamide 6.6 high impact modified, heat and UV stabilized (PA66HIRHSUV)
Operating Temperature	-40°F to +221°F (-40°C to +105°C)
Flammability	UL 94 HB

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PART NO.	ARTICLE NO.	TYPE	Min. Tensile Strength lbs. (N)	Length (L) in. (mm)	Width (W) in. (mm)	Max. Bundle Diameter in. (mm)	Panel Thickness in. (mm)	Mounting Hole Dia. in. (mm)	Color	Pkg. Qty.
157-00302	**157-00302**	**T50SOSFT6.5LG-E4X**	50 (225)	6.5 (165.0)	0.18 (4.6)	1.38 (35.0)	0.03 - 0.28 (0.7 - 7.0)	0.25 - 0.28 (6.3 - 7.0)	Black	4000

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.

Heavy Duty Metal Edge Clip

HellermannTyton's Heavy Duty Edge Clip provides an excellent alternative to managing wire and PV cables where plastic fasteners are not the preferred method. Designed for effortless insertion, the Heavy Duty Edge Clip has a high extraction force that tolerates extreme environments and provides assurance that the cables are secure on a panel. This Metal Edge Clip is simple to install and can easily be removed with a flathead screwdriver.



MATERIAL	Stainless Steel (SS304)
Operating Temperature	-112°F to +1000°F (-80°C to +538°C)

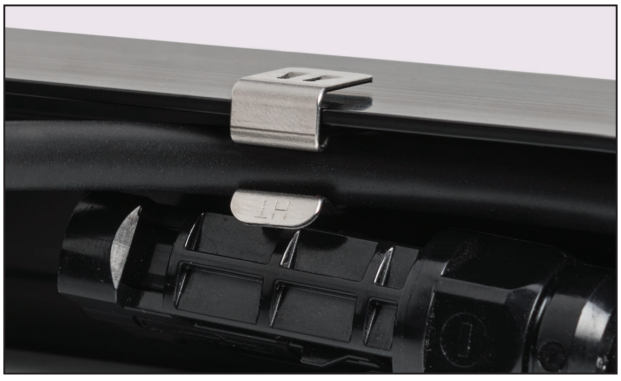
RoHS

ARTICLE NO.	PART NO.	TYPE		Min. Cable Diameter in. (mm)	Max. Cable Diameter in. (mm)	Length (L) in. (mm)	Width (W) in. (mm)	Color	Pkg. Qty.
151-02320	**151-00982***	**MSC2**	1.0 - 3.0)	0.20 (5.0)	0.30 (7.6)	0.95 (24.0)	0.50 (13.0)	Metal	5000
151-00982			1.0 - 3.0)	0.20 (5.0)	0.30 (7.6)	0.95 (24.1)	0.50 (13.0)	Metal	100

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
**This product meets UL standards.*

Low Profile Metal Edge Clip

Designed for more confined areas, HellermannTyton's Low Profile Metal Edge Clip provides an excellent alternative to managing wire and PV cables where plastic fasteners are not the preferred method.



MATERIAL	Stainless Steel (SS304)
Operating Temperature	-112°F to +1000°F (-80°C to +538°C)

RoHS

ARTICLE NO.	PART NO.	TYPE	Min. Cable Diameter in. (mm)	Max. Cable Diameter in. (mm)	Length (L) in. (mm)	Width (W) in. (mm)	Color	Pkg. Qty.
151-01699	**151-01699***	**MSC2LP**	0.161 (4.1)	0.276 (7.0)	0.67 (17.0)	0.375 (9.50)	Metal	100
151-02436	**151-02436***		0.161 (4.1)	0.276 (7.0)	0.67 (17.0)	0.375 (9.50)	Metal	5000

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
**This product meets UL standards.*

90-Degree Metal Edge Clip

HellermannTyton's 90-Degree Metal Edge Clip provides an excellent alternative to managing wire and PV cables where plastic fasteners are not the preferred method. Designed for effortless insertion, this edge clip also has a high extraction force. The 90-degree configuration secures cables to a panel in a perpendicular orientation. Metal construction tolerates extreme environments, and a low-profile design allows the clip to be installed on a wide variety of module edges.



MATERIAL	Stainless Steel (SS304)
Operating Temperature	-112°F to +1000°F (-80°C to +538°C)

RoHS

ARTICLE NO.	PART NO.	TYPE	Panel Thickness in. (mm)	Min. Cable Diameter in. (mm)	Max. Cable Diameter in. (mm)	Length (L) in. (mm)	Width (W) in. (mm)	Color	Pkg. Qty.
151-02189	**151-02189***	**MSC90**	0.06 - 0.078 (1.5 - 2.0)	0.161 (4.1)	0.276 (7.0)	0.73 (18.4)	0.460 (11.6)	Metal	100
151-02291	**151-02291***		0.06 - 0.078 (1.5 - 2.0)	0.161 (4.1)	0.276 (7.0)	0.73 (18.4)	0.460 (11.6)	Metal	5000
151-02569	**151-02569**	**MSC901**	0.03 - 0.049 (0.8 - 1.2)	0.161 (4.1)	0.291 (7.39)	0.73 (18.4)	0.460 (11.6)	Metal	100
151-02570	**151-02570**		0.03 - 0.049 (0.8 - 1.2)	0.161 (4.1)	0.291 (7.39)	0.73 (18.4)	0.460 (11.6)	Metal	5000

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
**This product meets UL standards.*

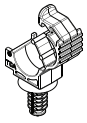
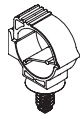
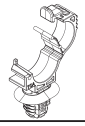
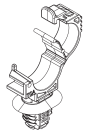
Solar Locking Clamps

The Solar Locking Clamp with locking mechanism holds up to four PV cables. The fir tree on this clamp enables it to be secured to most solar panel mounting holes. Part No. 151-02218 features an integrated cable tie saddle to accommodate 8" HellermannTyton Solar Ties, providing a secondary mounting solution for added wire routing options.



MATERIAL	Polyamide 6.6, high impact modified, heat stabilized (PA66HIRHS)
Operating Temperature	-40°F to +230°F (-40°C to +110°C)
Flammability	UL 94 HB

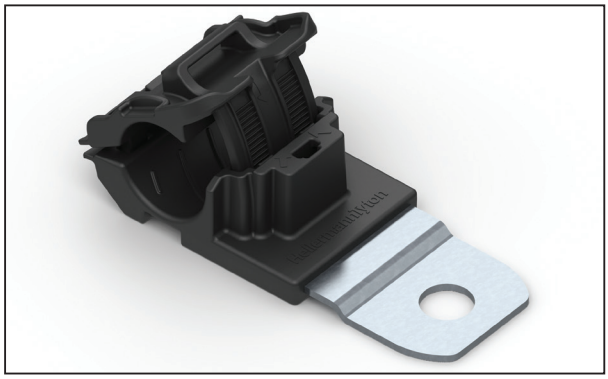
RoHS

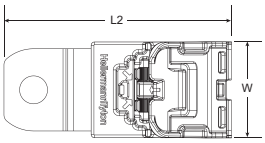
ARTICLE NO.	PART NO.	TYPE	Min. Bundle Diameter in. (mm)	Max. Bundle Diameter in. (mm)	Mounting Hole Dia. in. (mm)	Width (W) in. (mm)	Panel Thickness in. (mm)	Color	Pkg. Qty.	Drawing
151-01017	**151-01017**	**LOC59FT6LG**	0.20 (5.0)	0.35 (9.0)	0.24 - 0.26 (6.1 - 6.5)	0.47 (12.0)	0.02 - 0.32 (0.6 - 8.25)	Black	1700	
151-01166	**151-01166**	**LOC1014FT6LG**	0.40 (10.0)	0.55 (14.0)	0.24 - 0.28 (6.1 - 7.0)	0.47 (12.0)	0.02 - 0.32 (0.6 - 8.25)	Black	2000	
151-02218	**151-02218**	**LOC1014FT9x12**	0.39 (10.0)	0.55 (14.0)	0.35 x 0.47 0.35 x 0.55 (9.0 x 12.0), 9.0 x 14.0)	0.47 (12.0)	0.02 - 0.27 (0.6 - 6.75)	Black	100	
151-02501	**151-02501**		0.39 (10.0)	0.55 (14.0)	0.35 x 0.47 0.35 x 0.55 (9.0 x 12.0), 9.0 x 14.0)	0.47 (12.0)	0.02 - 0.27 (0.6 - 6.75)	Black	500	

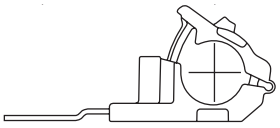
Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.

Ratchet P-Clamp

The Ratchet P-Clamp family offers versatility when managing wires, cables and hoses. The robust design and durable materials make it ideal for heavy duty applications, both indoors and out. The one-piece adjustable clamp can be closed by hand to the desired diameter. The release feature provides easy and nondestructive removal of cables simply by using a flat-head screwdriver. This nondestructive release allows the clamp to be reused without removing or replacing any bolts or screws. The Ratchet P-Clamp is offered in four sizes and multiple mounting configurations.



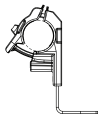
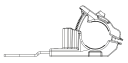
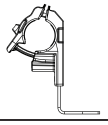
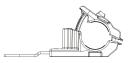
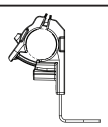
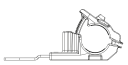




MATERIAL	Polyamide 6.6 high impact modified, heat and UV stabilized (PA66HIRHSUV), Steel (ST), Zinc plated (ZN)
Operating Temperature	-40°F to +257°F (-40°C to +125°C)
Flammability	UL 94 HB

RoHS

c UL us

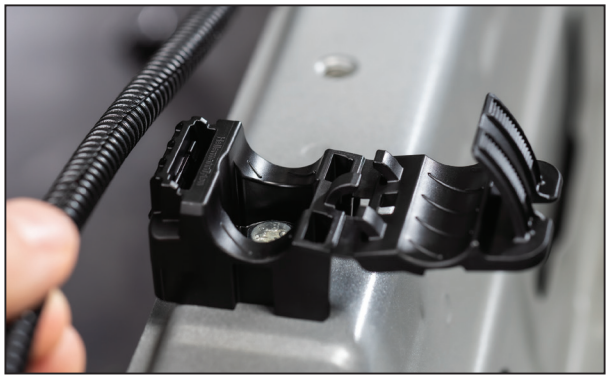
ARTICLE NO.	PART NO.	TYPE	Min. Bundle Diameter in. (mm)	Max. Bundle Diameter in. (mm)	Min. Tensile Strength lbs. (N)	Mounting Hole Centers in. (mm)	Mounting Hole Dia. in. (mm)	Angle/ Length	Width (W) in. (mm)	Length (L2) in. (mm)	Pkg. Qty.	Drawing
151-01458	151-01458*	RCB90SM10	0.5 (12.7)	0.8 (19.5)	100.0 (445.0)	1.1 (26.7)	0.4 (10.29)	90 ° Short	1.4 (34.9)	2.7 (68.8)	280	
151-01390	151-01390*	RCB180SM10	0.5 (12.7)	0.8 (19.5)	100.0 (445.0)	2.1 (52.8)	0.4 (10.29)	180 ° Short	1.4 (34.9)	3.3 (83.1)	280	
151-01493	151-01493*	RCC90SM10	0.8 (19.4)	1.4 (36.0)	100.0 (445.0)	1.6 (39.9)	0.4 (10.29)	90 ° Short	1.4 (34.9)	4.0 (101.2)	160	
151-01475	151-01475*	RCC180SM10	0.8 (19.4)	1.4 (36.0)	100.0 (445.0)	2.5 (62.3)	0.4 (10.29)	180 ° Short	1.4 (34.9)	4.1 (103.0)	160	
151-01519	151-01519*	RCD90SM10	1.4 (36.0)	2.0 (51.0)	100.0 (445.0)	1.7 (42.4)	0.4 (10.29)	90 ° Short	1.4 (34.9)	3.5 (88.7)	160	
151-01501	151-01501*	RCD180SM10	1.4 (36.0)	2.0 (51.0)	100.0 (445.0)	2.8 (70.0)	0.4 (10.29)	180 ° Short	1.4 (34.9)	4.6 (115.5)	160	

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
**This product meets UL standards.*

Ratchet P-Clamps

Quick2Clamp Inline Ratchet P-Clamps

The Quick2Clamp offers ultra-fast installation and versatility for managing conduit, tubing and cables. The built-in strut mount attaches with a simple twist. The one-piece design makes it simple to install without tools. Robust, adjustable clamp closes by hand to the desired diameter. A release feature allows easy and nondestructive maintenance simply by using a flat-head screwdriver. In this way, the clamp can be reused or serviced without removing it from the strut.

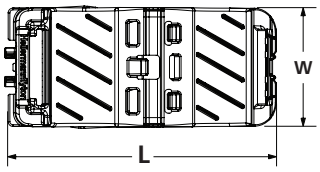


Features and Benefits

- Clamp and mount combination means no extra hardware is needed, for time-saving, toolless, one-handed installation.
- Three size ranges handle diameters from 0.5" to 2", reducing part inventory.
- Clamp saddle provides additional attachment option using a cable tie.
- Impact modified, heat and UV stabilized PA66 provides long-term durability, indoors and out.

MATERIAL	Polyamide 6.6 high impact modified, heat and UV stabilized (PA66HIRHSUV)
Operating Temperature**	-40°F to +221°F (-40°C to +105°C)
Color	Black (BK)

HF ✓ RoHS ✓



PART NO.	TYPE	Min. Bundle Diameter in. (mm)	Max. Bundle Diameter in. (mm)	Max. Recommended Load lbs (N)	Strut Profile	Length (L) in. (mm)	Width (W) in. (mm)	Pkg. Qty.
156-03000*	**IRCBSTRUT**	0.5 (12.7)	0.8 (19.5)	70.0 (311.0)	1-5/8 strut attachment	3.2 (79.9)	1.4 (34.8)	200
156-03002*	**IRCCSTRUT**	0.8 (19.4)	1.4 (36.0)	70.0 (311.0)	1-5/8 strut attachment	4.6 (115.9)	1.4 (34.8)	200
156-03004*	**IRCDSTRUT**	1.4 (36.0)	2.0 (51.0)	70.0 (311.0)	1-5/8 strut attachment	5.6 (140.9)	1.4 (34.8)	200

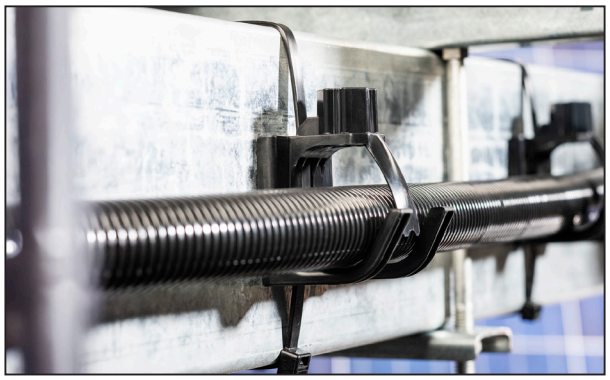
Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.
***Ratchet P-Clamps have been tested to -40°F to +257°F (-40°C to +125°C)*

Mammoth Mount™

This solar cable management device is designed specifically for GameChange Solar trackers. Once mounted, cables or tubes can be simply pushed in past the flexible retainer to nest, fully enclosed, within the 1.5" opening.

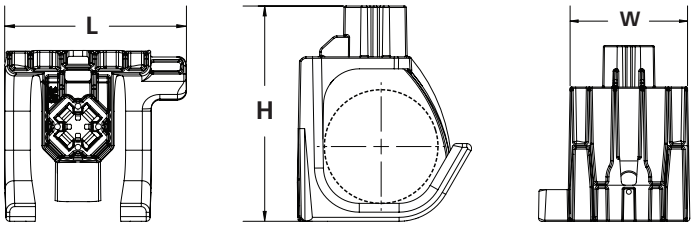
Features and Benefits

- Large, 1.5" opening supports multiple cables or tubing.
- Three mounting options - M10 stud mount, T120X or T120XLM cable tie tube mount and M5 hex head screw mount, adapt to a variety of installation scenarios.
- Unique, flexible retainer allows routings to be easily inserted, but demonstrates rigidity in opposite direction to provide 360-degree containment.
- For applications where mount will be rotated 180 degrees, the integrated support saddle accommodates the addition of a cable tie to provide additional routing security.



MATERIAL	Polyamide 6.6 high impact modified, heat and UV stabilized (PA66HIRHSUV)
Operating Temperature	-40°F to +221°F (-40°C to +105°C)
Color	Black (BK)

HF ✓ RoHS ✓



PART NO.	TYPE	Max. Bundle Diameter in. (mm)	Screw Size in. (mm)	Stud Dia. in. (mm)	Length (L) in. (mm)	Width (W) in. (mm)	Height (H) in. (mm)	Color	Pkg. Qty.
151-03828	**SLRCN12SM38**	1.5 (38.1)	#12 (0.22") (M5)	3/8 (M10)	2.44 (62.0)	1.89 (48.1)	2.83 (72.0)	Black	200

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.

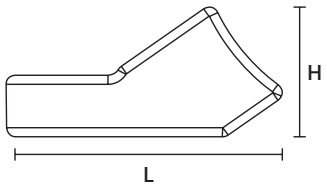
Solar Heavy Duty Mounts

HellermannTyton Solar Heavy Duty mounts can accommodate standard width and Wide Strap Solar Ties, eliminating the need to carry multiple sizes of fixed bundle diameter clamps. This reduces inventory and purchasing costs while simplifying the assembly process.



MATERIAL	Polyamide 6.6 high impact modified, heat and UV stabilized (PA66HIRHSUV)
Operating Temperature	-40°F to +230°F (-40°C to +110°C)
Flammability	UL 94 HB

RoHS



ARTICLE NO.	PART NO.	TYPE	Length (L) in. (mm)	Width (W) in. (mm)	Color	Pkg. Qty.	
151-00437	**HDM250HIRC2**	**HDM25**	1.4 36.3)	0.75 19.3)	Black	100	
151-00134	**HDM190HIRC2**	**HDM19**	1.4 36.3)	0.76 19.3)	Black	100	

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.

Heavy Duty Wedge Clips

in PA66HSGF30

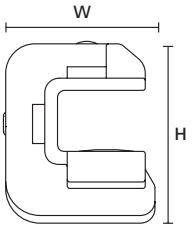
The Wedge Clip, paired with any HellermannTyton heavy duty cable tie, routes cables along a frame or rail in vertical or horizontal applications. A robust design and durable materials make it ideal for extreme-duty applications. The integrated wedge mechanism slides along a stepped grade until snug against the mounting surface. Inside the clip is a 3M™ VHB™ (Very High Bond) adhesive pad, which actually builds strength over time. This holds the clip to the work surface instantly, enabling installers to place it into position without worrying about it falling off prior to fastening. The combination of adhesive and the clip's vice-like compression result in incredible extraction force without the need to drill holes. The Wedge Clip is offered in three sizes.

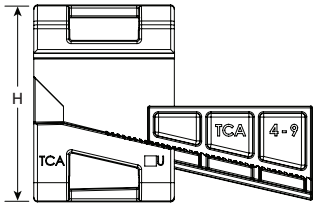


MATERIAL	Polyamide 6.6, glass fiber reinforced (PA66GF30), Polyamide 6.6, glass-fibre reinforced (PA66GF35)
Operating Temperature	-40°F to +284°F (-40°C to +140°C)
Flammability	UL 94 HB

Features and Benefits

- Two-piece ratcheting wedge design allows for easy, positive-locking size adjustment.
- Peel and stick 3M™ VHB™ adhesive inside clip increases grip and enables one-hand installation.
- Heat-stabilized, glass-filled PA66 assembly delivers remarkable extraction force without drilling.
- Three sizes cover a wide range of mounting thicknesses, reducing part inventory.
- 4-way, wide slot accommodates our heavy duty and Wide Strap Series Cable Ties.





PART NO.	TYPE	Panel Thickness in. (mm)	Length (L) in. (mm)	Width (W) in. (mm)	Height (H) in. (mm)	Material	Color	Pkg. Qty.
151-01565	**BCAA**	0.0 - 0.2 (0.0 - 5.0)	1.2 (30.8)	1.1 (28.6)	1.7 (43.1)	PA66GF30, PA66GF35	Black, Green	200
151-01566	**BCBLGA**	0.2 - 0.4 (9.0 - 9.0)	1.2 (30.8)	1.1 (28.6)	1.7 (43.1)	PA66GF30	Black	200
151-01567	**BCCLGA**	0.3 - 0.5 (8.0 - 13.0)	1.2 (30.8)	1.1 (28.6)	1.7 (42.7)	PA66GF30, PA66GF35	Black, Gray	200

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes. 3M and VHB are trademarks of 3M Company.

Solar I-Beam Cable Guides

Effectively routes PV cables

The Solar I-Beam Cable Guide is a cable routing device affixed to the top cross section of an I-beam pile to reduce potential abrasion damage to PV cabling during cable pull operations. The oversized edge clip design can be top loaded or rolled into position, making it easier to attach to the post even after panels have been installed and space is restricted. This top-of-beam clip accommodates a wide range of I-beam thicknesses from 0.125" to 0.50". The I-Beam Cable Guide is easy to install, creates less wobble, holds more wires and has better side loading resistance.

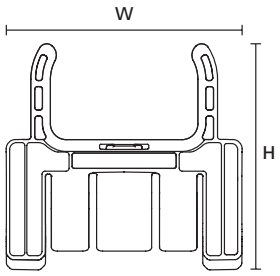
Features and Benefits

- Wide-body design prevents wobble caused by the lateral strain created during wire pull activities.
- Tool-free installation saves time and reduces installation costs.
- Clip-on styling for easy installation, even in constrained spaces.
- Cradle arms guide cabling and prevent bundles from escaping during pulling operations.
- Cable tie saddle for cinching down bundles when install is complete.



MATERIAL	Polyamide 6.6 high impact modified, heat and UV stabilized (PA66HIRHSUV)
Operating Temperature	-40°F to +230°F (-40°C to +110°C)
Color	Black (BK)

RoHS



PART NO.	TYPE	Max. Bundle Diameter in. (mm)	I-Beam Thickness in. (mm)	Height (H) in. (mm)	Width (W) in. (mm)	Color	Pkg. Qty.
151-04320	**IBBCLPSLR1**	2 (50.8)	0.125 - 0.5 (3.3 - 12.7)	4.53 (115.0)	4.7 (119.8)	Black	250
151-04540		-	-	-		Black	200

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.

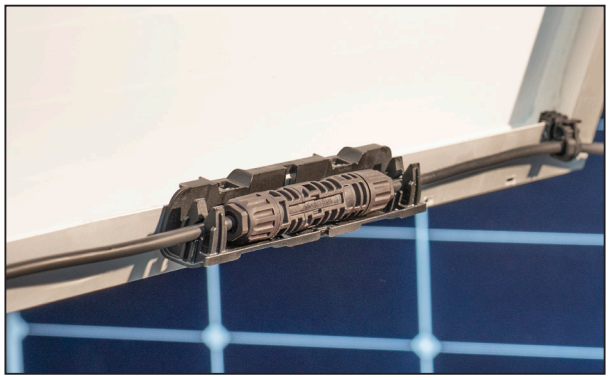
Solar PV Connector Holder

For MC4 or MC4 EVO2 solar connectors

Designed to securely hold an MC4, MC4 EVO2 or comparable solar connector with an outer diameter of 21.5 mm and a maximum length of 122.0 mm. The solar connector can be easily installed and removed at any time.

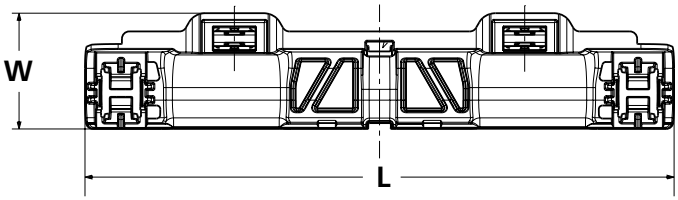
Features and Benefits

- Tool-free, push on installation enables fast, one-handed mounting onto edges, reducing time and labor.
- Non-destructive release capability allows the connector to be removed without damage, supporting serviceability and reducing waste.
- Integrated, dual metal clips provide secure mounting, ensuring long-term retention and vibration resistance.
- Fastens to an edge, for applications where drilling or adhesive are not suitable.



MATERIAL	Polyamide 6.6 heat and UV stabilized (PA66HSUV), Steel C75S (C75S)
Operating Temperature	-40°F to +221°F (-40°C to +105°C)
Color	Black (BK)

HF ✓ RoHS ✓



PART NO.	TYPE	Panel Thickness in. (mm)	Length (L) in. (mm)	Width (W) in. (mm)	Color	Pkg. Qty.
151-04425	**SPC-DEC1-3SP**	0.04 - 0.12 (1.0 - 3.0)	6.39 (162.4)	1.26 (31.9)	Black (BK)	60

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.

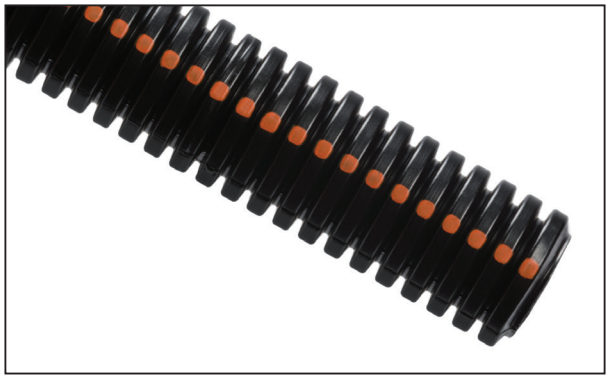
Protection Products

HelaGuard nylon conduit utilizes materials that are highly resistant to UV rays, making it ideally suited for use in solar applications. Slit construction helps ease installation and offers easy access to wires and cables during and post installation. HelaGuard HG-HISL series conduit is made of PA12 nylon, which offers superior protection against UV rays. HG-SWSL is made of PA6 nylon, which contains additives that help enhance its resistance to UV without sacrificing its flexibility. HG-DC series HelaGuard conduit offers a unique interlocking construction that not only makes installations fast and easy, but also provides a dual layer of PA6 material to fend off UV radiation.



Convoluted Tubing

HellermannTyton's Convoluted Tubing, also known at Split Loom Tubing, provides an efficient method of routing and protecting wire harness assemblies, while reducing the chance of installation damage. With a split down the side where you can insert your wire harness, you can easily install Convoluted Tubing without removal of the entire assembly. It can also serve to protect valuable hoses and cables. Convoluted tubing offers excellent protection against vibration wear, water, snow, ice and the effects of heat, cold and sunlight on cables and wires.



MATERIAL	Polyethylene, UV-resistant (PEUV)
Operating Temperature	-40°F to +199°F (-40°C to +93°C)
Flammability	UL 94 HB

RoHS ✓

HF ✓

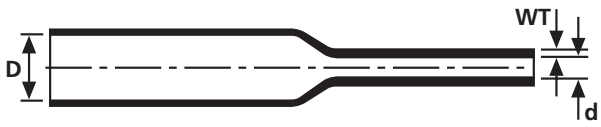
ARTICLE NO.	PART NO.	TYPE	Nominal Dia. in. (mm)	Diameter (D) in. (mm)	Diameter (D2) in. (mm)	Wall Thickness (WT) in. (mm)	Color	Pkg. Qty.
904-00358	**904-00358**	**CTPUV340**	0.75 (19.05)	0.989 (25.12)	0.759 (19.28)	0.005 (0.127)	Black with Orange Stripe	4200 ft
904-00359	**904-00359**	**CTPUV10**	1.0 (25.4)	1.32 (33.53)	1.06 (26.92)	0.006 (0.152)	Black with Orange Stripe	2250 ft
904-00357	**904-00357**	**CTPUV1120**	1.5 (38.1)	1.647 (41.83)	1.647 (41.83)	0.006 (0.152)	Black with Orange Stripe	1000 ft
904-00921	**904-00921**	**CTPUV20**	2.0 (50.8)	2.388 (60.66)	2.038 (51.77)	0.011 (0.28)	Black with Orange Stripe	800 ft

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.

Heat Shrink Tubing - Medium Wall

MA47 is a medium wall heat shrink tubing with an adhesive lining for use in low voltage solar applications. The thermoplastic adhesive liner provides excellent moisture sealing and insulation protection of cable joints and terminations. Made of a polyolefin outer material, this tubing has a shrink ratio up to 4 to 1. The adhesive lining begins to activate as the temperature approaches 185° F (85° C). Individually labeled 4-foot sticks come packaged in a retail display box.





MATERIAL	Polyolefin, cross-linked (PO-X)
Operating Temperature	-67°F to +230°F (-55°C to +110°C)
Flammability	Not Flame Retardant

RoHS ✓

HF ✓

ARTICLE NO.	PART NO.	TYPE	Trade Size	Supplied Ø (D) in. (mm)	Recovered Ø (D) in. (mm)	Wall Thickness in. (mm)	Color	Pkg. Qty.
323-50013	**323-50013**	**TREDUX MA47-48ST-40/12**	1-1/2	1.57 (40.0)	0.47 (12.0)	0.09 (2.5)	Black	4
323-50012	**323-50012**	**TREDUX MA47-48ST-30/8**	1-1/4	1.181 (30.0)	0.314 (8.0)	0.09 (2.6)	Black	6
323-50014	**323-50014**	**TREDUX MA47-48ST-50/16**	2	1.969 (50.0)	0.62 (16.0)	0.10 (2.7)	Black	2
323-50011	**323-50011**	**TREDUX MA47-48ST-19/6**	3/4	0.748 (19.0)	0.236 (6.0)	0.09 (2.4)	Black	10

Dimensions are approximate and subject to technical changes. Use Part No. for ordering and Type for specification purposes.

We know code



We're working to simplify NEC code compliance

Let's face it. NEC code compliance can be a complicated process, and each inspector may have a different interpretation of a given code. HellermannTyton is leading the way in code simplification and working to streamline the photovoltaic labeling process to make it easier for contractors to properly label installations and pass inspections. Consider the example of using engraved phenolic plates versus labels…

The Guideline The 2014 National Electrical Code (NEC) and the 2012 International Fire Code (IFC) have been updated to reflect the growing needs of the installer at both the commercial and residential levels. This includes more detail on labeling, which is an important part of any installation. The NEC indicates that the markings must be of sufficient durability to withstand the environment, while the IFC states that adhesive vinyl signs are acceptable if properly adhered. NEC 2014 label requirements are backward compatible to the NEC 2008 and NEC 2011 codes. Municipalities that are still using older revisions of the NEC code can use the new NEC 2014 labels without risk.

The Reality Many local municipalities still require the use of engraved plates, but the market is changing to better protect first responders and emergency personnel. Adhesive vinyl labels that are red with white text, reflective, and meet UL 969 standards are described in the new codes and are designed to be more visible, more durable, and work on more applications.

The Perception Today, many local inspectors and the Authority Having Jurisdiction (AHJ) believe that only engraved phenolic plates are acceptable, but neither the NEC nor the IFC specify the use of engraved markers. Many installers are now able to use (code acceptable) adhesive label options that are in accordance with the dimensional, functional and verbiage requirements needed to ensure a safe and informative installation. As always, the installer must check local codes before deciding the best and most cost effective way to label the installation.

The Situation The primary concern with engraved or etched signage (phenolic plates) is the lack of flexibility, high cost, and lead times which can delay inspections. Typical phenolics are not made with UV stable materials. Printing labels on site, as needed, or purchasing preprinted inventory saves time and reduces labor costs without sacrificing UV stability and outdoor durability.

The Option HellermannTyton's solar installation labels are UV durable and feature an ultra-bond adhesive for both powder coat and baked enamel surfaces. preprinted with the most common legends to meet the requirements of the AHJ, the labels are manufactured using ultraviolet resistant ink, permanent acrylic adhesive, and a base material to withstand environmental elements.

The Benefit HellermannTyton offers a line of the most commonly used regulatory solar identification labels on large utility and scaled PV installations.

- Significant cost & time savings
- Tested to UL 969 standard
- Made with UV stable inks and materials for durability and weather resistance
- Adhere to baked enamel and powder coat painted surfaces
- Supplied with an aggressive adhesive to ensure long life
- Meet NEC and IFC standards for printed text, character height, color and outdoor UV stability

HellermannTyton

Solar Identification

HellermannTyton offers the most comprehensive and innovative line of identification products for the solar industry. In order to meet the needs of our customers, HellermannTyton has developed a variety of flexible labeling and printing solutions. Solar Identification printers, labels and software are designed to help contractors quickly label electrical panels, boxes and conduit for faster installations that pass inspection the first time.

Flexibility to label and print the way you want, when you want.



Solar Labels

HellermannTyton provides you with all the label options you need for code-compliant photovoltaic labeling. Choose from a complete line of preprinted NEC 2017, NEC 2014 and NEC 2011 labels. For voltage and current labeling, we offer variable print label options with a partially printed template. Or, you can choose to print your own labels using printable continuous vinyl label rolls with our TagPrint Pro label template software and your choice of printer.



Printing Systems

With a choice in printing options, HellermannTyton provides you with the power to choose when and where you want to print. Our TT130SMC and TT230SMC thermal transfer printers are portable enough to take to the job site and powerful enough to quickly create all the PV labels you need.

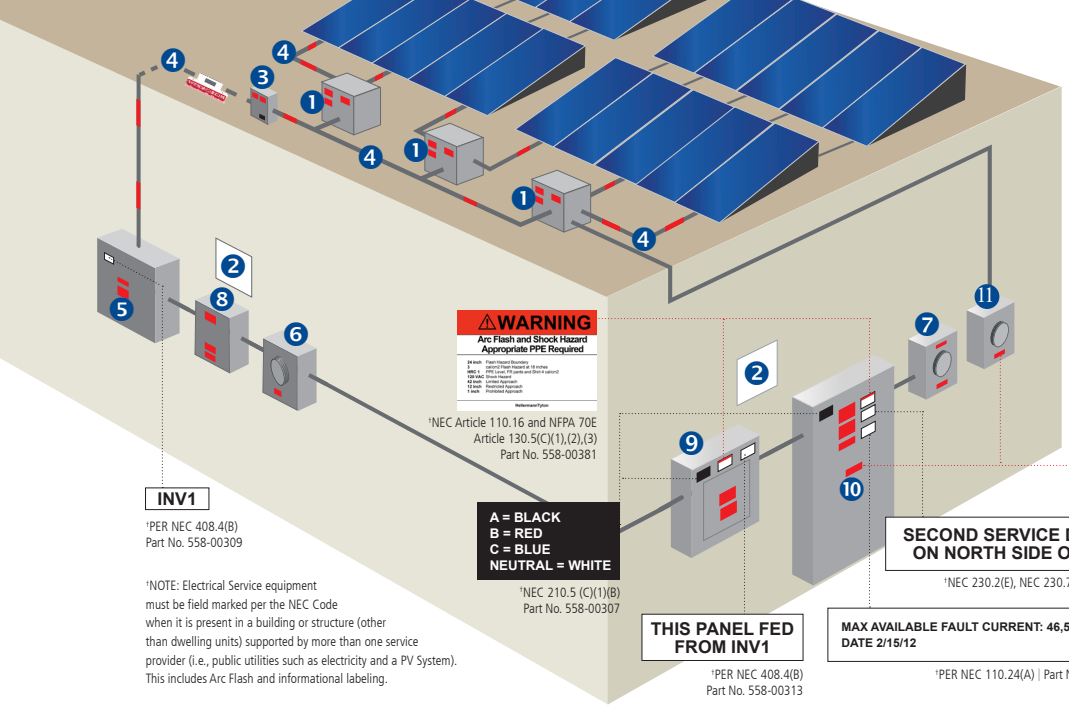


TagPrint Pro Software

The latest version of our popular open-system label creation software makes proper PV labeling easy. TagPrint Pro 4.0 can be used with any thermal transfer printer to create labels quickly and easily. Simply select a previously saved label template, or easily customize your own labels. There is no other label creation software solution like it.

Tap into NEC Code Compliance.
For the ultimate in NEC code reference and labeling convenience, download the TagPrint Xpress Solar mobile app from the App Store℠ or Google Play™ today. See page 56 for more information.

App Store is a service mark of Apple Inc. Google Play is a trademark of Google Inc.



This diagram is an illustration of one photovoltaic labeling scenario. The number and type of labels needed will vary based on the project scope and its related specifications. Check with AHJ for local requirements.

†NEC Article 110.16 and NFPA 70E Article 130.5(C)(1),(2),(3) Part No. 558-00381

†PER NEC 408.4(B) Part No. 558-00309

†NOTE: Electrical Service equipment must be field marked per the NEC Code when it is present in a building or structure (other than dwelling units) supported by more than one service provider (i.e., public utilities such as electricity and a PV System). This includes Arc Flash and informational labeling.

†NEC 210.5 (C)(1)(B) Part No. 558-00307

†NEC 230.2(E), NEC 230.72(A) | Part No. 558-00313

†PER NEC 408.4(B) Part No. 558-00313

†PER NEC 110.24(A) | Part No. 558-00313

†NEC Article 690.56(C) | Part No. 596-00474
Reflective Material Required.

❶ Combiner Box, Circuits / Conduit Combiner Box / Enclosures / EMT Enclosures

WARNING
ELECTRICAL SHOCK HAZARD
DO NOT TOUCH TERMINALS TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

NEC 690.17(E) | Part No. 596-00497

WARNING
ELECTRICAL SHOCK HAZARD
THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED

NEC 690.35(F) | Part No. 596-00588

WARNING
TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

NEC 110.27(C) & OSHA 1910.145(f)(7) Part No. 596-00499

❷ Building / Structure

CAUTION
POWER TO THIS SERVICE IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS LOCATED AS SHOWN

NEC 690.56(B) | Part No. 558-00350

❸ DC Disconnect / Breaker / Recombiner Box

WARNING
ELECTRICAL SHOCK HAZARD
THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED

NEC 690.35(F) | Part No. 596-00588

WARNING
ELECTRICAL SHOCK HAZARD
DO NOT TOUCH TERMINALS TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION
DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

NEC 690.17(E) | Part No. 596-00496

RATED AC OPERATING CURRENT
MAX RATED AC OPERATING CURRENT
RATED AC OPERATING VOLTAGE
MAX RATED AC OPERATING VOLTAGE
RATED SHORT CIRCUIT CURRENT
MAXIMUM SYSTEM VOLTAGE

FOR MARKING DC BACKUP SYSTEMS | Part No. 596-00240

PHOTOVOLTAIC DC DISCONNECT

IFC 605.11.3, NEC 690.15 & NEC 690.13(B) Part No. 596-00238

PV SYSTEM DC DISCONNECT
OPERATING CURRENT:
OPERATING VOLTAGE:
MAXIMUM SYSTEM VOLTAGE:
SHORT CIRCUIT CURRENT:

NEC 690.53 | Part No. 596-00241

RATED MAX POWER-POINT CURRENT
RATED MAX POWER-POINT VOLTAGE
MAXIMUM SYSTEM VOLTAGE
MAXIMUM CIRCUIT CURRENT
MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER IF INSTALLED

NEC 690.53 | Part No. 596-00253

❹ EMT / Conduit Raceways

**(Reflective Material Required)*

WARNING: PHOTOVOLTAIC POWER SOURCE

NEC 690.31(G)(3)(4) | Part No. 596-00206

WARNING
PHOTOVOLTAIC POWER SOURCE
DO NOT REMOVE UNLESS REPLACED IN EXACT LOCATION - PV POWER CIRCUIT DIRECTLY BELOW

NEC 690.31(G)(I) | Part No. 596-00257

❺ Inverter

WARNING
ELECTRICAL SHOCK HAZARD
IF A GROUND FAULT IS INDICATED NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED

NEC 690.5(C) | Part No. 596-00498

WARNING
BIPOLAR PHOTOVOLTAIC ARRAY. DISCONNECTION OF NEUTRAL OR GROUNDED CONDUCTORS MAY RESULT IN OVERVOLTAGE ON ARRAY OR INVERTER

NEC 690.31(I) | Part No. 596-00590

PHOTOVOLTAIC AC DISCONNECT
MAXIMUM AC OPERATING CURRENT:
MAXIMUM AC OPERATING VOLTAGE:

NEC 690.54 | Part No. 596-00239

❻ Production / Net Meter

WARNING
ELECTRICAL SHOCK HAZARD
IF A GROUND FAULT IS INDICATED NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED

NEC 690.5(C) | Part No. 596-00498

❼ Production / Net Meter (Bi-directional)

CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED

NEC 690.15 & NEC 690.13(B) | Part No. 596-00613

WARNING DUAL POWER SOURCE
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

NEC 705.12(D)(3) & NEC 690.64 | Part No. 596-00495

❽ AC Disconnect / Breaker / Points of Connection

PHOTOVOLTAIC AC DISCONNECT

IFC 605.11.3, NEC.690.15, NEC 690.13(B) Part No. 596-00237

WARNING
ELECTRICAL SHOCK HAZARD
DO NOT TOUCH TERMINALS TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

NEC 690.17(E) | Part No. 596-00497

NOMINAL OPERATING AC VOLTAGE
NOMINAL OPERATING AC FREQUENCY
MAXIMUM AC POWER
MAXIMUM AC CURRENT
MAX OVERCURRENT DEVICE RATING FOR AC MODULE PROTECTION

NEC 690.52 | Part No. 596-00252

PHOTOVOLTAIC AC DISCONNECT
MAXIMUM AC OPERATING CURRENT:
MAXIMUM AC OPERATING VOLTAGE:

NEC 690.13(B) | Part No. 596-00239

Requirements for Electrical Installations (Field Marking)

NEC 110.16 Electrical equipment in other than dwelling units shall be field marked to warn qualified persons of a potential Arc Flash hazard.

NEC 110.24(A) Service equipment in other than dwelling units shall be legibly field marked with the available fault current.

NEC 110.27(C) Entrances to rooms or other guarded locations that contain exposed live parts shall be marked with conspicuous warning signs forbidding unqualified persons to enter.

NEC 230.2(E) Where a building or structure is supported by more than one service, add a plaque to denote all other services.

NEC 210.5(C)(1)(B) Branch Circuits: The identification methods used for conductors originating within each branch circuit shall be documented in a manner that is readily available or shall be permanently posted at each branch-circuit panelboard or distribution equipment.

NEC 408.4(B) All switchboards and panelboards supplied by a feeder in other than one- or two-family dwellings shall be marked to indicate the device or equipment where the power supply(s) originates.

Photovoltaic System LABELING REQUIREMENTS

NEC 2014 ARTICLE 690 AND IFC 2012

Adhesive Fastened Signs

ANSI Z535.4 – 2011 *Product Safety Signs and Labels*, provides guidelines for the design and durability of safety signs and labels for application to electrical equipment. NEC 110.21(B)(1)

The label shall be suitable for the environment where it is installed. NEC 110.21(B)(3)

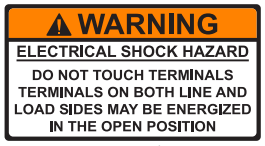
Where required elsewhere in this code, all field applied labels, warnings and markings should comply with ANSI Z535.4. NEC 110.21(B) FIELD MARKING

Adhesive fastened signs may be acceptable if properly adhered. Vinyl signs shall be weather resistant. IFC 605.11.1.3

❾ Breaker Panel / Pull Boxes



NEC 690.5(C) | Part No. 596-00498



NEC 690.17(E) | Part No. 596-00497



NEC 110.27(C) & OSHA 1910.145(f)(7)
Part No. 596-00499



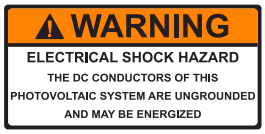
NEC 705.12(D)(3) & NEC 690.64 | Part No. 596-00495



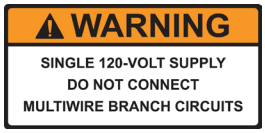
NEC 705.12(D)(2)(3b) | Part No. 596-00589



NEC 705.12(D)(3-4) & NEC 690.64
Part No. 596-00587



NEC 690.35(F) | Part No. 596-00588



NEC 690.10(C) | Part No. 596-00591

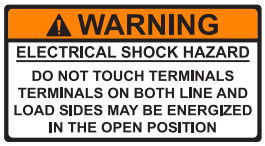


NEC 690.33(E)(2) | Part No. 596-00244



NEC 690.54 | Part No. 596-00239

❿ Main Service Disconnect



NEC 690.17(E) | Part No. 596-00497



NEC 110.27(C) and OSHA 1910.145(f)(7)
Part No. 596-00499



NEC 690.15 & NEC 690.13(B) | Part No. 596-00243



NEC 690.15 & NEC 690.13(B) | Part No. 596-00613

⓫ Main Service Disconnect



NEC 690.15 & NEC 690.13(B) | Part No. 596-00243

NEC 705.12(D)(2)(3b) Where two sources, one a utility and the other an inverter, are located at opposite ends of a busbar that contains loads, a permanent warning label shall be applied to the distribution equipment adjacent to the back-fed breaker from the inverter that displays the text on Part No. 596-00589, or equivalent wording.

NEC 705.12(D)(3-4) Equipment containing overcurrent devices in circuits supplying power to a busbar or conductor supplied from multiple sources shall be marked to indicate the presence of all sources.

NFPA 2012 130.5(C) Same as NEC110.16 but includes additional label information that was required after 9/30/2011. Check latest 2012 NFPA Arc Flash requirements.

OSHA 1910.145(f)(7) Warning tags are used to represent a hazard level between "Caution" and "Danger."

Labeling Requirements for Article 690

NEC 690.13(B) Each photovoltaic system disconnecting means shall be permanently marked to identify it as a photovoltaic system disconnect.

NEC 690.15, IFC 605.11.3 If the equipment is energized from more than one source, the disconnecting means must be grouped and identified.

NEC 690.16(B) Non-load break rated disconnect means shall be marked.

NEC 690.17(E) Where all terminals of the disconnecting means may be energized in the open position, a warning label shall be mounted on or adjacent to the disconnecting means.

NEC 690.31(B) Identification and Grouping Photovoltaic system conductors shall be identified and grouped. The means of identification shall be permitted by separate color coding, marking tape, tagging or other approved means.

NEC 690.31(G)(3)(4), IFC 605.11.1.2 Labels shall appear at every section of the wiring system that is separated by enclosures, walls, partitions, ceilings or floors. Spacing between labels not to exceed 10 feet (3 m).

NEC 690.33(E)(2) Interruption Current: be a type that requires the use of a tool to open will be marked "Do Not Disconnect Under Load."

NEC 690.35(F) A PV power source shall be labeled at each junction box, combiner box or disconnect, and device where energized, ungrounded circuits may be exposed during service.

NEC 690.31(G)(1) Where circuits are embedded in build up, laminate or membrane roofing materials not covered by PV modules and associated equipment, the location of the circuits shall be clearly marked.

NEC 690.31(I) Bipolar photovoltaic systems shall be clearly marked with a permanent, legible warning notice indicating that the disconnection of the grounded conductor(s) may result in overvoltage on the equipment.

NEC 690.5(C) A label shall appear on the utility interactive inverter or be applied by the installer near the ground fault indicator at a visible location.

NEC 690.52 AC modules shall be marked with identification terminals or leads with the ratings as shown on the label.

NEC 690.53 A permanent label for the direct-current PV power source shall be provided by the installer at the PV disconnecting means.

NEC 690.54 All interactive system points of interconnection with other sources shall be marked at an accessible location at the disconnecting means as the power source and with the rated AC output current and the nominal operating AC voltage.

NEC 690.55 PV power systems employing energy storage shall also be marked with the maximum operating voltage, including any equalization voltage and polarity of the grounded circuit conductor.

NEC 690.56(C) Each Rapid Shutdown Switch shall be permanently marked to identify it as a Photovoltaic Rapid Shutdown. The sign or placard shall be marked as "PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN" using white letters that are 3/8" tall on a red background and shall be reflective.

NEC 690.64 Points of connection shall be in accordance with NEC 705.12.

Check-HT

When you see the on selected HellermannTyton Solar Installation labels, you can be assured of the highest performance and value in the market. When long-term durability is important to maintain a safe installation environment, and when the labeling needs to keep pace with the warranty of the PV system, "Check-HT" is the mark of quality that represents a program of excellence in design and development over any other manufacturer in the industry.

When specifying or installing "Check-HT" Solar Labels, the user is assured of:

- Proven real-world outdoor testing exceeding seven years with very little or no degradation.
- Over 10,000 hours of Xenon Arc accelerated testing, representing over 15 Florida sun years of light exposure.
- Documented material specification sheets showing test results and performance characteristics.
- A limited, 7-year warranty covering installed labels during the life of the system.
- Where applicable, a 25-year rating on selected Metal Solar Placards.

Benefits

1. Improves inspection efficiency, saving time by not having to verify the suitability of the materials and adhesives. Simply look for the logo.
2. Satisfies insurance companies of long-term site safety by maintaining legible warnings and signs.
3. Guaranteed code compliance to applicable NEC and IFC requirements.
4. Helps in the appraisal process during the sale of a property by maintaining printed system performance calculations.
5. Reduces long-term maintenance costs associated with replacing failed or missing labels.

When you need solar label assurance – Check HT.



NEC 2017 Preprinted Solar Labels

HellermannTyton preprinted solar installation labels have a special adhesive for use on both enamel and powder coat paint surfaces. Labels are printed with UV stable ink that is covered by a UV stable laminate. Labels meet the requirements of UL 969.

MATERIAL	443/552 UV Stable Flexible White Vinyl w/ Acrylic Laminate
Operating Temperature	-40 °F (-40 °C) to +174 °F (+79 °C)
Min. Application Temp.	+50 °F (+10 °C)
Liner	78# White Bleached Paper
Certifications	UL 969



ARTICLE NO.	Part No.	Type	Description	Width		Height		Labels Per Roll	Label
				in.	(mm)	in.	(mm)		
596-00883	596-00883	IOCOD17ST	Warning - Power Source Output Connection	2.00	(50.8)	1.25	(31.75)	50	WARNING POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE.
596-00880	596-00880	IOCOD17	Warning - Power Source Output Connection	4.12	(104.4)	.75	(19.05)	50	WARNING INVERTER OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE.
596-00879	596-00879	WESHLBLDC17	Warning - Electric Shock Hazard DC Volt Present	3.75	(95.2)	2.5	(63.5)	50	WARNING ELECTRICAL SHOCK HAZARD TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT
596-00878	596-00878	WESHLBL17	Warning - Electric Shock Hazard	3.75	(95.2)	2	(50.8)	50	WARNING ELECTRICAL SHOCK HAZARD TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION
596-09323	596-09323	WDGC17	Warning - Disconnection of Grounded Conductors	3.75	(95.2)	2	(50.8)	50	WARNING THE DISCONNECTION OF THE GROUNDED CONDUCTOR(S) MAY RESULT IN OVERVOLTAGE ON THE EQUIPMENT
596-00986	596-00986	ESSDCD	Main Battery System Disconnect	5.5	(139.7)	1.75	(44.45)	50	MAIN BATTERY SYSTEM DISCONNECT
596-00499	596-00499	WTOPVLBL	Warning - Turn Off PV AC Prior To Working Inside Panel	4.12	(104.60)	2.0	(50.80)	50	WARNING TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL
596-00495	596-00495	WDPSLBL	Warning - Dual Power Source	4.12	(104.60)	0.75	(19.05)	50	WARNING DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM
596-00587	596-00587	CBACKFED	Caution - Photovoltaic System Circuit Breaker Is Backfed	4.12	(104.60)	0.75	(19.05)	50	CAUTION PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED
596-00591	596-00591	120VOLT	Warning - 120 Volt Supply	3.75	(95.25)	2.0	(50.80)	50	WARNING SINGLE 120-VOLT SUPPLY DO NOT CONNECT MULTIWIRE BRANCH CIRCUITS

*Use **Part No.** for ordering and **Type** for specification purposes.*

NEC 2017 Preprinted Metal Solar Placards

HellermannTyton preprinted Metal Solar Placards are designed to meet the requirements of the 2017 National Electrical Code (NEC 2017) and the 2012 International Fire Code (IFC 2012), as well as the requirements of the Authority Having Jurisdiction (AHJ).



MATERIAL	Anodized Aluminum (AA)
Adhesive	3M 300LSE Ultra High Bond Permanent Acrylic Adhesive
Operating Temperature	-40 °F to +203 °F (-40 °C to +95 °C)
Min. Application Temperature	+50 °F (from +10 °C)
Rating	25-Year Outdoor Rated

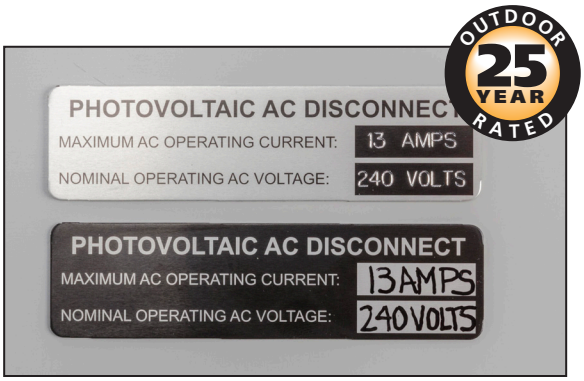
VHT

ARTICLE NO.	Part No.	Type	Description	Width W in	Width W (mm)	Height H in	Height H (mm)	Labels Per Pack	Label
596-00832	596-00832	WTOPVLBLM5	Metal Solar Placard, 2017 Code, WARNING TURN OFF PHOTOVOLTAIC..., 3.75"x2", AL, Orange/Silver, 5/pkg	3.75	(95.25)	2.00	(50.80)	5	WARNING TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL
596-00833	596-00833	WDPSLBLM5	Metal Solar Placard, 2017 Code, WARNING DUAL POWER SOURCE... SYSTEM, 4.0" x .75", AL, Orange, 5/pkg	4.0	(104.60)	0.75	(19.05)	5	WARNING DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM
596-00834	596-00834	CBACKFEDM5	Metal Solar Placard, 2017 Code, CAUTION PHOTOVOLTAIC SYSTEM BACKFED, 4.0" x .75", AL, Yellow, 5/pkg	4.0	(104.60)	0.75	(19.05)	5	CAUTION PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED
596-00837	596-00837	120VOLTM5	Metal Solar Placard, 2017 Code, WARNING 120-VOLT SUPPLY, 3.75" x 2.0", AL, Orange/Silver, 5/pkg	3.75	(95.25)	2.00	(50.80)	5	WARNING SINGLE 120-VOLT SUPPLY DO NOT CONNECT MULTIWIRE BRANCH CIRCUITS
596-00860	596-00860	MPVSDM5	Metal Solar Placard, 2017 Code, MAIN PV SYSTEM DISCONNECT, 5.5' x 1.75", AL, Red, 5/pkg	5.50	(139.70)	1.75	(44.40)	5	MAIN PHOTOVOLTAIC SYSTEM DISCONNECT
596-00861	596-00861	MPVACDISM5	Metal Solar Placard, 2017 Code, MAIN PV SYSTEM AC DISCONNECT, 5.5" x 1.75", AL, Red, 5/pkg	5.50	(139.70)	1.75	(44.40)	5	MAIN PHOTOVOLTAIC SYSTEM AC DISCONNECT
596-00917	596-00917	IOCOD17M5	Metal Solar Placard, 2017 Code, WARNING POWER SOURCE... CONNECTION, 2" x 1.25", AL, Orange, 5/pkg	2.00	(50.80)	1.25	(31.75)	5	WARNING POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE
596-00920	596-00920	WESHLBLDC17M5	Metal Solar Placard, 2017 Code, WARNING ELECTRICAL...DC VOLTAGE, 3.75" x 2.5", AL,Orange/ Silver,5/pkg	3.75	(95.25)	2.50	(63.50)	5	WARNING ELECTRICAL SHOCK HAZARD TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT
596-00921	596-00921	WESHLBL17M5	Metal Solar Placard, 2017 Code, WARNING ELECTRICAL...HAZARD, 3.75" x 2.0", AL, Orange/Silver, 5/pkg	3.75	(95.25)	2.00	(50.80)	5	WARNING ELECTRICAL SHOCK HAZARD TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION
596-00924	596-00924	WDGC17M5	Metal Solar Placard, 2017 Code, WARNING DISCONNECTION OF GROUNDED..., 3.75" x 2", AL, Orange/Silver, 5/pkg	3.75	(95.25)	2.00	(50.80)	5	WARNING THE DISCONNECTION OF THE GROUNDED CONDUCTOR(S) MAY RESULT IN OVERVOLTAGE ON THE EQUIPMENT

*Use **Part No.** for ordering and **Type** for specification purposes.*

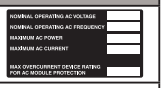
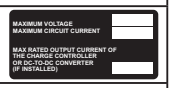
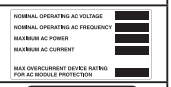
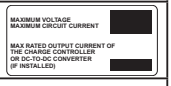
NEC 2017 Metal Solar Placards for Variable Data

Variable data placards are used to mark areas specific to the individual installation, like voltage data. Made of the same durable material as preprinted Metal Solar Placards, HellermannTyton offers two styles of variable placards: hand-writable and engravable. Both hand-writable and engravable placards are designed to meet industry codes. Hand-writable placards feature a silver variable data area that can be marked using an industrial paint pen. Engravable placards have a black area that can be engraved using standard engraving equipment.



MATERIAL	Anodized Aluminum (AA)
Adhesive	3M 300LSE Ultra High Bond Permanent Acrylic Adhesive
Operating Temperature	-40 °F to +203 °F (-40 °C to +95 °C)
Min. Application Temperature	+50 °F (from +10 °C)
Rating	25-Year Outdoor Rated

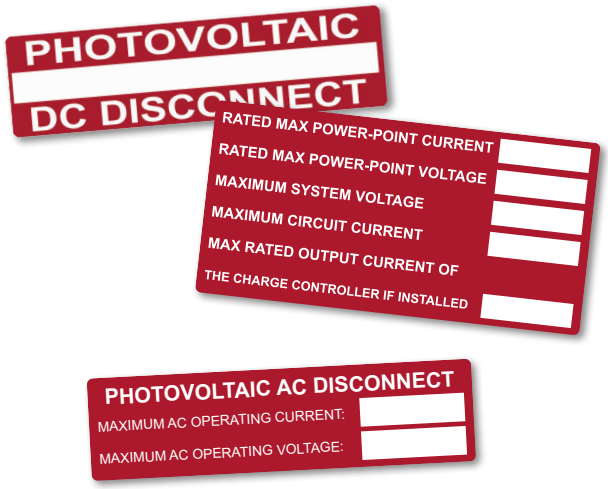
VHT

ARTICLE NO.	Part No.	Type	Description	Width W		Height H		Labels Per Pack	Label
				in	(mm)	in	(mm)		
HAND-WRITABLE									
596-00840	596-00840	AC2011M5	Metal Solar Placard, Hand Writable, 2017 Code, AC Module, 4.0" x 2.0", AL, Black, 5/pkg	4.00	(101.60)	2.00	(50.80)	5	
596-00841	596-00841	ACDISCTM5	Metal Solar Placard, Hand Writable, 2017 Code, PV AC DISCONNECT, 3.75" x 1.0", AL, Black, 5/pkg	3.75	(92.25)	1.00	(25.40)	5	
596-00842	596-00842	DCDISCTM5	Metal Solar Placard, Hand Writable, 2017 Code, PV DC DISCONNECT, 3.75" x 1.0", AL, Black, 5/pkg	3.75	(95.25)	1.00	(25.40)	5	
596-00918	596-00918	DC2017M5	Metal Solar Placard, Hand Writable, 2017 Code, DC Module, 3.75" x 1.75", AL, Black, 5/pkg	3.75	(95.25)	1.75	(44.45)	5	
596-00919	596-00919	PVACDIS17M5	Metal Solar Placard, Hand Writable, 2017 Code, PV AC DISCONNECT..., 3.75" x 1.0", AL, Black, 5/pkg	3.75	(95.25)	1.00	(25.40)	5	
ENGRAVABLE									
596-00857	596-00857	ACDISCTM5ENG	Metal Solar Placard, Engravable, 2017 Code, PHOTOVOLTAIC AC DISCONNECT, 3.75"x1.0", AL, Black, 5/pkg	3.75	(92.25)	1.00	(25.40)	5	
596-00858	596-00858	DCDISCTM5ENG	Metal Solar Placard, Engravable, 2017 Code, PHOTOVOLTAIC DC DISCONNECT, 3.75"x1.0", AL, Black, 5/pkg	3.75	(92.25)	1.00	(25.40)	5	
596-00862	596-00862	AC2011M5ENG	Metal Solar Placard, Engravable, 2017 Code, AC Module, 4.0" x 2.0", AL, Black, 5/pkg	4.00	(101.60)	2.00	(50.80)	5	
596-00866	596-00866	BLANK2X125	Metal Solar Placard, Blank Plate For Engraving, 2.0" x 1.25", AL, Black, 5/pkg	2.00	(50.80)	1.25	(31.75)	5	
596-00867	596-00867	BLANK4X75	Metal Solar Placard, Blank Plate For Engraving, 4.0" x .75", AL, Black, 5/pkg	4.00	(101.60)	0.75	(19.05)	5	
596-00868	596-00868	BLANK375X2	Metal Solar Placard, Blank Plate For Engraving, 3.75" x 2.0", AL, Orange/ Black, 5/pkg	3.75	(95.25)	2.00	(50.80)	5	
596-00922	596-00922	DC2017M5ENG	Metal Solar Placard, Engravable, 2017 Code, DC Module, 3.75" x 1.75", AL, Black, 5/pkg	3.75	(95.25)	1.75	(44.45)	5	
596-00923	596-00923	PVACDIS17M5ENG	Metal Solar Placard, Engravable, 2017 Code, PV AC DISCONNECT, 3.75" x 1.0", AL, Black, 5/pkg	3.75	(95.25)	1.00	(25.40)	5	

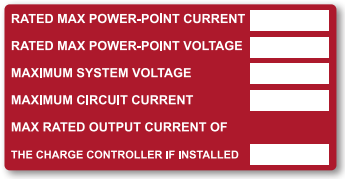
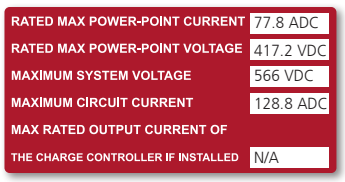
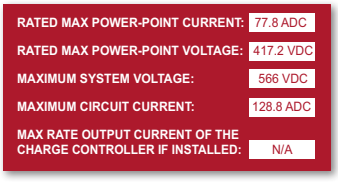
*Use **Part No.** for ordering and **Type** for specification purposes.*

Variable Print Photovoltaic Labeling

HellermannTyton Solar Identification systems offer diverse methods for printing photovoltaic labels. Nothing could be easier than opening and printing a pre-saved label template using TagPrint Pro 4.0 or the TagPrint Xpress Solar mobile app. While you can use preprinted labels for most PV labeling requirements, some information will require the use of variable print or blank, print-on-demand labels. Variable data labels are designed to ease the process of labeling specific voltage and current levels, which are unique to each installation.

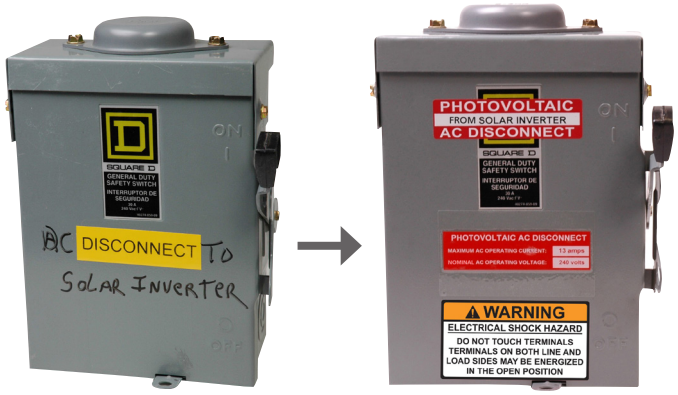


Depending on preference, HellermannTyton Solar Identification systems offer different ways to create a variable data label. The chart below illustrates how to create a DC breaker label to meet NEC 690.53.

Method	1 Using TagPrint Pro 4.0 or TagPrint Xpress Solar app, TT230SMC or TT130SMC thermal transfer printers and preprinted solar label 558-00253	2 Using TagPrint Pro 4.0 or TagPrint Xpress Solar app, TT230SMC or TT130SMC thermal transfer printers and red continuous vinyl label 558-00312
Beginning Label		
Printer System		
Final Label		
Additional Requirements	TagPrint Pro 4.0 or TagPrint Xpress Solar app	TagPrint Pro 4.0 or TagPrint Xpress Solar app

NEC 2017 Printable Solar Labels

Designed with cross-laminated UV stable materials, these variable print solar installation labels are designed to accept printing from any standard thermal transfer printer using a resin-based ink ribbon for the best durability. Print your voltage information directly on the label and then laminate with an optional clear acrylic laminate material for added protection. These labels can be used to print disconnecting means and breaker series directly on the labels for a more professional result and a smoother inspection process.



MATERIAL	840/926 UV Stable White Polyester w/ Clear Acrylic Laminate
Operating Temperature	-40 °F (-40 °C) to +302 °F (+150 °C)
Min. Application Temp.	+50 °F (+10 °C)
Liner	55# Paper
Certifications	UL 969

VHT



TT230SMC

ARTICLE NO.	Part No.	Type	Description	Width		Height		Labels Per Roll	Label
				in.	(mm)	in.	(mm)		
596-00237	596-00237	ACDISCT	Solar Label, Printable, 2017 Code, PHOTOVOLTAIC AC DISCONNECT, 3.75" x 1.0", PET, Red, 50/roll	3.75	(92.25)	1.00	(25.40)	50	PHOTOVOLTAIC AC DISCONNECT
596-00238	596-00238	DCDISCT	Solar Label, Printable, 2017 Code, PHOTOVOLTAIC DC DISCONNECT, 3.75" x 1.0", PET, Red, 50/roll	3.75	(92.25)	1.00	(25.40)	50	PHOTOVOLTAIC AC DISCONNECT
596-00240	596-00240	ACRATING	Solar Label, Printable, 2017 Code, DC BACKUP SYSTEM, 4.0" x 2.0", PET, Red, 50/roll	4.00	(101.60)	2.00	(50.80)	50	RATED AC OPERATING CURRENT MAX RATED AC OPERATING CURRENT RATED AC OPERATING VOLTAGE MAX RATED AC OPERATING VOLTAGE RATED SHORT CIRCUIT CURRENT MAXIMUM SYSTEM VOLTAGE
596-00242	596-00242	LAM1	Solar Label, Clear Laminate, UV Stable, 4.2" x 2.25", Acrylic, Clear, 50/roll	4.20	(106.60)	2.25	(57.3)	50	
596-00252	596-00252	AC2011	Solar Label, Printable, 2017 Code, AC MODULE, 4.0" x 2.0", PET, Red, 50/roll	4.00	(101.60)	2.00	(50.80)	50	NOMINAL OPERATING AC VOLTAGE NOMINAL OPERATING AC FREQUENCY MAXIMUM AC POWER MAXIMUM AC CURRENT MAX OVERCURRENT DEVICE RATING FOR AC MODULE PROTECTION
596-00891	596-00891	DC2017	Solar Label, Printable, 2017 Code, MAXIMUM VOLTAGE, 3.75" x 2.12", PET, Red, 50/roll	3.75	(95.25)	2.12	(53.80)	50	MAXIMUM VOLTAGE MAXIMUM CIRCUIT CURRENT MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED)
596-00892	596-00892	PVACDIS17	Solar Label, Printable, 2017 Code, PHOTOVOLTAIC AC DISCONNECT, 3.75" x 1.0", PET, Red, 50/roll	3.75	(95.25)	1.00	(25.40)	50	PHOTOVOLTAIC AC DISCONNECT VHT RATED AC OUTPUT CURRENT: NOMINAL OPERATING AC VOLTAGE
596-00987	596-00987	MBSDIS	Solar Label, Printable, 2017 Code, ENERGY STORAGE...DISCONNECT, 3.75" x 2.12", PET, Red,50/roll	3.75	(95.25)	2.12	(53.80)	50	ENERGY STORAGE SYSTEM DC DISCONNECT NOMINAL ESS VOLTAGE: MAX. AVAILABLE SHORT CIRCUIT CURRENT:

*Use **Part No.** for ordering and **Type** for specification purposes. If using a TT130SMC printer, select label widths up to 2" (50.8 mm). All other HellermannTyton thermal transfer printers will work with label widths up to 4" wide (101.6 mm). For a listing of Printable Solar Labels designed to fit the TT130SMC, see page 61.*

NEC 2017 Reflective Solar Labels

Reflective solar labels are designed to be easy to see by first responders who are looking to identify and isolate the PV system. Reflective labels can be seen through smoke and in darkness using reflected light. HellermannTyton preprinted reflective solar labels meet fire safety and NEC regulations.

MATERIAL	242/552 UV Stable Reflective Vinyl w/ Acrylic Laminate
Operating Temperature	-40 °F (-40 °C) to +174 °F (+79 °C)
Min. Application Temp.	+50 °F (+10 °C)
Liner	Polyethylene Coated Paper
Certifications	UL 969



ARTICLE NO.	Part No.	Type	Description	Width W in	Width W (mm)	Height H in	Height H (mm)	Labels Per Roll	Label
596-00206	596-00206	PVPSR	Solar Label, Reflective, 2017 Code, WARNING PHOTOVOLTAIC POWER SOURCE, 6.5" x 1.0", VL, Red, 50/pkg	6.50	(165.10)	1.00	(25.40)	50	WARNING: PHOTOVOLTAIC POWER SOURCE
596-00243	596-00243	MPVSD	Solar Label, Reflective, 2017 Code, MAIN PV SYSTEM DISCONNECT, 5.5" x 1.75", VL, Red, 50/pkg	5.50	(139.70)	1.75	(44.40)	50	MAIN PHOTOVOLTAIC SYSTEM DISCONNECT
596-00244	596-00244	DNDCUL	Solar Label, Reflective, 2017 Code, DO NOT DISCONNECT UNDER LOAD, 6.5" x 1.0", VL, Red, 50/pkg	6.50	(165.10)	1.00	(25.40)	50	DO NOT DISCONNECT UNDER LOAD
596-00255	596-00255	MPVACDIS	Solar Label, Reflective, 2017 Code, MAIN PV AC DISCONNECT, 5.5" x 1.75", VL, Red, 50/roll	5.50	(139.70)	1.75	(44.40)	50	MAIN PHOTOVOLTAIC SYSTEM AC DISCONNECT
596-00885	596-00885	RSDYL17	Solar Label, Reflective, 2017 Code, SOLAR PV SYSTEM…SHUTDOWN, 6.0" x 4.0", VL, Yellow, 50/roll	6.00	(152.40)	4.00	(101.60)	50	SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN
596-00886	596-00886	RSDRD17	Solar Label, Reflective, 2017 Code, SOLAR PV SYSTEM…SHUTDOWN, 6.0" x 4.0", VL, Red, 50/roll	6.00	(152.40)	4.00	(101.60)	50	SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN
596-00887	596-00887	PSEWRS17	Solar Label, Reflective, 2017 Code, PHOTOVOLTAIC SYSTEM...SHUTDOWN, 6.5" x 1.0", VL, Red, 50/roll	6.50	(165.10)	1.00	(25.40)	50	RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

*Use **Part No.** for ordering and **Type** for specification purposes.*

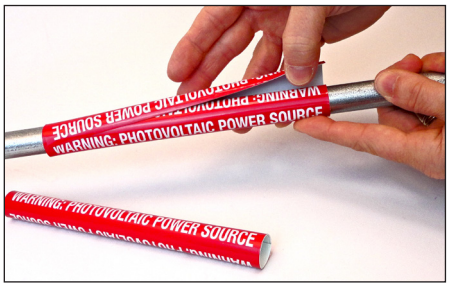
HellermannTyton makes it easy to pass inspection. In addition to our full line of preprinted NEC 2017, 2014 and 2011 labels, TagPrint Pro 4.0 and TagPrint Xpress Solar include label templates to meet NEC 2017, 2014 and 2011.

NEC 2017 and 2014 Reflective Solar Circuit Markers

These photovoltaic caution and power source markers are preprinted, non-adhesive, coiled markers that can be opened and snapped over cables for long-term, reflective, permanent identification. Made of a UV stable vinyl, the coiled markers come 25 per bag and will fit on all standard PV cables or electrical metallic tubing (EMT) conduits.

MATERIAL	Vinyl
Operating Temperature	18 °F to +200 °F (-29 °C to +93 °C)

RoHS



ARTICLE NO.	Part No.	Type	Description	Width W in	Width W (mm)	Height H in	Height H (mm)	Labels Per Pack	Label
596-00249	596-00249	CSCSNAP4R	CAUTION - SOLAR CIRCUIT for use on .25" OD PV Cables	4.00	(101.60)	3.0	(76.21)	25	CAUTION: SOLAR CIRCUIT
596-00251	596-00251	CSCSNAP72	CAUTION - SOLAR CIRCUIT for EMT conduits up to 1" in OD	7.25	(182.22)	5.0	(127.0)	25	CAUTION: SOLAR CIRCUIT
596-00207	596-00207	PVPSSNAP4R	WARNING: PHOTOVOLTAIC POWER SOURCE for use on .25" OD PV Cables	4.00	(182.22)	3.0	(76.21)	25	WARNING: PHOTOVOLTAIC POWER SOURCE
596-00208	596-00208	PVPSSNAP72R	WARNING: PHOTOVOLTAIC POWER SOURCE for EMT conduits up to 1" in OD	7.25	(182.22)	5.0	(127.0)	25	WARNING: PHOTOVOLTAIC POWER SOURCE

*Use **Part No.** for ordering and **Type** for specification purposes.*

NEC 2017 and 2014 Reflective Rooftop Label

Designed to meet NEC 2017 and 2014 Section 690.4(F) as interpreted by the International Association of Electrical Inspectors (IAEI), this aluminum and vinyl label is designed for use on almost any type of roof shingle. Mount via a pre-cut aluminum plate with aluminum clips (both supplied with label) to standard tar shingles, or bend, shape and fasten with construction adhesive or grommet screws on composite or wooden roofing. Label text is reflective to meet IFC requirements.



MATERIAL	242/552 UV Stable Reflective Vinyl w/ Acrylic Laminate on Aluminum
Operating Temperature	-40 °F (-40 °C) to +175 °F (+79 °C)
Min. Application Temp.	+50 °F (+10 °C)
Liner	Polyethylene Coated Paper
Certifications	UL 969

VHT

RoHS

ARTICLE NO.	Part No.	Type	Description	Width W in	Width W (mm)	Height H in	Height H (mm)	Labels Per Pack	Label
596-00257	596-00257	PVPSRTM	PHOTOVOLTAIC POWER SOURCE	6.75	(171.45)	2.75	(69.85)	1	WARNING PHOTOVOLTAIC POWER SOURCE

*Use **Part No.** for ordering and **Type** for specification purposes.*

NEC 2014 Preprinted Solar Labels

HellermannTyton preprinted solar installation labels have a special adhesive for use on both enamel and powder coat paint surfaces. Labels are printed with UV stable ink that is covered by a UV stable laminate. Labels meet the requirements of UL 969. NEC 2014 labels can be used to meet NEC 2014 code and are backward compatible to NEC 2011.



MATERIAL	443/552 UV Stable Flexible White Vinyl w/ Acrylic Laminate
Operating Temperature	-40 °F (-40 °C) to +174 °F (+79 °C)
Min. Application Temp.	+50 °F (+10 °C)
Liner	78# White Bleached Paper
Certifications	UL 969

ARTICLE NO.	Part No.	Type	Description	Width in.	Width (mm)	Height in.	Height (mm)	Labels Per Roll	Label
596-00495	596-00495	WDPSLBL	WARNING - DUAL POWER SOURCE	4.12	(104.60)	0.75	(19.05)	50	
596-00496	596-00496	WESHLBLDC	WARNING - ELECTRICAL SHOCK HAZARD W/DC	3.75	(95.25)	2.5	(63.50)	50	
596-00497	596-00497	WESHLBL	WARNING - ELECTRICAL SHOCK HAZARD	3.75	(95.25)	2.0	(50.80)	50	
596-00498	596-00498	WGCME	WARNING - GROUNDED CONDUCTORS MAY BE ENERGIZED	4.12	(104.60)	2.0	(50.80)	50	
596-00499	596-00499	WTOPVLBL	WARNING - TURN OFF PV AC PRIOR TO WORKING INSIDE PANEL	4.12	(104.60)	2.0	(50.80)	50	
596-00587	596-00587	CBACKFED	CAUTION - PHOTOVOLTAIC SYSTEM CIRCUIT BREAKER IS BACKFED	4.12	(104.60)	0.75	(19.05)	50	
596-00588	596-00588	WDCCU	WARNING - DC CONDUCTORS MAY BE ENERGIZED	4.12	(104.60)	2.0	(50.80)	50	
596-00589	596-00589	IOCOD	WARNING - INVERTER OUTPUT CONNECTION	4.12	(104.60)	0.75	(19.05)	50	
596-00590	596-00590	BIPOLARPV	WARNING- BIPOLAR PHOTOVOLTAIC ARRAY	3.75	(95.25)	2.0	(50.80)	50	
596-00591	596-00591	120VOLT	WARNING - 120 VOLT SUPPLY	3.75	(95.25)	2.0	(50.80)	50	
596-00846	596-00846	IOCOD14	WARNING - INVERTER OUTPUT CONNECTION	2.0	(56.8)	1.25	(31.75)	50	

*Use **Part No.** for ordering and **Type** for specification purposes.*

NEC 2014 Preprinted Metal Solar Placards

HellermannTyton preprinted Metal Solar Placards are designed to meet the requirements of the 2014 National Electrical Code (NEC 2014) and the 2012 International Fire Code (IFC 2012), as well as the requirements of the Authority Having Jurisdiction (AHJ).

MATERIAL	Anodized Aluminum (AA)
Adhesive	3M 300LSE Ultra High Bond Permanent Acrylic Adhesive
Operating Temperature	-40 °F to +203 °F (-40 °C to +95 °C)
Min. Application Temperature	+50 °F (from +10 °C)
Rating	25-Year Outdoor Rated



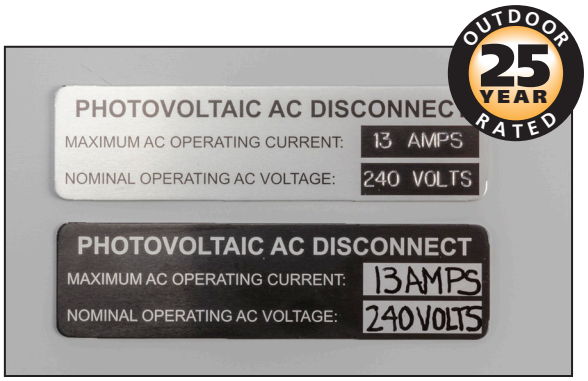
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ARTICLE NO.	Part No.	Type	Description	Width W		Height H		Labels Per Pack	Label
				in	(mm)	in	(mm)		
596-00833	596-00833	WDPSLBLM5	"DUAL POWER SOURCE", 4.0" X .75", Orange	4.00	(101.60)	0.75	(19.05)	5	WARNING DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM
596-00829	596-00829	WESHLBLDCM5	"WARNING - ELECTRICAL SHOCK HAZARD W/DC", 3.75" X 2.5", Orange/Silver	3.75	(95.25)	2.50	(63.50)	5	WARNING ELECTRICAL SHOCK HAZARD DO NOT TOUCH TERMINALS TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT
596-00828	596-00828	WESHLBLM5	"WARNING - ELECTRICAL SHOCK HAZARD", 3.75" X 2.0", Orange/Silver	3.75	(95.25)	2.00	(50.80)	5	WARNING ELECTRICAL SHOCK HAZARD DO NOT TOUCH TERMINALS TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION
596-00830	596-00830	WGCMEM5	"WARNING - GROUNDED CONDUCTORS ENERGIZED", 3.75" X 2.0", Orange/Silver	3.75	(95.25)	2.00	(50.80)	5	WARNING ELECTRICAL SHOCK HAZARD IF A GROUND FAULT IS INDICATED NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED
596-00831	596-00831	WDCCUM5	"WARNING - DC CONDUCTORS MAY BE energized", 3.75" X 2.0", Orange/Silver	3.75	(95.25)	2.00	(50.80)	5	WARNING ELECTRICAL SHOCK HAZARD THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED
596-00832	596-00832	WTOPVLBLM5	"WARNING - TURN OFF PV BEFORE WORKING", 3.75" X 2.0", Orange/Silver	3.75	(95.25)	2.00	(50.80)	5	WARNING TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL
596-00834	596-00834	CBACKFEDM5	"CAUTION - PV SYSTEM BACKFED", 4.0" X .75", Yellow	4.00	(101.60)	0.75	(19.05)	5	CAUTION PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED
596-00837	596-00837	120VOLTM5	"WARNING - 120-VOLT SUPPLY", 3.75" X 2.0", Orange/Silver	3.75	(95.25)	2.00	(50.80)	5	WARNING SINGLE 120-VOLT SUPPLY DO NOT CONNECT MULTIWIRE BRANCH CIRCUITS
596-00835	596-00835	BIPOLARPVM5	"WARNING - BIPOLAR PV ARRAY", 3.75" X 2.0", Orange/Silver	3.75	(95.25)	2.00	(50.80)	5	WARNING BIPOLAR PHOTOVOLTAIC ARRAY. DISCONNECTION OF NEUTRAL OR GROUNDED CONDUCTORS MAY RESULT IN OVERVOLTAGE ON ARRAY OR INVERTER
596-00836	596-00836	IOCODM5	"INVERTER OUTPUT CONNECTION", 2.00" X 1.25", Orange	2.00	(50.80)	1.25	(31.75)	5	WARNING INVERTER OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE.
596-00860	596-00860	MPVSDM5	"MAIN PV DISCONNECT", 5.5 X 1.75", Red	5.50	(139.70)	1.75	(44.40)	5	MAIN PHOTOVOLTAIC SYSTEM DISCONNECT
596-00861	596-00861	MPVACDISM5	"MAIN PV AC DISCONNECT", 5.5" X 1.75", Red	5.50	(139.70)	1.75	(44.40)	5	MAIN PHOTOVOLTAIC SYSTEM AC DISCONNECT

*Use **Part No.** for ordering and **Type** for specification purposes.*

NEC 2014 Metal Solar Placards for Variable Data

Variable data placards are used to mark areas specific to the individual installation, like voltage data. Made of the same durable material as preprinted Metal Solar Placards, HellermannTyton offers two styles of variable placards: hand-writable and engravable. Both hand-writable and engravable placards are designed to meet industry codes. Hand-writable placards feature a silver variable data area that can be marked using an industrial paint pen. Engravable placards have a black area that can be engraved using standard engraving equipment.



MATERIAL	Anodized Aluminum (AA)
Adhesive	3M 300LSE Ultra High Bond Permanent Acrylic Adhesive
Operating Temperature	-40 °F to +203 °F (-40 °C to +95 °C)
Min. Application Temperature	+50 °F (from +10 °C)
Rating	25-Year Outdoor Rated

ARTICLE NO.	Part No.	Type	Description	Width W in	Width W (mm)	Height H in	Height H (mm)	Labels Per Pack	Label
HAND-WRITABLE									
596-00838	596-00838	PVACDISM5	PV AC RATING, 3.75" X 1.0", Black	3.75	(95.25)	1.0	(25.4)	5	
596-00839	596-00839	DC2011M5	DC MODULE, 4.0" X 2.0", Black	4.00	(101.60)	2.0	(50.8)	5	
596-00840	596-00840	AC2011M5	Metal Solar Placard, Hand Writable, 2017 Code, AC Module, 4.0" x 2.0", AL, Black, 5/pkg	4.00	(101.60)	2.00	(50.80)	5	
596-00841	596-00841	ACDISCTM5	Metal Solar Placard, Hand Writable, 2017 Code, PV AC DISCONNECT, 3.75" x 1.0", AL, Black, 5/pkg	3.75	(92.25)	1.00	(25.40)	5	
596-00842	596-00842	DCDISCTM5	Metal Solar Placard, Hand Writable, 2017 Code, PV DC DISCONNECT, 3.75" x 1.0", AL, Black, 5/pkg	3.75	(95.25)	1.00	(25.40)	5	
596-00864	596-00864	DCRATINGM5	Printable DC Rating Label from NEC 2008	4.00	(101.60)	2.0	(50.8)	5	
ENGRAVABLE									
596-00857	596-00857	ACDISCTM5ENG	Metal Solar Placard, Engravable, 2017 Code, PHOTOVOLTAIC AC DISCONNECT, 3.75"x1.0", AL, Black, 5/pkg	3.75	(92.25)	1.00	(25.40)	5	
596-00858	596-00858	DCDISCTM5ENG	Metal Solar Placard, Engravable, 2017 Code, PHOTOVOLTAIC DC DISCONNECT, 3.75"x1.0", AL, Black, 5/pkg	3.75	(92.25)	1.00	(25.40)	5	
596-00859	596-00859	PVACDISM5ENG	PV AC RATING, 3.75" X 1.0", Black	3.75	(95.25)	1.0	(25.4)	5	
596-00862	596-00862	AC2011M5ENG	Metal Solar Placard, Engravable, 2017 Code, AC Module, 4.0" x 2.0", AL, Black, 5/pkg	4.00	(101.60)	2.00	(50.80)	5	
596-00863	596-00863	DC2011M5ENG	DC MODULE, 4.0" X 2.0", Black	4.00	(101.60)	2.0	(50.8)	5	
596-00865	596-00865	DCRATINGM5ENG	Engravable DC Rating Label from NEC 2008	4.00	(101.60)	2.0	(50.8)	5	
596-00866	596-00866	BLANK2X125	Metal Solar Placard, Blank Plate For Engraving, 2.0" x 1.25", AL, Black, 5/pkg	2.00	(50.80)	1.25	(31.75)	5	
596-00867	596-00867	BLANK4X75	Metal Solar Placard, Blank Plate For Engraving, 4.0" x .75", AL, Black, 5/pkg	4.00	(101.60)	0.75	(19.05)	5	
596-00868	596-00868	BLANK375X2	Metal Solar Placard, Blank Plate For Engraving, 3.75" x 2.0", AL, Orange/ Black, 5/pkg	3.75	(95.25)	2.00	(50.80)	5	

*Use **Part No.** for ordering and **Type** for specification purposes.*

NEC 2014 Reflective Solar Labels

Reflective solar labels are designed to be easy to see by first responders who are looking to identify and isolate the PV system. Reflective labels can be seen through smoke and in darkness using reflected light. HellermannTyton preprinted reflective solar labels meet fire safety and NEC regulations.

MATERIAL	242/552 UV Stable Reflective Vinyl w/ Acrylic Laminate
Operating Temperature	-40 °F (-40 °C) to +174 °F (+79 °C)
Min. Application Temp.	+50 °F (+10 °C)
Liner	Polyethylene Coated Paper
Certifications	UL 969



VHT

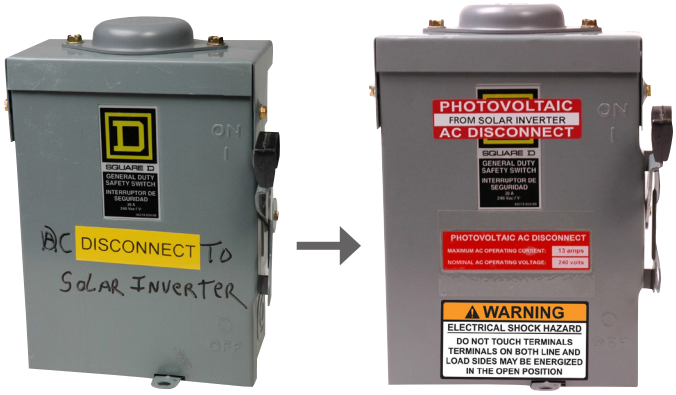
ARTICLE NO.	Part No.	Type	Description	Width W		Height H		Labels Per Roll	Label
				in	(mm)	in	(mm)		
596-00206	596-00206	PVPSR	WARNING PHOTOVOLTAIC POWER SOURCE	6.50	(165.10)	1.00	(25.40)	50	WARNING: PHOTOVOLTAIC POWER SOURCE
596-00243	596-00243	MPVSD	MAIN PV SYSTEM DISCONNECT	5.50	(139.70)	1.75	(44.40)	50	MAIN PHOTOVOLTAIC SYSTEM DISCONNECT
596-00244	596-00244	DNDCUL	DO NOT DISCONNECT UNDER LOAD	6.50	(165.10)	1.00	(25.40)	50	DO NOT DISCONNECT UNDER LOAD
596-00246	596-00246	SOLARD	SOLAR DISCONNECT	6.50	(165.10)	1.00	(25.40)	50	SOLAR DISCONNECT
596-00255	596-00255	MPVACDIS	MAIN PV AC DISCONNECT	5.50	(139.70)	1.75	(44.40)	50	MAIN PHOTOVOLTAIC SYSTEM AC DISCONNECT
596-00474	596-00474	PSEWRS	PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN	5.50	(139.70)	1.75	(44.40)	50	PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN
596-00613	596-00613	CSESC	CAUTION - SOLAR ELECTRIC SYSTEM CONNECTED	6.50	(165.10)	1.00	(25.40)	50	CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED
596-00615	596-00615	CSCIRLBL	CAUTION - SOLAR CIRCUIT	6.50	(165.10)	1.00	(25.40)	50	CAUTION: SOLAR CIRCUIT

*Use **Part No.** for ordering and **Type** for specification purposes.*

HellermannTyton makes it easy to pass inspection. In addition to our full line of preprinted NEC 2017, 2014 and 2011 labels, TagPrint Pro 4.0 and TagPrint Xpress Solar include label templates to meet NEC 2017, 2014 and 2011.

NEC 2014 Printable Solar Labels

Designed with cross-laminated UV stable materials, these variable print solar installation labels are designed to accept printing from any standard thermal transfer printer using a resin-based ink ribbon for the best durability. Print your voltage information directly on the label and then laminate with an optional clear acrylic laminate material for added protection. These labels can be used to print disconnecting means and breaker series directly on the labels for a more professional result and a smoother inspection process.



MATERIAL	840/926 UV Stable White Polyester w/ Clear Acrylic Laminate
Operating Temperature	-40 °F (-40 °C) to +302 °F (+150 °C)
Min. Application Temp.	+50 °F (+10 °C)
Liner	55# Paper
Certifications	UL 969



TT230SMC

ARTICLE NO.	Part No.	Type	Description	Width		Height		Labels Per Roll	Label
				in.	(mm)	in.	(mm)		
596-00237	596-00237	ACDISCT	PHOTOVOLTAIC AC DISCONNECT	3.75	(92.25)	1.00	(25.40)	50	PHOTOVOLTAIC AC DISCONNECT
596-00238	596-00238	DCDISCT	PHOTOVOLTAIC DC DISCONNECT	3.75	(92.25)	1.00	(25.40)	50	PHOTOVOLTAIC AC DISCONNECT
596-00239	596-00239	PVACDIS	PV AC DISCONNECT RATING	3.75	(92.25)	1.00	(25.40)	50	PHOTOVOLTAIC AC DISCONNECT MAXIMUM AC OPERATING CURRENT: MAXIMUM AC OPERATING VOLTAGE:
596-00240	596-00240	ACRATING	DC BACKUP SYSTEM	4.00	(101.60)	2.00	(50.80)	50	RATED AC OPERATING CURRENT MAX RATED AC OPERATING CURRENT RATED AC OPERATING VOLTAGE MAX RATED AC OPERATING VOLTAGE RATED SHORT CIRCUIT CURRENT MAXIMUM SYSTEM VOLTAGE
596-00241	596-00241	DCRATING	DC RATING LABEL	3.75	(92.25)	2.00	(50.80)	50	PV SYSTEM DC DISCONNECT OPERATING CURRENT: OPERATING VOLTAGE: MAXIMUM SYSTEM VOLTAGE: SHORT CIRCUIT CURRENT:
596-00242	596-00242	LAM1	Solar Label, Clear Laminate, UV Stable	4.20	(106.60)	4.20	(57.10)	50	
596-00252	596-00252	AC2011	AC MODULE	4.00	(101.60)	2.00	(50.80)	50	NOMINAL OPERATING AC VOLTAGE NOMINAL OPERATING AC FREQUENCY MAXIMUM AC POWER MAXIMUM AC CURRENT MAX OVERCURRENT DEVICE RATING FOR AC MODULE PROTECTION
596-00253	596-00253	DC2011	DC MODULE LABEL	4.00	(101.60)	2.00	(50.80)	50	RATED MAX POWER-POINT CURRENT RATED MAX POWER-POINT VOLTAGE MAXIMUM SYSTEM VOLTAGE MAXIMUM CIRCUIT CURRENT MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER IF INSTALLED

*Use **Part No.** for ordering and **Type** for specification purposes. If using a TT130SMC printer, select label widths up to 2" (50.8 mm). All other HellermannTyton thermal transfer printers will work with label widths up to 4" wide (101.6 mm). For a listing of Printable Solar Labels designed to fit the TT130SMC, see page 61.*

NEC 2011 Preprinted Solar Labels

HellermannTyton preprinted solar installation labels have a special adhesive for use on both enamel and powder coat paint surfaces. Labels are printed with UV stable ink that is covered by a UV stable laminate. Labels meet the requirements of UL 969. NEC 2011 labels can be used to meet the NEC 2011 code and are backward compatible to NEC 2008.





MATERIAL	443/552 UV Stable Flexible White Vinyl w/ Acrylic Laminate
Operating Temperature	-40 °F (-40 °C) to +174 °F (+79 °C)
Min. Application Temp.	+50 °F (+10 °C)
Liner	78# White Bleached Paper
Certifications	UL 969

ARTICLE NO.	Part No.	Type	Description	Width		Height		Labels Per Roll	Label
				in.	(mm)	in.	(mm)		
596-00233	596-00233	WESHLBL	WARNING - ELECTRICAL SHOCK HAZARD	3.75	(95.25)	2.0	(50.80)	50	WARNING ELECTRICAL SHOCK HAZARD DO NOT TOUCH TERMINALS. TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION
596-00232	596-00232	WESHLBLDC	WARNING - ELECTRICAL SHOCK HAZARD W/DC	3.75	(95.25)	2.5	(63.50)	50	WARNING ELECTRICAL SHOCK HAZARD DO NOT TOUCH TERMINALS. TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT
596-00234	596-00234	WGCME	WARNING - GROUNDED CONDUCTORS MAY BE ENERGIZED	4.12	(104.60)	2.0	(50.80)	50	WARNING ELECTRICAL SHOCK HAZARD IF A GROUND FAULT IS INDICATED, NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED
596-00258	596-00258	WDCCU	WARNING - DC CONDUCTORS MAY BE ENERGIZED	4.12	(104.60)	2.0	(50.80)	50	WARNING ELECTRIC SHOCK HAZARD THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED
596-00235	596-00235	WTOPVLBL	WARNING - TURN OFF PV AC PRIOR TO WORKING INSIDE PANEL	4.12	(104.60)	2.0	(50.80)	50	WARNING: TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL
596-00231	596-00231	WDPSLBL	WARNING - DUAL POWER SOURCE	4.12	(104.60)	0.75	(19.05)	50	WARNING DUAL POWER SOURCE SECOND SOURCE IS PV SYSTEM
596-00236	596-00236	CBACKFED	CAUTION - PV SYSTEM CIRCUIT BREAKER IS BACKFED	4.12	(104.60)	0.75	(19.05)	50	CAUTION PV SYSTEM CIRCUIT BREAKER IS BACKFED
596-00847	596-00847	IOCOD11	WARNING INVERTER OUTPUT… OVERCURRENT DEVICE	2.00	(50.80)	1.25	(31.75)	50	WARNING INVERTER OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE.

*Use **Part No.** for ordering and **Type** for specification purposes.*

Preprinted Solar Labels

Many times common solar label designs are specified even though they might not be required by code. HellermannTyton offers a selection of some of the most commonly requested labels for use on solar installations.



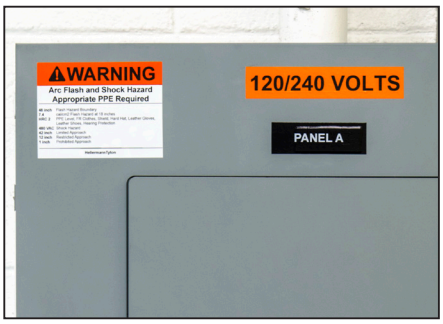
MATERIAL	443/552 UV Stable Flexible White Vinyl w/ Acrylic Laminate
Operating Temperature	-40 °F (-40 °C) to +174 °F (+79 °C)
Min. Application Temp.	+50 °F (+10 °C)
Liner	78# White Bleached Paper
Certifications	UL 969

ARTICLE NO.	Part No.	Type	Description	Width in.	Width (mm)	Height in.	Height (mm)	Labels Per Roll	
596-00735	596-00735	SMPV	Solar Label, WARNING SERVICE METER SERVED BY PV SYSTEM, 4.0" x 2.0", VL, Orange, 50/roll	4.00	(101.60)	2.00	(50.80)	50	WARNING THIS SERVICE METER IS ALSO SERVED BY A PHOTOVOLTAIC SYSTEM
596-00737	596-00737	PSKWH	Solar Label, PHOTOVOLTAIC SYSTEM kWh METER, 4.0" x 1.0", VL, Red, 50/roll	4.00	(101.60)	1.00	(25.40)	50	PHOTOVOLTAIC SYSTEM kWh METER
596-00738	596-00738	DCJB	Solar Label, DC JUNCTION BOX, 4.0" x 1.0", VL, Red, 50/roll	4.00	(101.60)	1.00	(25.40)	50	DC JUNCTION BOX
596-00739	596-00739	DNALP	Solar Label, CAUTION DO NOT INSTALL AD-DITIONAL LOADS..., 5.0" x 1.25", VL, Yellow, 50/roll	5.00	(127.00)	1.25	(31.70)	50	CAUTION: DO NOT INSTALL ADDITIONAL LOADS IN THIS PANEL
596-00740	596-00740	DCCB	Solar Label, DC COMBINER BOX, 4.0" x 1.0", VL, Red, 50/roll	4.00	(101.60)	1.00	(25.40)	50	DC COMBINER BOX
596-00748	596-00748	ECCMPV	Solar Label, ENCLOSURE CONTAINS...PV SOURCES, 4.0" x 2.0", VL, Red, 50/roll	4.00	(101.60)	2.00	(50.80)	50	ENCLOSURE CONTAINS CONDUCTORS FROM MULTIPLE PV SOURCES
596-00750	596-00750	IOC	Solar Label, CAUTION INVERTER OUTPUT CIRCUIT, 4.0" x 1.0", VL, Yellow, 50/roll	4.00	(101.60)	1.00	(25.40)	50	CAUTION INVERTER INPUT CIRCUIT
596-00751	596-00751	SSB	Solar Label, SOLAR SYSTEM BREAKER, 2.0" x 1.0", VL, Red, 50/roll	2.00	(50.80)	1.00	(25.40)	50	SOLAR SYSTEM BREAKER
596-00756	596-00756	ACCB	Solar Label, AC COMBINER BOX, 4.0" x 1.0", VL, Red, 50/roll	4.00	(101.60)	1.00	(25.40)	50	AC COMBINER BOX
596-00757	596-00757	DCD	Solar Label, DC DISCONNECT, 4.0" x 1.0", VL, Red, 50/roll	4.00	(101.60)	1.00	(25.40)	50	DC DISCONNECT

*Use **Part No.** for ordering and **Type** for specification purposes.*

Banded Colored Continuous Rolls

Banded colored continuous rolls come with a stripe (band) for easy printing of warning labels. Available in different widths, these labels are designed for use with TagPrint Pro software and HellermannTyton thermal transfer printers and can be customized, produced on demand and cut to any length.



MATERIAL	840/926 UV Stable White Polyester w/ Clear Acrylic Laminate
Operating Temperature	-40 °F (-40 °C) to +302 °F (+150 °C)
Min. Application Temp.	+50 °F (+10 °C)
Certifications	UL 969

ARTICLE NO.	Part No.	Type	Description	Width		Height		Feet Per Roll	Label
				in.	(mm)	in.	(mm)		
558-00380	558-00380	HT2OE50250UV	2" White Polyester with .5" Orange Stripe on Continuous Roll	2.0	(50.8)	250.0	(76.2)	250	
558-00381	558-00381	HT3OE75250UV	3" White Polyester with .75" Orange Stripe on Continuous Roll	3.0	(76.2)	250.0	(76.2)	250	
558-00382	558-00382	HT4OE10250UV	4" White Polyester with 1.0" Orange Stripe on Continuous Roll	4.0	(101.6)	250.0	(76.2)	250	

*Use **Part No.** for ordering and **Type** for specification purposes. If using a TT130SMC printer, select label widths up to 2" (50.8 mm). All other HellermannTyton thermal transfer printers will work with label widths up to 4" wide (101.6 mm).*

Preprinted Header Labels

These labels come with preprinted color headers so only one color of ribbon is needed to complete the message panel. Labels can be used with TagPrint Pro label software and HellermannTyton thermal transfer printers to reduce labor, eliminate minimum orders and allow the user to create labels on demand.



Label represents 596-00644 & 596-00645.

MATERIAL	840/926 UV Stable White Polyester w/ Clear Acrylic Laminate
Operating Temperature	-40 °F (-40 °C) to +302 °F (+150 °C)
Min. Application Temp.	+50 °F (+10 °C)
Certifications	UL 969

ARTICLE NO.	Part No.	Type	Description	Width		Height		Labels Per Roll	Label
				in.	(mm)	in.	(mm)		
596-00633	596-00633	4X6WARNINGUV	White with Orange WARNING Header	4.00	(101.60)	6.0	(152.40)	250	
596-00634	596-00634	3X2WARNINGUV	White with Orange WARNING Header	3.00	(76.20)	2.0	(50.80)	250	
596-00635	596-00635	3X2CAUTIONUV	White with Yellow CAUTION Header	3.00	(76.20)	2.0	(50.80)	250	
596-00636	596-00636	4X6CAUTIONUV	White with Yellow CAUTION Header	4.00	(101.60)	6.0	(152.40)	250	
596-00644	596-00644	WV275X135UV	Orange WARNING Header, Yellow Voltage Safety Symbol	2.75	(69.85)	1.35	(34.29)	250	
596-00645	596-00645	WV55X275UV	Orange WARNING Header, Yellow Voltage Safety Symbol	5.50	(139.70)	2.75	(69.85)	250	
596-00646	596-00646	4X6DANGERUV	White with Red DANGER Header	4.00	(101.60)	6.0	(152.40)	250	
596-00648	596-00648	3X2DANGERUV	White with Red DANGER Header	3.00	(76.20)	2.0	(50.80)	250	

*Use **Part No.** for ordering and **Type** for specification purposes. If using a TT130SMC printer, select label widths up to 2" (50.8 mm). All other HellermannTyton thermal transfer printers will work with label widths up to 4" wide (101.6 mm).*

Reflective Colored Continuous Rolls

These reflective vinyl rolls can be used to design labels that conform to NEC solar installation requirements. Designed for use with TagPrint Pro software and any HellermannTyton thermal transfer printing system, reflective continuous vinyl rolls can be printed and cut to size.



MATERIAL	509 Red Reflective Continuous Vinyl
Operating Temperature	-40 °F (-40 °C) to +176 °F (+80 °C)
Min. Application Temp.	+50 °F (+10 °C)
Liner	3.2 mil 50# bleached kraft paper
Certifications	ASTM D 903, ASTM D2979

ARTICLE NO.	Part No.	Type	Description	Width in.	Width (mm)	Feet Per Roll	Label
558-00372	558-00372	HT2RDRF250	Adhesive Labels, Solid Color Continuous Roll, Reflective, 2.0" x 250', VL, Red, 250 ft/roll	2.00	(50.80)	250	
558-00373	558-00373	HT3RDRF250	Adhesive Labels, Solid Color Continuous Roll, Reflective, 3.0" x 100', VL, Red, 100 ft/roll	3.00	(76.20)	100	
558-00377	558-00377	HT1RDRF250	Adhesive Labels, Solid Color Continuous Roll, Reflective, 1.0" x 250', VL, Red, 250 ft/roll	1.00	(25.40)	250	
558-00407	558-00407	HT4RDF100	Adhesive Labels, Solid Color Continuous Roll, Reflective, 4.0" x 100', VL, Red, 100 ft/roll	4.00	(101.60)	100	

*Use **Part No.** for ordering and **Type** for specification purposes. If using a TT130SMC printer, select label widths up to 2" (50.8 mm). All other HellermannTyton thermal transfer printers will work with label widths up to 4" wide (101.6 mm).*

High Bond Solid Colored Continuous Rolls

These reflective rolls offer a high bond adhesive that is sustainable for low surface energy substrates such as the low density plastics on the front of an inverter or powder coat paint surfaces. The adhesive is designed to adhere to textured surfaces without peeling or falling off.



MATERIAL	Type 840/926, Polyester (PET), white (WH) UV stable w/ clear Polyester laminate
Min. Application Temp.	+50°F (+10 °C)
Liner	3.2mil, 50lb bleached kraft paper
Certifications	UL969, ANSI Standard Z535.4, IFC 2012, NEC2011, NEC2014

ARTICLE NO.	Part No.	Type	Description	Width in.	Width (mm)	Feet Per Roll	Label
558-00501	558-00501	HT1RDHB250	Adhesive Labels, Solid Color Continuous Roll, Reflective, 1.0" x 250', UV Stable PET, Red, 250 ft/roll	1.0	(925.4)	250	
558-00502	558-00502	HT2RDHB250	Adhesive Labels, Solid Color Continuous Roll, Reflective, 2.0" x 250', UV Stable PET, Red, 250 ft/roll	2.0	(50.8)	250	
558-00503	558-00503	HT3RDHB250	Adhesive Labels, Solid Color Continuous Roll, Reflective, 3.0" x 100', UV Stable PET Red, 100 ft/roll	3.0	(76.2)	100	

*Use **Part No.** for ordering and **Type** for specification purposes. If using a TT130SMC printer, select label widths up to 2" (50.8 mm). All other HellermannTyton thermal transfer printers will work with label widths up to 4" wide (101.6 mm).*

Solid Colored Continuous Rolls

Solid colored continuous rolls are available in a variety of colors and printing widths. Designed to optimize custom printing on demand, these rolls allow maximum flexibility for printing unique sizes and text using TagPrint Pro label printing software and HellermannTyton thermal transfer printers. Continuous rolls allow you to have the labels that you need, when you need them, including at the time of inspection, and can be cut to size.



MATERIAL	Continuous Vinyl
Material Number	1500
Adhesive	Acrylic
Temperature Range	-40 °F (-40 °C) to +180 °F (+82 °C)
Certifications	UL 969



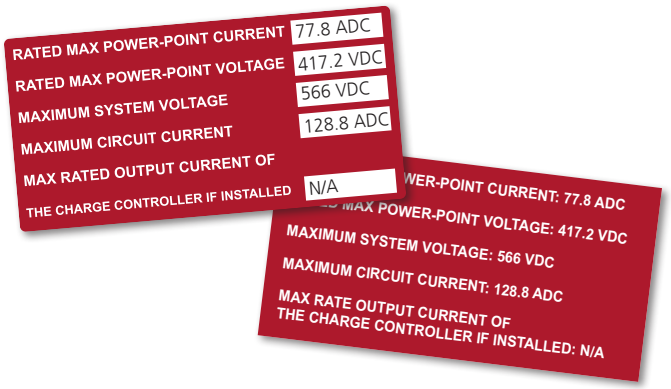
example

ARTICLE NO.	Part No.	Type	Description	Width		Feet Per Roll	Label
				in.	(mm)		
558-00308	558-00308	HT1RD250	Adhesive Labels, Solid Color Continuous Roll, 1.0" x 250', VL, Red, 250 ft/roll	1.00	(25.40)	250	
558-00312	558-00312	HT2RD250	Adhesive Labels, Solid Color Continuous Roll, 2.0" x 250', VL, Red, 250 ft/roll	2.00	(50.80)	250	
558-00006	558-00006	HT3RD250	Adhesive Labels, Solid Color Continuous Roll, 3.0" x 250', VL, Red, 250 ft/roll	3.00	(76.20)	250	
558-00370	558-00370	HT4RD250	Adhesive Labels, Solid Color Continuous Roll, 4.0" x 250', VL, Red, 250 ft/roll	4.00	(101.60)	250	
558-00307	558-00307	HT1BK250	Adhesive Labels, Solid Color Continuous Roll, 1.0" x 250', VL, Black, 250 ft/roll	1.00	(25.40)	250	
558-00311	558-00311	HT2BK250	Adhesive Labels, Solid Color Continuous Roll, 2.0" x 250', VL, Black 250 ft/roll	2.00	(50.80)	250	
558-00309	558-00309	HT1WH250	Adhesive Labels, Solid Color Continuous Roll, 1.0" x 250', VL, White, 250 ft/roll	1.00	(25.40)	250	
558-00313	558-00313	HT2WH250	Adhesive Labels, Solid Color Continuous Roll, 2.0" x 250', VL, White, 250 ft/roll	2.00	(50.80)	250	
558-00345	558-00345	HT3WH250	Adhesive Labels, Solid Color Continuous Roll, 3.0" x 250', VL, White, 250 ft/roll	3.00	(76.20)	250	
558-00350	558-00350	HT4WH250	Adhesive Labels, Solid Color Continuous Roll, 4.0" x 250', VL, White, 250 ft/roll	4.00	(101.60)	250	
558-00310	558-00310	HT1YE250	Adhesive Labels, Solid Color Continuous Roll, 1.0" x 250', VL, Yellow, 250 ft/roll	1.00	(25.40)	250	
558-00314	558-00314	HT2YE250	Adhesive Labels, Solid Color Continuous Roll, 2.0" x 250', VL, Yellow, 250 ft/roll	2.00	(50.80)	250	
558-00346	558-00346	HT3YE250	Adhesive Labels, Solid Color Continuous Roll, 3.0" x 250', VL, Yellow, 250 ft/roll	3.00	(76.20)	250	
558-00358	558-00358	HT4YE250	Adhesive Labels, Solid Color Continuous Roll, 4.0" x 250', VL, Yellow, 250ft/roll	4.00	(101.60)	250	
558-00336	558-00336	HT1OE250	Adhesive Labels, Solid Color Continuous Roll, 1.0" x 250', VL, Orange, 250 ft/roll	1.00	(25.40)	250	
558-00337	558-00337	HT2OE250	Adhesive Labels, Solid Color Continuous Roll, 2.0" x 250', VL, Orange, 250 ft/roll	2.00	(50.80)	250	
558-00338	558-00338	HT3OE250	Adhesive Labels, Solid Color Continuous Roll, 3.0" x 250', VL, Orange, 250 ft/roll	3.00	(76.20)	250	

*Use **Part No.** for ordering and **Type** for specification purposes. If using a TT130SMC printer, select label widths up to 2" (50.8 mm). All other HellermannTyton thermal transfer printers will work with label widths up to 4" wide (101.6 mm). For a listing of Printable Solar Labels designed to fit the TT130SMC, see page 44.*

Code-compliant Labeling YOUR WAY

In addition to preprinted NEC labels, HellermannTyton provides installers with several options for code-compliant solar installation labeling. Choose the method that best meets your needs.



Design and print customized PV labels, in the office or on the job site.

TagPrint Pro software works with any thermal transfer printer to design and print all required labels for NEC code-compliant solar installations.



Use TagPrint Pro 4.0 and the TT230SMC or TT130SMC for medium to high-volume print jobs. Both printers include a cutter and will print on a variety of label stocks, including continuous vinyl stock up to 4" (101.6 mm) wide.

Reference PV labeling codes, print labels and optimize workflow, from the palm of your hand.

TAGPRINT XPRESS data

NETWORK LABELING AT A TAP

The TagPrint Xpress Solar mobile app is a code reference and labeling tool designed specifically for solar installers. The app provides an easy guide to NEC 2017 and 2014 and allows for ultra-efficient wireless printing on any HellermannTyton thermal transfer printer.



- Print NEC 2017 and 2014 labels, wirelessly.
- Make printing faster and easier with multiple printers.
- Optimize workflow with multiple users.
- NEC code reference tool helps ensure passed inspections.

Download the app for FREE from the App Store or Google Play.

PV labeling convenience for solar installations, large and small.

Solar Label Convenience Packs allow installers to quickly and economically purchase high quality preprinted NEC 2017 and 2014 code-compliant solar installation labels.



Packaged in 10-count quantities to meet the needs of smaller scale solar installations and independent contractors, Solar Label Convenience Packs are available in HellermannTyton's most popular preprinted NEC 2017 and 2014 code-compliant solar label formats.

Choose from a variety of regular and reflective preprinted labels. For enhanced durability, clear laminate overlay labels are also available in a convenience pack.

TagPrint Pro 4.0

TagPrint Pro 4.0 is HellermannTyton's exclusive, powerful, multi-functional and easy-to-use label design and printing software. Easily create and print solar installation labels with preloaded solar label templates. Designed for use with HellermannTyton thermal transfer printing systems, TagPrint Pro 4.0 offers "What You See Is What You Get" (WYSIWYG) label creation. Available for purchase as a single-user or network license

ARTICLE NO.	Part No.	Pkg. Qty.	Description
556-00035	556-00035	1	TagPrint Pro 4.0 - Single User
556-00042	556-00042	1	TagPrint Pro 4.0 - Single User Upgrade
556-00036	556-00036	1	TagPrint Pro 4.0 - 2-3 Network User
556-00037	556-00037	1	TagPrint Pro 4.0 - 2-5 Network User



TagPrint Pro 4.0 Features:

Familiar Windows-based Navigation

TagPrint Pro 4.0's interface offers quick and easy access to the controls. Tabs are organized by activity, such as "Label," "Table" and "Print."

At-a-glance Interface

User can view object properties, data and actual label layout at the same time.

Pre-saved Designs

Software comes preloaded with commonly used, code-compliant safety and solar label designs and icons.

Expanded Import Capabilities and "Live Sync"

TagPrint Pro has a wide range of data import capabilities, including XMT, CSV and ODBC, which will refresh automatically, or in the case of Excel, just open directly in the program.

Built-in Security

Lockout or password protect label designs and data tables from unauthorized label editing.

Visual File Preview

When searching through label designs in the File | Open window, you can see each file displayed as it actually looks when printed as opposed to seeing just the file name.

"Pin" Favorites

Create shortcuts to frequently used label designs and data tables, making them immediately available in the file menu.

Single-user License or Network Version Available

TagPrint Pro 4.0 is available for single users or network installations to share printers, label designs and data tables from multiple workstations at one location.

Game-Changing Print Automation

Print automation unleashes your productivity, saving you time and virtually eliminating costly operator errors.

- Save frequently used labels individually or as a group under a single file name or job number.
- No need to search for and open files individually – simply enter the job number or scan a bar code on the work order for instant printing.
- Batch print to one or more printers at the same time – no waiting for one file to print before the next one begins.
- Store all print quantities, multiple printer destinations, data instructions and more within the file – no need for the operator to enter any information and make potential mistakes.
- Add optional user prompts to customize quantities, control numbers and more.



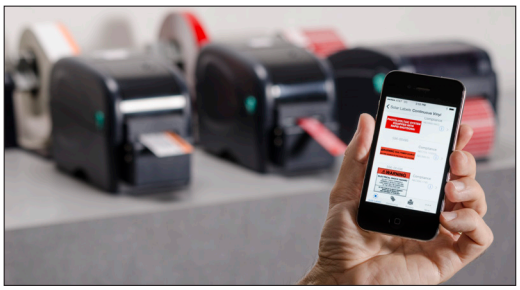
TagPrint Xpress Solar

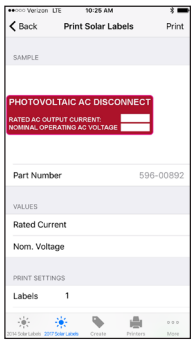
The TagPrint Xpress Solar mobile app is a code reference and labeling tool designed specifically for the solar market. The app provides an easy guide through the most recent National Electrical Code (NEC) for photovoltaic installations and allows for ultra-efficient wireless printing of required labels.

TAGPRINT XPRESS data

NETWORK LABELING AT A TAP

TagPrint Xpress Solar Benefits:



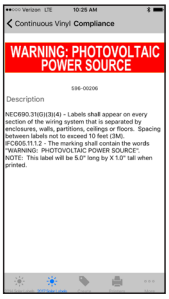


Print NEC 2017 and 2014 labels, wirelessly.

All labels required by NEC 2017 and 2014 are pre-saved as visual templates in the app. Designed for use with HellermannTyton thermal transfer printers, the app turns a mobile device into a wireless mobile print command center, eliminating the need for a laptop or desktop computer.

NEC code reference tool helps ensure passed inspections.

TagPrint Xpress Solar displays labels visually, for easy selection. Installers can also search for required labels by application (ex: inverter). The detailed NEC code reference feature helps to ensure installers have all required labels per NEC and International Fire Code (IFC), to pass inspection the first time.



Make printing faster and easier with multiple printers.

For fast, high-volume printing, TagPrint Xpress Solar allows users to network several printers.

For example, an installer can print all labels required for a solar installation with the use of three HellermannTyton printers loaded with different label stock, one with a 1" orange banded roll, one with a 1" red reflective roll and one with printable solar labels.

Optimize workflow with multiple users.

Any user with the app installed on their mobile device can access the same printers, increasing printing efficiency and workflow. No more labeling bottlenecks!

TagPrint Xpress Solar offers installers a new way to print labels and a better way to work.

solar

For more information, download the FREE app from the App Store or Google Play.

Important notes:

The print function is only compatible with HellermannTyton brand printers.

The TagPrint Xpress Solar mobile app requires Apple® iOS 6 or Android™ 4.0 (Ice Cream Sandwich) or later operating systems.

App Store is a service mark of Apple Inc. Google Play is a trademark of Google Inc.

TT230SMC Thermal Transfer Printer

The TT230SMC printer is ideal for small- to medium-volume users looking for an easy-to-use and functional thermal transfer printer. The TT230SMC is Ethernet-ready and includes an integrated cutter for use with continuous vinyl label rolls. Each printer comes with a label "caddy" that holds large label rolls behind the printer, for easier dispensing and printing. An optional carrying case can be used to safely transport the printer to remote jobsites.



TT230SMC

Features & Benefits

- 300 dpi thermal transfer print head
- Print speed up to 3" (76.2 mm) per second
- Integrated cutter – TT230SMC only
- 2mb flash / 8mb SDRAM
- Easy set up and loading without adjustments
- Label holder included with purchase
- Highly accurate, adjustable gap sensor
- Low calibration waste
- No complicated settings
- Lightweight / minimal footprint
- Approvals: CE, FCC, Class A, cULus, UL, GS, TUV-GS, LCC, C-Tick, BSMI, RoHS

Printer Specifications

- Width – 7.95" (201 mm)
- Height – 6.81" (172 mm)
- Depth – 10.16" (258 mm)
- Weight: 5.2 lbs (2.36 kg)
- Power Supply: 100-240V
- Operation Temperature: +50 °F to +95 °F (+10 °C to +35 °C)
- Print Density: 300 dpi
- Operating system: Windows 8 / 9 / 10

Media Specifications

- Prints on ShrinkTrak, continuous vinyl rolls, foam nameplate labels, adhesive labels, TipTags and self-laminating labels.
- TT230SMC printer with cutter not recommended for use with ShrinkTrak or foam nameplate labels.
- Uses standard 1/2" core HellermannTyton ribbons: (TT100OUTSM, TT822OUTSM, TTDTHOUTSM, TTHSTOUTSM, TT900OUTSM).
- Media total diameter: 8.27" (210 mm)
- Core Diameter: 3.0" ((76.2 mm)
- Maximum print width – 4.17" (106 mm)
- Minimum print width – 1.0" (25.4 mm)
- Maximum material thickness: .007" (0.19 mm)
- Minimum material thickness: .0028" (0.06 mm)
- Winding Direction: Inside or outside

ARTICLE NO.	Part No.	Type	Description	Pkg. Qty
556-00240	556-00240	TT230SMC	TT230SMC Printer with Cutter	1
556-00256	556-00256	TT230SMCKIT	TT230SMC Printer Kit*	1
556-00232	556-00232	RPH TT230SM	Replacement Print Head	1
556-00233	556-00233	RPS TT230SM	Replacement Power Supply	1
556-00231	556-00231	CASE 230SM	Optional Carrying Case	1
556-00235	556-00235	LABEL HOLDER	Label Holder	1
556-00189	556-00189	TTWHITEOUT	White Ribbon on 1" Core, Coated Side Out, 4.33" x 984'	1
556-00190	556-00190	TTWHITEOUTSM	White Ribbon on ½" Core, Coated Side Out, 4.33" x 242'	1
556-00145	TT822OUTSM	TT822OUTSM	Black Ribbon on .50" Core, 4.33" x 242', PET	1

*Use **Part No.** for ordering and **Type** for specification purposes.. *Includes the TT230SMC printer with cutter, TagPrint Pro 3.0 software, black ribbon, white ribbon, caddy and hard-shell carrying case.*

TT130SMC Compact Thermal Transfer Printer

Designed with space and portability in mind, the TT130SMC thermal transfer printer's compact footprint allows for highly efficient printing in applications in which space is tight or when portability is important. The smaller size and optional hard-shell carrying case make it easy to transport to remote jobsites. The printer accommodates label roll stock up to 2" wide, to satisfy most solar installation labeling requirements. The TT130SMC includes an Ethernet port that allows the user to connect to an existing network or to a wireless router for portable printing. For ultimate print efficiency and workflow management, users can connect several TT130SMC printers together and use TagPrint Pro label software or the TagPrint Xpress mobile application to create a multiple printer network. Optional label "caddy" holds larger label rolls. The carrying case includes space for two printers, as well as a wireless router, cables and label stock.



TT130SMCKIT

Features & Benefits

- Lightweight, compact design makes it easy to transport to remote job sites.
- Connect several printers together for ultimate printing efficiency.
- 300 dpi print head for quality print results.
- Fast print speed up to 3" (76.2 mm) / second.
- Easy to set up and load.
- Optional label caddy holds larger rolls.
- Highly accurate sensor reduces label waste.
- Includes USB 2.0 port and Ethernet port for connection to network or wireless router.
- 4mb flash / 8mb SDRAM
- Approvals; CE, FCC, Class A, cULus, UL, GS, TUV-GS, LCC, C-Tick, BSMI, RoHS

Printer Specifications

- Width: 5.50" (140 mm)
- Height : 6.98" (177 mm)
- Depth: 11.0" (241 mm)
- Weight: 5.6 lbs (2.54 kg)
- Power Supply: 100-240V Output: DC 24V 2.5A
- Operation Temperature: +50 °F to +95 °F (+10 °C to +35 °C)
- Print Density: 300 dpi
- Operating system: Windows 8 / 9 / 10

Media Specifications

- Prints on media up to 2" (50.8 mm) wide.
- Uses 1/2" core HellermannTyton ribbons.
- Maximum print width - 2.13" (54.1 mm)
- Minimum print width - .59" (15.0 mm)
- Maximum material thickness: .007" (0.19 mm)
- Minimum material thickness: .0028" (0.06 mm)
- Media total diameter: 8.27" (210 mm)
- Core Diameter: 3.0" ((76.2 mm)
- Winding Direction: Inside or outside

ARTICLE NO.	Part No.	Type	Description	Pkg. Qty
556-00250	556-00250	TT130SMC	TT130SMC Compact Thermal Transfer Printer	1
556-00254	556-00254	TT130SMCKIT	TT130SMC Printer Kit*	1
556-00257	556-00257	2TT130SMCKIT	2 Printer TT130SMC Printer Kit**	1
556-00251	556-00251	TT130RPHEAD	TT130SMC Print Head	1
556-00252	556-00252	TT130PWRSLY	TT130SMC Power Supply	1
556-00255	556-00255	TT130SMCCORD	TT130SMC Replacement Power Cord	1
556-00253	556-00253	TT130SMCCASE	Optional Carrying Case	1
556-00235	556-00235	LABEL HOLDER	Label Holder	1
556-00205	556-00205	TTWHITEOUTSM-2	White Ribbon 2" X 154', 1/Roll	1
556-00206	556-00206	TT822OUTSM-2	Black Ribbon 2" X 242', 1/Roll	1

*Use **Part No.** for ordering and **Type** for specification purposes. *Includes the TT130SMC printer with cutter, TagPrint Pro 4.0 software, black and white ribbon, caddy and hard-shell carrying case. **Includes two (2) TT130SMC printers with cutter, TagPrint Pro 4.0 software, (2) black ribbon, (2) white ribbon, (2) caddies and (1) hard-shell carrying case.*

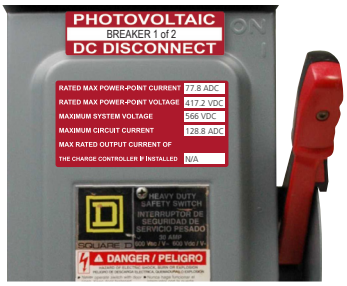
TT130SMC Compatible Printable Solar Labels

Designed in a "one across" landscape format to fit into the compact TT130SMC thermal transfer printer, these labels allow for code-compliant marking of variable information including disconnecting means, breaker series and voltage data. Made with cross-laminated UV stable materials, labels are ideal for use in solar installation applications. Use with the TT130SMC or any HellermannTyton thermal transfer printer.

MATERIAL	840/926 UV Stable White Polyester w/ Clear Polyester Laminate
Operating Temperature	-40 °F (-40 °C) to +302 °F (+150 °C)
Min. Application Temp.	+50 °F (+10 °C)
Liner	55# White Bleached Paper
Certifications	UL 969



TT130SMC with optional label caddy.



Designed to fit common types of AC and DC breaker boxes. Print the breaker series or disconnecting means directly on the labels.

ARTICLE NO.	Part No.	Type	Description	Width in.	Width (mm)	Height in.	Height (mm)	Labels Per Roll	
596-00650	596-00650	ACDISC-1	Printable Solar Label, PHOTOVOLTAIC AC DISCONNECT, Red	1.0	(25.4)	3.75	(95.25)	50	PHOTOVOLTAIC AC DISCONNECT
596-00651	596-00651	DCDISC-1	Printable Solar Label, PHOTOVOLTAIC DC DISCONNECT, Red	1.0	(25.4)	3.75	(95.25)	50	PHOTOVOLTAIC DC DISCONNECT
596-00652	596-00652	PVACDIS-1	Printable Solar Label, PV AC RATING LABEL, Red	1.0	(25.4)	3.75	(95.25)	50	PHOTOVOLTAIC AC DISCONNECT MAXIMUM AC OPERATING CURRENT: NOMINAL AC OPERATING VOLTAGE:
596-00655	596-00655	AC2011-1	Printable Solar Label, AC MODULE LABEL, Red	2.0	(50.8)	4.0	(101.60)	50	NOMINAL OPERATING AC VOLTAGE NOMINAL OPERATING AC FREQUENCY MAXIMUM AC POWER MAXIMUM AC CURRENT MAX OVERCURRENT DEVICE RATING FOR AC MODULE PROTECTION
596-00653	596-00653	DC2011-1	Printable Solar Label, DC MODULE LABEL, Red	2.0	(50.8)	4.0	(101.60)	50	RATED MAX POWER-POINT CURRENT RATED MAX POWER-POINT VOLTAGE MAXIMUM SYSTEM VOLTAGE MAXIMUM CIRCUIT CURRENT MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER IF INSTALLED
596-00654	596-00654	DCRATING-1	Printable Solar Label, DC RATING LABEL, Red	2.0	(50.8)	3.75	(95.25)	50	PV SYSTEM DC DISCONNECT OPERATING CURRENT: OPERATING VOLTAGE: MAXIMUM SYSTEM VOLTAGE: SHORT CIRCUIT CURRENT:
596-00242	596-00242	LAM1	Clear Laminate, UV Stable	4.2	(106.6)	2.25	(57.15)	50	

*Use **Part No.** for ordering and **Type** for specification purposes. While One Across Printable Solar Labels are designed for use in the TT130SMC, they can be used in all HellermannTyton thermal transfer printers.*

Tote Bags

For Cable Ties or Clamps

HellermannTyton's Utility Tote Bag for cable ties has functional features that enable workers to secure tools, multiple lengths of cable ties and accessories, adding organization and ease of access to their installation experience. Carrying handle and leg strap enhance convenience while in use.

Features and Benefits

- Versatile design supports optimal convenience and productivity.
- Made of durable, lightweight material that delivers up to 15 lb carrying capacity.
- Multiple pockets allow for on-the-go storage of longer length cable ties, tools, accessories and more.
- Leg strap provides extra stability.



MATERIAL	Fabric (CO)

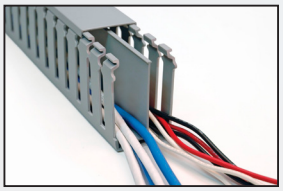
PART NO.	TYPE	Width (W) in. (mm)	Height (H) in. (mm)	Max. Recommended Load lb (N)	Weight of Bag	Color	Pkg. Qty.
HT-TOTEBAG01	**HT-TOTEBAG01**	1.97 (50.00)	19.68 (500.00)	15 (66)	0.52 kg	Blue (BU), Yellow (YE)	1
HT-TOTEBAG02	**HT-TOTEBAG02**	3.74 (95.00)	12.80 (325.00)	15 (66)	0.52 kg	Blue (BU), Yellow (YE)	1

Use Part No. for ordering and Type for specification purposes.

Additional Information

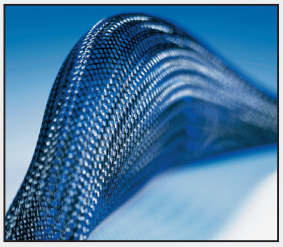
Enclosure Products for Combiner Boxes, Inverters and Control Panels

HellermannTyton offers a comprehensive line of enclosure products and tools to increase efficiency and enhance installation organization and durability throughout the solar construction project.



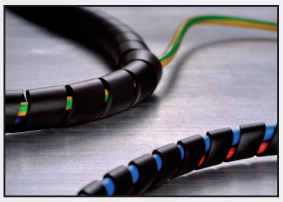
Wiring Duct

HellermannTyton offers a full line of wire duct, including solid, standard slotted and high-density slotted duct. Solid wall duct is designed for straight wire runs where breakouts are not required. Standard slotted duct features break-away fingers that provide additional access for wire leads. High density slotted wall duct comes with narrow fingers to reduce fanning of the wires for a neater appearance.



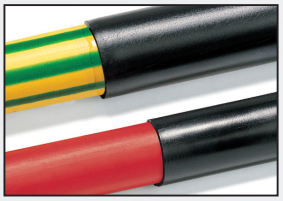
Braided Sleeving

HellermannTyton Braided Sleeving provides durable and lightweight abrasion, cut and debris protection for cable assemblies and wire bundles. The braided construction enables the material to expand beyond its nominal size to accommodate variations in bundle sizes and shapes. Braided sleeving is resistant to harsh environments such as chemicals, salts, solvents, de-icing fluids and petroleum products, as well as being resilient against UV light. The unique physical weave construction of braided sleeving makes it extremely flexible, yet it will not trap moisture or humidity.



Spiralwrap

Flexible and extremely durable, HellermannTyton's Spiralwrap provides effective wire routing and secure protection, even around corners and bends. Spiralwrap protective sheathing easily wraps around a group of cables to provide protection and organization. UL recognized, Spiralwrap is reusable and resistant to most chemicals, and is available in a variety of sizes and colors for specific routing needs.



Heat Shrink Tubing

HellermannTyton heat shrink tubing contracts when heat is applied, allowing wire or cable to unify with the protective layer for maximum protection. Heat shrink tubing is a tough and flexible solution, ideal for insulating and protecting wires and cables from abrasion and environmental hazards. HellermannTyton offers this nonprintable tubing in a variety of sizes, colors and shrink ratios.



Convoluted Tubing

HellermannTyton's line of slit convoluted tubing provides flexible-yet-rigid support that protects wire and cables from abrasion and pinching. Convoluted tubing efficiently routes wire and cables while providing excellent protection against vibration, wear, water, snow, ice and the effects of heat, cold and sunlight. HellermannTyton offers slit convoluted tubing in a variety of sizes, protecting bundles up to 2" in diameter.



Standard Cable Ties and Assemblies

HellermannTyton manufactures a full line of high quality cable ties in a variety of styles, sizes, materials and colors to bundle and secure wire and cable at converter boxes, inverters and control panels. For faster installations, we offer cable ties with integrated fasteners. Available fastener styles include button head, arrowhead and screw mount.

Commitment to Quality

Our passion for quality goes beyond designing and manufacturing the most dependable and innovative products. From maintaining highly efficient facilities to continuous process improvement to stringent quality assurance testing practices, at HellermannTyton, quality is at the heart of everything we do.

ISO 9001

The International Standards Organization (ISO) establishes worldwide standards for products and services in recognition of increasing globalization of markets. The ISO program determines the requirements for the quality assurance programs. HellermannTyton has achieved ISO 9001 certifications at all of its U.S. locations.

ISO/TS16949

ISO / TS16949 is a recognized standard for manufacturers maintaining a strict Quality Management System servicing the automotive industry. HellermannTyton has achieved and maintains certification to this standard.

ISO 14001

ISO 14001 is a voluntary standard for Environmental Management Systems established by the International Organization for Standardization. Its goal is to provide benchmarks for reviewing and improving environmental performance. HellermannTyton takes an active role in this process of continuous improvement.

AS9100

AS9100 is a recognized standard for manufacturers maintaining a strict Quality Management System servicing the aerospace industry. HellermannTyton has achieved and maintains registration to this standard.

International Electro-Technical Commission (IEC)

Representatives from key industry suppliers participate in creating standards that provide continuous improvement for products and services. HellermannTyton chaired the committee that created standard 62275 (replaced 1565) for Wire Positioning Devices.

RoHS / WEEE

The scope of the European Union's Restriction of Hazardous Substances (RoHS) and the Waste Electrical and Electronic Equipment (WEEE) directives covers all electrical and electronic equipment and their components sold into the European Union. Throughout this catalog, you will see designations where materials are RoHS compliant.

HellermannTyton



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Warranty Policy – HellermannTyton products are warranted to be free from defects in material and workmanship at the time sold by us; but our obligation under this warranty and that of the seller is limited to the replacement of the product, and neither we nor the seller are bound by any other warranty, expressed, implied or statutory. Under no circumstances are we or the seller liable for any loss, damage, expenses or consequential damages of any kind arising out of the use or inability to use these products. All are sold with the understanding that the user will test them in actual use and determine their adaptability for the intended uses.

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