



# Tempest 24v Torch Transformer – V2 (120v Only) Sku# 94800830



**Hazardous Voltage can shock, burn, or cause death. Disconnect all input power before installing or maintaining this equipment.**

## Compatibility

This transformer is designed for the Tempest 24v Torch (NG or LP). It is not designed for 2017 (or earlier) Tempest 120v torches.

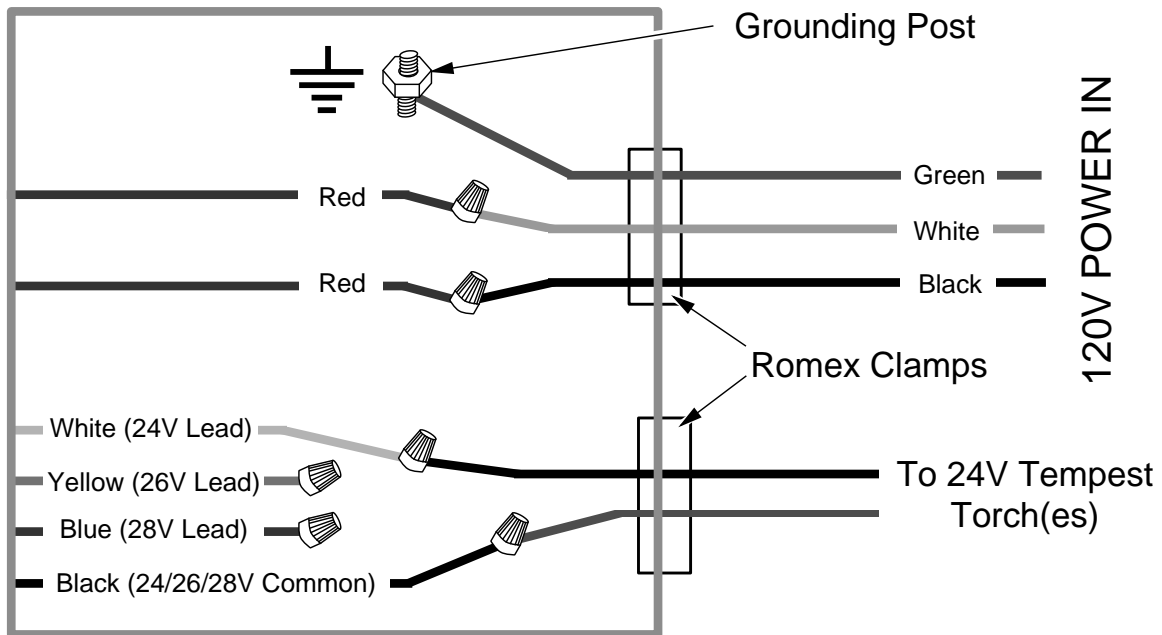
This transformer is rated at 300 VA. The transformer will power up to 6 torch heads. See the section “Wire Length, Wire Gauge and Voltage Settings” for additional details.

## Packing List

- Transformer
- (2) Strain Reliefs

## Wiring Diagram 120V

### Transformer Junction Box



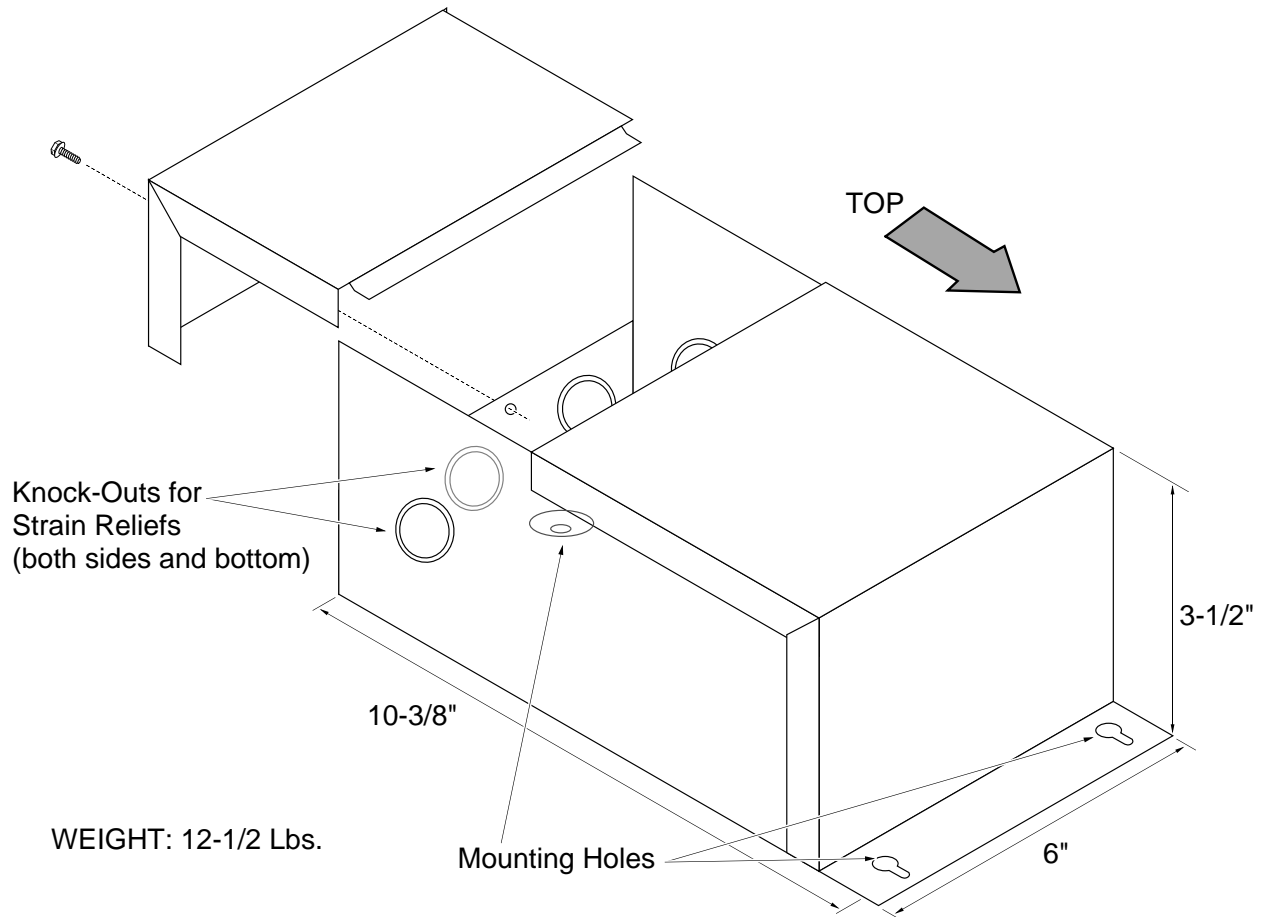
**NOTE:** In this example the 24V Lead is used.

**WARNING:** Make sure to put wirenuts on un-used power leads (in this example the 26V and 28V Leads)



# Tempest 24v Torch Transformer – V2 (120v Only) Sku# 94800830

## Dimensions



## Mounting Requirements

- Transformer weights approximately 12.5 lbs. Make sure mounting location provides sufficient support.
- Transformer is rated for damp locations.
- Do not place transformer where it will become submerged.
- We suggest placing the transformer out of direct contact with the elements (rain, snow, sun, etc.) to extend longevity.
- Consult your local building department for requirements in your area pertaining to mounting and installation of this transformer.



# Tempest 24v Torch Transformer – V2 (120v Only) Sku# 94800830

## Voltage Settings, Number of Torches and Wire Configuration

**Voltage Setting:** This transformer has three different voltage leads: 24v; 26v; and, 28v. Refer to the wire length charts (either direct-run or daisy-chain) to determine which voltage lead you should use.

### Why Does the Transformer Have Multiple Voltage Leads?

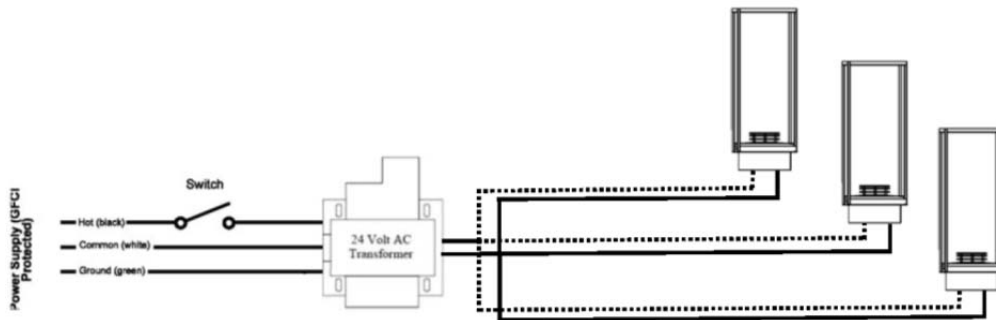
The wires from the transformer to the Tempest Torch(es) create additional resistance. The longer the wire length, the more resistance is created. The smaller the wire diameter (larger-number gauge), the more resistance is created. If your installation creates additional resistance, you will need to use a higher voltage lead to overcome the voltage drop the resistance creates. The tempest torch must receive a minimum 21v.

**Number of Torches:** This transformer is rated 300 VA and may be used on 1 to 6 torches. The higher number of torches, the higher amp load. The higher the amp load, the higher the voltage drop. You must know the number of torches on the transformer before wiring.

**Wire Configuration - Direct-Run vs Daisy-Chain Installations:** The manner in which you wire the torches to the transformer affects the maximum length of wire and wire gauge. Make sure to determine the wire configuration before installation. NOTE: You may use both direct-run and daisy-chain configurations, just make sure the maximum number of torches is 6 or less per transformer.

## Direct-Run Wire Length Chart

This type of wire configuration allows for long distances between the transformer and torch (see illustration below). Use the charts below to determine the correct wire gauge and length.



### 24 Volt Lead

Wire		
14 G	min	0'
	max	242'
12 G	min	0'
	max	369'
10 G	min	0'
	max	566'

### 26 Volt Lead

Wire		
14 G	min	79'
	max	384'
12 G	min	120'
	max	584'
10 G	min	184'
	max	897'

### 28 Volt Lead

Wire		
14 G	min	234'
	max	499'
12 G	min	356'
	max	760'
10 G	min	548'
	max	1168'

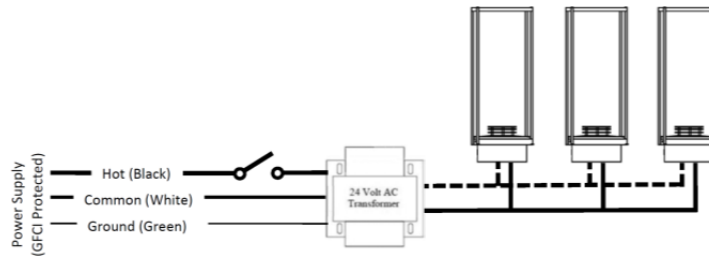


# Tempest 24v Torch Transformer – V2 (120v Only) Sku# 94800830

## Daisy-Chain Wire Length Chart

This type of wire configuration allows for torches to be wired in a series, reducing the amount of wire used. Use the charts below to determine the correct wire gauge and length. In the example below, the transformer has 3 torches on one branch.

**How to Calculate Wire Length:** Add together all of the wire length(s) used for the entire installation. If you have one 80' length and three 20' lengths, your wire length would be 140'.



### 24 Volt Lead

Wire		# Of Torches On Branch				
		<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
14 G	min	0'	0'	0'	0'	0'
	max	113'	71'	49'	37'	28'
12 G	min	0'	0'	0'	0'	0'
	max	173'	108'	75'	55'	43'
10 G	min	0'	0'	0'	0'	0'
	max	266'	165'	115'	85'	65'

### 26 Volt Lead

Wire		# Of Torches On Branch				
		<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
14 G	min	27'	10'	1'	0'	0'
	max	184'	118'	85'	65'	51'
12 G	min	41'	16'	2'	0'	0'
	max	281'	179'	129'	99'	79'
10 G	min	63'	23'	3'	0'	0'
	max	432'	276'	198'	151'	121'

### 28 Volt Lead

Wire		# Of Torches On Branch				
		<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
14 G	min	104'	62'	40'	27'	19'
	max	242'	157'	113'	88'	71'
12 G	min	160'	94'	61'	41'	28'
	max	369'	238'	173'	134'	108'
10 G	min	245'	144'	93'	63'	43'
	max	566'	366'	266'	206'	165'



# Tempest 24v Torch Transformer – V2 (120v Only) Sku# 94800830

## Wiring Examples:

### Daisy-Chain Installations:

- When using 3 torches on one branch, 14 G wire, and 150' of wire, use the 28V Lead.
- When using 4 torches on one branch, 10 G wire, and 100' of wire, use the 24V Lead.

### Direct Run Installations:

- When using a torch on a 200' run, 14 G wire, use the 24V Lead.
- When using 6 torches, each on a 200' run, 14 G wire, use the 24V Lead.

**How to Determine Wire Gauge:** When purchasing your wire, it should include wire gauge (the larger the number, the smaller the diameter wire). The wire will also be printed with a gauge number (e.g. AWG#14 = 14 gauge, 10AWG = 10 gauge, etc.). Do not use wires of dissimilar gauges (do not use 14 gauge & 10 gauge wire on the same transformer).

## Wiring the Transformer



**NOTE: Disconnect power at the service breaker prior to installing the transformer. After installation, restore power to the transformer and test both the incoming and outgoing circuits.**



Installation should only be done by a qualified electrician or installer (consult local codes).

- Use suitable connectors when wiring the transformer (silicone-filled wire nuts).



**Polarity must be maintained in all multiple torch installations. Failure to maintain polarity will result in damage to the control module.**



# Tempest 24v Torch Transformer – V2 (120v Only) Sku# 94800830

## Polarity

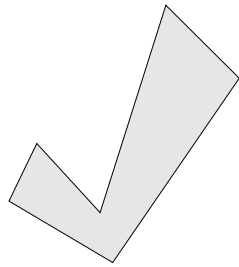


**WARNING: Make sure to keep polarity between torches the same.**

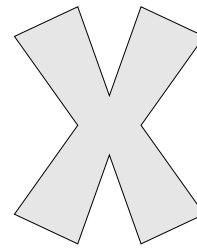
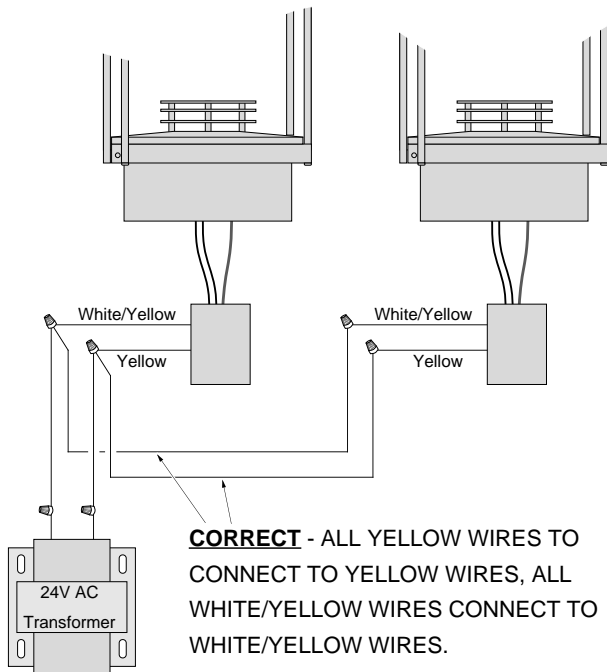
**Do not allow a yellow wire to connect to a white/yellow wire (keep polarity the same).**

**IF YOU REVERSE POLARITY, PERMANENT DAMAGE WILL OCCUR.**

- When wiring multiple torches together using a single 24VAC transformer, **it is important that the polarity between the torches are connected in parallel** (see the illustration below). **Polarity between the torches and the transformer does not matter.**



## Correct



## Incorrect

