



Engineered to Order  
Built to Last



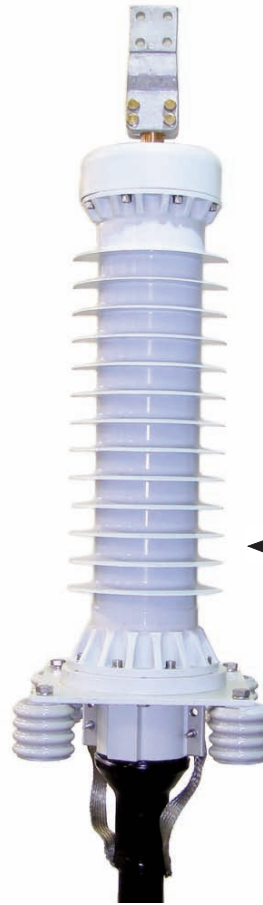
# Outdoor Style PAT Transmission Terminations

69kV - 245kV

G&W's outdoor PAT style transmission terminations are designed for extruded dielectric cable systems from 69kV to 245kV. G&W has been a leading supplier of innovative underground cable accessory solutions since it was founded in 1905. With installations and sales representation worldwide, G&W continues to offer the latest technology products with world-class, time proven performance. G&W is ISO 9001:2000 registered for its quality systems. G&W offers a wide variety of terminations and joints for all types of cable construction through 500kV.

## FEATURES

- Mechanical shrink stress cone permits fast installation without special tools. Simply position the cone and pull out the plastic core tab. It's that simple.
- Third party tested per applicable requirements of IEEE 48, IEC 60840 and IEC 62067
- Field proven, time proven reliability, with installations worldwide.



◀ Shown with silicone rubber insulator



▲ Mechanical shrink stress cone



▲ G&W 245kV terminations with composite insulators

# Outdoor Style PAT Transmission Terminations

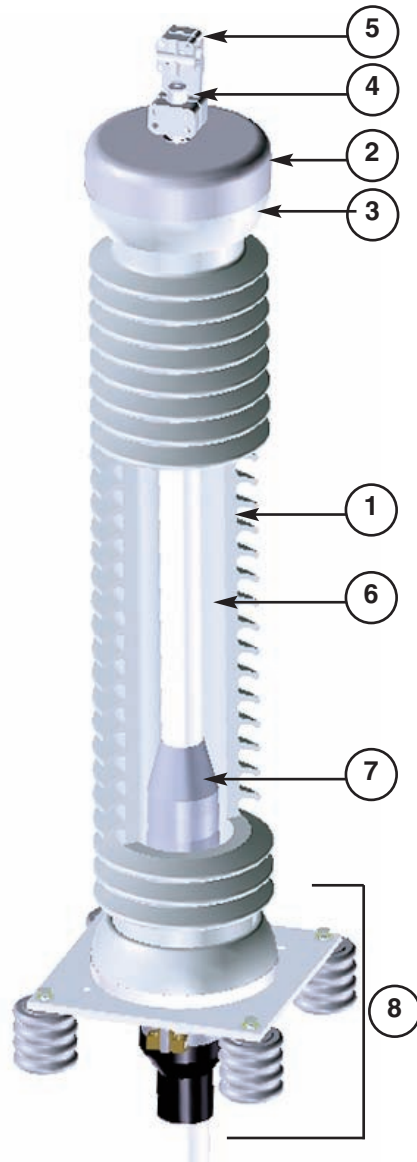


## 69kV - 245kV

For extruded dielectric cables from  
240-2500mm<sup>2</sup> (500-5000kcmil).

### STANDARD COMPONENTS

- 1) Insulator
- 2) Aluminum cap plate
- 3) Aluminum corona shield
- 4) Copper or tin plated aluminum crimp type connector
- 5) Aerial lug specified by user
- 6) Dielectric fluid
- 7) Mechanical shrink stress cone
- 8) Aluminum entrance housing with heat shrink seal, standoff insulators (4) and galvanized steel mounting plate.
- 9) Cable preparation kit.  
Kit includes grease, sandpaper, PVC tape, heat shrink seal, solder, flux, tinned copper ground braid and grounding lugs.



### Cable Suspension Grip Option

Supplied with:

- Stainless steel cable grip
- Turnbuckles (2)
- Eyebolts (2)

### Arcing Horns Option

- Prevents damage to insulator due to significant overvoltage conditions
- Provides an alternate current path away from the insulator
- Adjustable to system requirements

### Insulator Options

			<p><b>Silicone Insulator</b></p> <ul style="list-style-type: none"> <li>- Less than 1/3rd the weight of porcelain insulator</li> <li>- Will not break or fracture</li> <li>- Fire and UV resistant</li> </ul>
<p><b>Gray porcelain</b> standard</p>	<p><b>Brown porcelain</b> optional Blends with existing installations</p>	<p><b>Silicone rubber, composite insulator</b> optional</p>	<p><b>Note:</b> Extra creepage available on all models.</p>

## Aerial Lug Options

Aerial Conductor Size		Aerial Lug Height Dimension		Lug Material and Finish	Code
		mm <sup>2</sup>	AWG/kcmil		
35-240	#2-500	7	178	Bare Copper	C1
				Tinned Copper	C1T
				Silver Plated Copper	C1S
300-500	550-1000	7	178	Bare Copper	C2
				Tinned Copper	C2T
				Silver Plated Copper	C2S

Style 8 NEMA 4-Hole Type	
Code	Description
N	Bare Copper
NT	Tin Plated Copper
NS	Silver Plated Copper

## Connectors

Conductor	Cable Size		Connector Style
	mm <sup>2</sup>	kcmil	
Copper	2500 max	5000 max	Unplated Copper Crimp Type
Aluminum	630 max	1250 max	Tinned Aluminum Crimp Type
	Over 630	Over 1250	Aluminum Migweld Connectors

## Mounting/Entrance Options

Description	Code
Structure Mount- Supplied with aluminum entrance housing with heat shrink seal, galvanized steel mounting plate and (4) standoff insulators	X
Pole Mount- Supplied with mounting flange	P
For lead sheath cable. Supplied with bronze wiping sleeve, standoff insulators (4) and galvanized steel mounting plate	WS

## Drain Valve Option

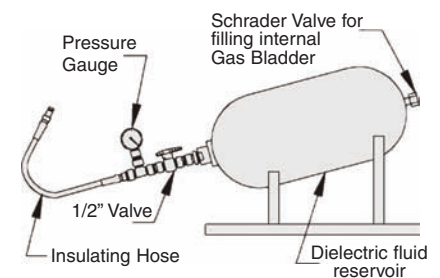
- Permits sampling of the dielectric fluid
- Located on base plate
- Required if volume compensating system option is specified

## Installation Method

Description	Code
Mechanical Shrink	X
Slip On- Use for spares or long term storage. Installation tool is available and is ordered separately	S

## Dielectric Fluid Volume Compensating System

- Required for proper performance in horizontal or inverted terminations installations
- Compensates for dielectric fluid expansion and contraction caused by temperature fluctuations
- Supplied with:
  - Dielectric fluid reservoir with internal gas bladder
  - Insulating hose
  - Optional alarm device to signal accidental loss of dielectric fluid
- Contact your G&W sales representative for additional information



Catalog Prefix	Max Cable Insulation Diameter		Approximate Shipping Weight	
	Porcelain mm (inches)	Composite mm (inches)	Porcelain kg (lbs)	Composite kg (lbs)
PAT119	71.0 (2.80)	82.5 (3.25)	150 (327)	100 (217)
PAT140	96.5 (3.80)	96.5 (3.80)	270 (592)	180 (394)
PAT160	115 (4.53)	115 (4.53)	1068 (2337)	780 (1710)

## CATALOG NUMBER

Use the chart below to build your G&W catalog number. This number should be used for all inquiries. G&W requires the following cable information to process your order:

1. Conductor size and O.D. of conductor (nominal and max)
2. Insulation O.D. (min and max)
3. Insulation shield O.D. (min and max)
4. Jacket O.D. (nominal and max)
5. Cable construction details with metallic screen type and fault current rating

**PAT140 - 3540G - 630M C - P - C1 T - X - S**



### 1 Basic Termination

Rated Voltage kV (IEC)	Rated Voltage (kV) IEEE	BIL (kV)	Code
69	72.5	350	PAT119
145	138	650	PAT140
245	230	1050	PAT160

### 2 Insulator-Material, Color, and Creepage

PAT 119		Code	PAT 140		Code	PAT 160		Code
Porcelain, Gray, 1702mm standard creepage		1702G	Porcelain, Gray, 3540mm standard creepage		3540G	Porcelain, Gray, 5221mm standard creepage		5221G
Porcelain, Brown, 1702mm standard creepage		1702B	Porcelain, Brown, 3540mm standard creepage		3540B	Porcelain, Brown, 5221mm standard creepage		5221B
Porcelain, Gray, 2464mm extra creepage		2464G	Porcelain, Gray, 5050mm extra creepage		5050G	Porcelain, Gray, 8006mm extra creepage		8006G
Porcelain, Brown, 2464mm extra creepage		2464B	Porcelain, Brown, 5050mm extra creepage		5050B	Porcelain, Brown, 8006mm extra creepage		8006B
Silicone Rubber, Gray, 1524mm standard creepage		1524G	Silicone Rubber, Gray, 3283mm standard creepage		3283G	Silicone Rubber, Gray, 5272mm standard creepage		5272G
Silicone Rubber, Gray, 2194mm extra creepage		2194G	Silicone Rubber, Gray, 4863mm extra creepage		4863G	Silicone Rubber, Gray, 7693mm extra creepage		7693G

### 3 Conductor Size

Cond. Size mm <sup>2</sup>	Code	Cond. Size kcmil	Code
240	240M	500	500K
300	300M	750	750K
400	400M	1000	1000K
500	500M	1250	1250K
630	630M	1500	1500K
800	800M	1750	1750K
1000	1000M	2000	2000K
1200	1200M	2500	2500K
1400	1400M	3000	3000K
1600	1600M	5000	5000K
1800	1800M		
2000	2000M		
2500	2500M		

### 4 Conductor Material

Description	Code
Copper	C
Aluminum	A

### 6 Aerial Lugs

Description	Code
No aerial lug	X
Clamp, Copper, 240mm <sup>2</sup> max	C1
Clamp, Copper, 300mm <sup>2</sup> - 500mm <sup>2</sup>	C2
NEMA 4-hole, Copper	N

### 7 Aerial Lug Finish

Finish	Code
None	X
Tinned	T
Silver	S

### 5 Mounting/Entrance Configuration

Description	Code
Mounting plate with standoff insulators (4), aluminum entrance housing and heat shrink seals	X
Pole mount flange	P
Wiping Sleeve for lead sheath, corrugated aluminum, or corrugated copper cable, Mounting plate with standoff insulators (4)	WS

### 8 Additional Components

Description	Code
No additional components required	X
Arcing Horns	AH
Drain Valve	DV
Stainless Steel Suspension Grips	SG

### 9 Installation

Description	Code
Standard - Mechanical Shrink	X
Spares - Slip On	S

## EXAMPLE:

**PAT140-3540G-630MC-P-C1T-X-X**

145kV termination with gray porcelain insulator for 630mm<sup>2</sup> copper conductor, pole mount flange, with clamp style, tinned copper aerial lug for 240mm<sup>2</sup> maximum overhead conductor with standard, mechanical shrink installation.