

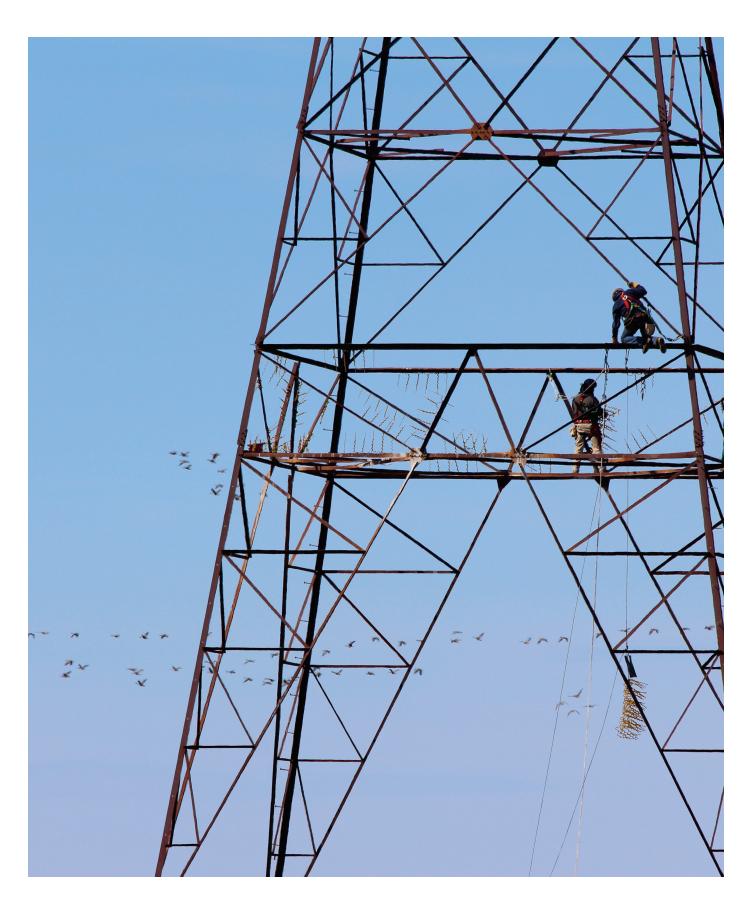




# WILDLIFE MITIGATION SOLUTIONS

Relocate | Protect | Divert | Prevent







## **ABOUT PLP**

PLP (Preformed Line Products) protects the world's most critical connections by creating stronger and more reliable networks. Our precision-engineered solutions are trusted by energy and communications providers worldwide to perform better and last longer. With offices and manufacturing facilities in over 20 countries, PLP works as a united global corporation, delivering high-quality products and unparalleled service to customers around the world.





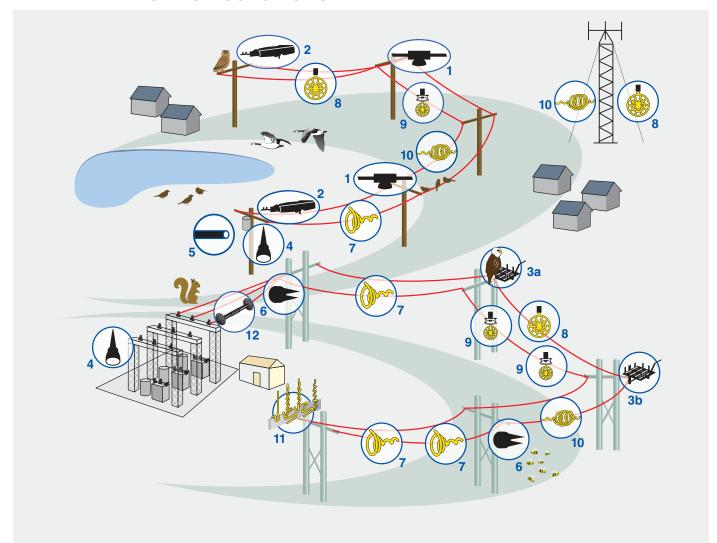


## **WILDLIFE MITIGATION**

PLP helps utilities protect wildlife and reduce outages by designing and manufacturing wildlife mitigation products that prevent interaction with equipment, protect essential components, divert bird flight patterns, and relocate animal habitats to safe areas.



## **WILDLIFE MITIGATION SOLUTIONS**



#### **SOLUTIONS KEY**



 RAPTOR PROTECTOR™



2. RAPTOR PROTECTOR™ Dead-End Cover



3a. RAPTOR PROTECTOR™ Platform Top-of-Pole



3b. RAPTOR PROTECTOR™ Platform Side-of-Pole



4. Bushing Cover



6. Pole Plug



7. BIRD-FLIGHT™ Diverter



8. RAPTOR CLAMP

Diverter



9. RAPTOR CLAMP™ LED



10. SWAN-FLIGHT™ Diverter



11. Bird Perch Deterrent



12. Squirrel Deterrent System



## **SALES CONTACTS**





### **CUSTOMER SUPPORT**

**U.S. SUPPORT** 

Tel: 440.461.5200

Fax: 440.442.8816

Email: info@plp.com

**INTERNATIONAL SUPPORT** 

Tel: 440.473.9294

Fax: 440.461.2918

Email: international@plp.com





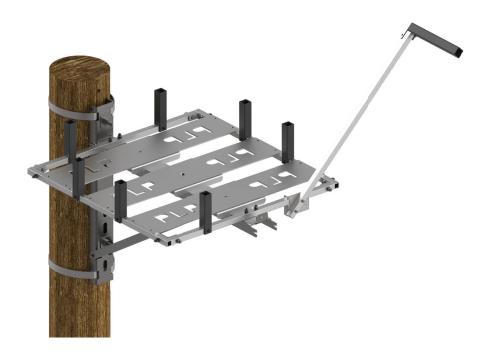
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## **RAPTOR PROTECTOR™ PLATFORM**

The **RAPTOR PROTECTOR Platform (RPP)** is designed to provide an alternative to nesting on utility structures, where they are in danger of electrocution. The RAPTOR PROTECTOR Platform also reduces outages caused by raptors and their young due to electrical short circuits and the fouling of insulators. The platform can be easily installed on the top or side of the pole. The pre-assembled platform can aid the utility in wildlife management and protection for years to come without maintenance.

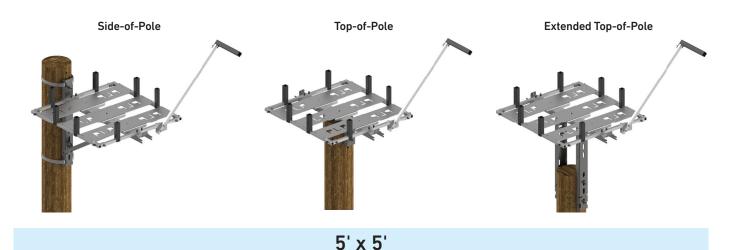
#### **FEATURES AND BENEFITS**

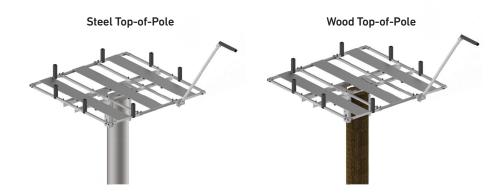
- · Manufactured of lightweight aluminium
- Galvanized hardware
- · Easily installed and reusable
- · No maintenance required
- Installs quickly on wood, steel, or composite poles
- · Optional accessories: perch, nest retention posts

Recyclable



## 3' x 3'





### **ORDERING INFORMATION**

- To add To Nest Retention Posts, add suffix code "NRP" to the base catalog number. Example: RPP33-TNRP
- To add a 48" Universal Perch, add suffix code "P" to the base catalog number. Example: RPP33-SP
- To add both Nest Retention Posts and a 48" Universal Perch, combine the suffix codes and add "NRPP" to the base catalog number. **Example:** RPP55-TWNRPP

#### **RAPTOR PROTECTOR Platform**

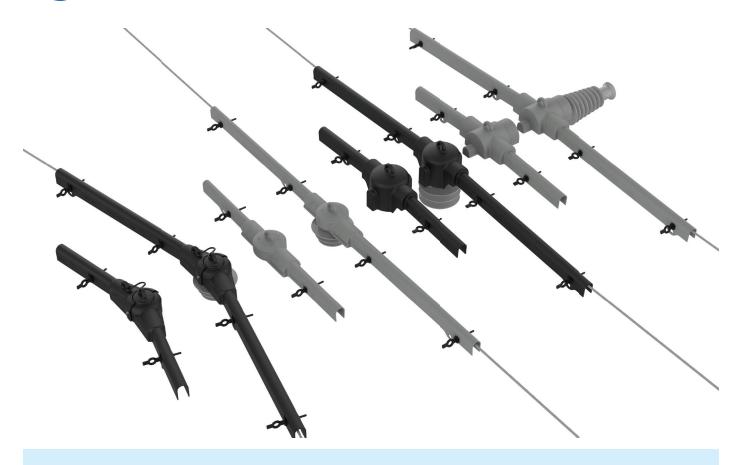
Catalog Number	Dimensions ft	Description
RPP33-T		Top-of-Pole
RPP33-ET	3 x 3	Extended Top-of-Pole
RPP33-S		Side-of-Pole
RPP55-TW	5 x 5	Wood Top-of-Pole
RPP55-TS	5 X 5	Steel Top-of-Pole

#### **Accessories**

Catalog Number	Description
NRP-1	Nest Retention Post Kit
RPP-PERCH	48" Universal Perch

NOTE: Use the above numbers only when ordering items separate from the kit.





## **RAPTOR PROTECTOR™ COVER**

The patented **RAPTOR PROTECTOR Cover (RPC)** is designed to provide protection from incidental avian contact with overhead distribution lines. It provides an economical means of reducing bird fatalities and line outages.

- Lightweight with minimal wind loading
- Fully UV-stabilized for a long service life
- 35 kV dielectric strength
- Low-profile, unobtrusive appearance
- Available in gray or black

- Installs on single insulator in seconds
- Easily modified for use in double crossarm construction
- Easily installed by hand or hot stick
- Designed to ensure a positive lock on conductor
- Covers available for C, F, J, and K-neck, vise-top, and trunnion-style insulators



### **SPECIFICATIONS**

The RAPTOR PROTECTOR<sup>TM</sup> Cover is easily installed over single or double pin/post tie top C, F, J, and K-neck insulators and on conductors up to  $1.10^{\circ}$ . For double pin insulators, the RPC can accommodate  $6.5^{\circ}$  -  $22^{\circ}$  center-to-center distances. The heavy-angle RPC can be used on angles up to  $30^{\circ}$ . The horizontal trunnion and vertical trunnion are available for vise top and trunnion-style insulators.

#### ORDERING INFORMATION

- . Four pins are included with each kit. To order additional pins, use Catalog Number: RPP-0840
- Contact a PLP representative for more information regarding which product to select for a specific application.

#### **RAPTOR PROTECTOR Cover**

Catalog Number	Description	Max Diameter Range	Overall Length	Max Line Angle	Color			
		in	in	degrees				
	Tangent							
RPC-0800-S			42		Black			
RPC-0800		1.10	80	10	Black			
RPC-0801-S		1.10	42	10	Gray			
RPC-0801			80		Gray			
	Heavy Angle Tangent							
RPC-0810-S			42		Black			
RPC-0810		1.10	80	30	Black			
RPC-0811-S			42		Gray			
RPC-0811		80		Gray				
	Horizontal Trunnion							
RPC-0820-S			42		Black			
RPC-0820		1.25	80	1.0	Black			
RPC-0821-S		1.25	42	10	Gray			
RPC-0821			80		Gray			
	Vertical Trunnion							
RPC-0830-S	<b>A</b>		42		Black			
RPC-0830		1.05	80		Black			
RPC-0831-S		1.25	42	10	Gray			
RPC-0831			80	-	Gray			

**WARNING**: The RAPTOR PROTECTOR Cover is not a completely insulating covering and should not be used to protect humans from electrical shock.





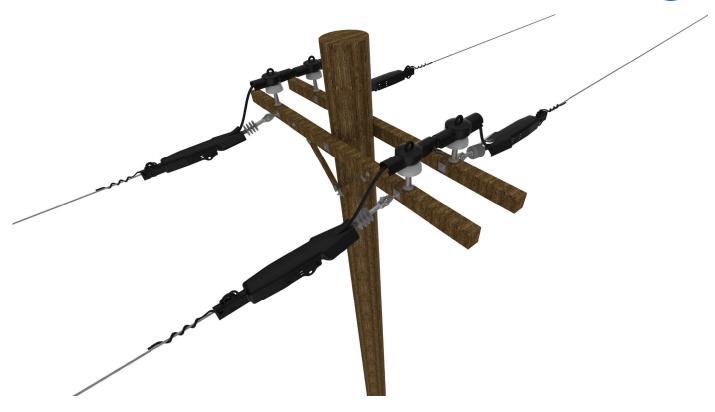
## RAPTOR PROTECTOR™ DEAD-END COVER

The patented **RAPTOR PROTECTOR Dead-End Cover** is designed to provide protection from incidental avian contact with overhead distribution lines. It installs easily over dead-end terminations and provides an economical means of reducing bird fatalities. It is designed to remain in its applied location and will not move along the conductor under aeolian vibration or other motion.

- Low-profile, unobtrusive appearance
- Two cover sizes to accommodate a wide range of conductors and dead-end hardware
- 35 kV dielectric strength
- · Easily installed by hand or hot stick
- · Includes pigtail and lift prevention block

- Lightweight, low-density polyethylene (LLDPE) material is durable and fully UV-stabilized
- Exceptional low-temperature impact resistance
- Installs on conductor and over dead-end configuration in seconds
- · Quick modification for a custom fit
- Lift prevention block keeps the cover shell from lifting off the conductor and hardware





## **ORDERING INFORMATION**

• Contact PLP or your local representative for more information on product selection and/or additional options available.

### **RAPTOR PROTECTOR Dead-End Cover**

Small

Catalog Number	Conductor Diameter Range	Overall Length	Color	Color Code			
	in	in					
RPC-0850B-0295	.175295	30	Black	Black			
RPC-0850G-0295	.1/5295	30	Gray	DIACK			
RPC-0850B-0400	.296400	30	Black	White			
RPC-0850G-0400	.296400	30	Gray	wnite			
RPC-0850B-0540	.401 - 540	20	Black	Green			
RPC-0850G-0540	.401 - 540	30	Gray	Green			
RPC-0850B-0730	.541730	30	Black	Blue			
RPC-0850G-0730	.541/30	30	Gray	Diue			

Large

9-							
Catalog Number	Conductor Diameter Range	Overall Length	Color	Color Code			
	in	in					
RPC-0860B-0730	.541730	30	Black	Blue			
RPC-0860G-0730	.541750	30	Gray	ыше			
RPC-0860B-0920	.731920	30	Black	Orango			
RPC-0860G-0920	./31920	30	Gray	Orange			
RPC-0860B-1100	.921 - 1.100	30	Black	Red			
RPC-0860G-1100	.921 - 1.100	30	Gray	Red			
RPC-0860B-1300	1.101 - 1.300	20	Black	Black			
RPC-0860G-1300	1.101 - 1.300	30	Gray	ыаск			

**WARNING:** The RAPTOR PROTECTOR Dead-End Cover is not a completely insulating covering and should not be used to protect humans from electrical shock.





## **BUSHING COVERS**

PLP's **Bushing Covers** protect connectors on transformer bushings, lightning arrestors, capacitors, and switching equipment, preventing incidental contact with various animals.

- Lightweight, one-piece design
- Plastisol compound with a minimum thickness of 100 mils
- 240 V/mil dielectric strength
- Material contains UV stabilizers and fungicides
- Shapes for various transformer configurations
- Easily modified for large or small stinger wires
- Meets **UL 94 V-0** flammability requirements



## **ORDERING INFORMATION**

**Bushing Covers** 

Bushing (	Bushing Covers								
Catalog Number	Product	Description	Carton	Height	Width	Length	Tap Wire Opening		
Number	Image		Quantity		in	Ι	in		
WP-CLF15 <sup>1</sup>		Recloser current-limiting fuse protection	30	21.50	3.75	3.75	cut as needed		
WP-10T		Single bushing transformer and capacitor. Covers a maximum of 7.5" of tap wire. Locating tabs hold the guard on the first skirt of the insulator.	25	11.75	3.75	3.75	up to 0.75		
WP-17T		Single bushing transformer and capacitor. Covers a maximum of 12.5" of tap wire. Locking tabs hold the guard on the first skirt of the insulator.	20	17.00	3.75	3.75	up to 0.75		
WP-11S		Existing tap retrofit. Apply through slit edge and hold guard in place with the fasteners provided.	25	11.00	3.50	3.50	0.40		
WP-CSP		Completely Self-Protected (CSP) transformers. Designed as retrofit. Designed to protect both primary bushing and lighting arrestor.	20	8.75	3.50	12.25	0.40		
WP-2.25F <sup>1</sup>		Single bushing transformer. Covers 2.25" OD current-limiting fuse bolted to bushing bottom of the double-dipped tip indicates point of install for fuse. Locking tabs hold guard on first skirt of the insulator.	20	12.75	3.75	3.75	cut as needed		

 $<sup>^{\</sup>rm 1} \mbox{Designed}$  for use with current-limiting fuse





## **PROTECTOR TUBING**

**Protector Tubing** protects energized lines from faults due to incidental contact with various species of wildlife. The overlapping design provides 360° coverage of the conductor, even in jumper applications.

- Tubing slit configuration permits easy installation on existing conductor
- Durable EPDM tubing with a minimum thickness of 125 mils
- 500 V/mil dielectric strength
- Excellent resistance to ozone and petroleum-based solvents
- Overlapping profile follows bends and turns without risk of splitting open
- New profile accommodates a wider range of conductor applications
- Ideal for transformer stinger wires and arrestor connections
- Available in continuous rolls. Contact PLP with your requirements.





## **ORDERING INFORMATION**

### **Protector Tubing**

Conductor Diameter Range								
	Conductor Dia	meter Kange	L					
Catalog Number	Minimum	Maximum	Length <sup>1</sup>					
	in (mm)	in (mm)	ft (m)					
PT-0375	0.1/2//.1\	0.275 (0.5)	8 (2.43)					
PT-0375-50	0.162 (4.1)	0.375 (9.5)	50 (15.24)					
PT-0625	0.277 (0.7)	0 (25 (15 0)	8 (2.43)					
PT-0625-50	0.376 (9.6)	0.625 (15.8)	50 (15.24)					
PT-0938	0 (2( (15 0)	0.020 (22.0)	8 (2.43)					
PT-0938-50	0.626 (15.9)	0.938 (23.8)	50 (15.24)					
PT-1300	0.020 (22.0)	1 20 (22 0)	8 (2.43)					
PT-1300-50	0.939 (23.9)	1.30 (33.0)	50 (15.24)					
PT-1750	1 21 (22 2)	175(///)	8 (2.43)					
PT-1750-50	1.31 (33.2)	1.75 (44.4)	50 (15.24)					

<sup>&</sup>lt;sup>1</sup>Contact PLP for additional length options

**WARNING**: Protector tubing should not be used to protect humans from electrical shock.



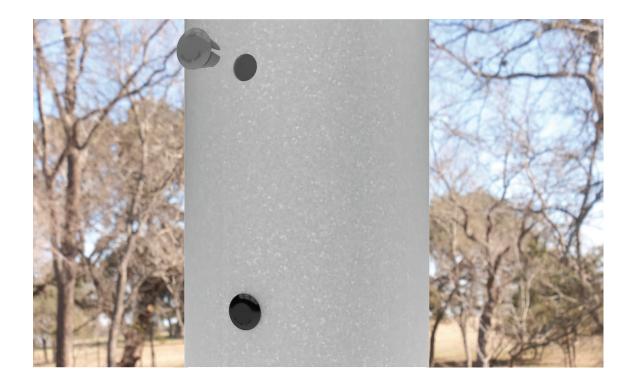


## **POLE PLUG**

The **Pole Plug** is designed to close existing holes in steel and composite utility poles or other equipment. Closing unused holes reduces or eliminates whistling due to the wind. The plug also provides an economical means of drastically reducing the incidence of insect infestations that can result in lineworker injuries and productivity losses.

- Fully UV-stabilized
- · Resistant to environmental stress cracking
- · Lightweight, one-piece design
- Can be installed with standard hot stick tools if required
- Positive snap-in lock
- Covers a wide range of hole diameters
- Long service life without material deterioration
- See PLP's Distribution Tips & Tricks video for more information
- UL 94 V-0 compliant versions available





## **ORDERING INFORMATION**

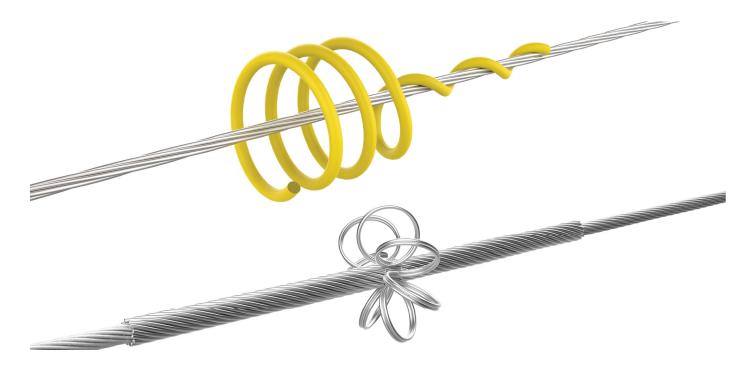
- Add suffix "B" or "G" to indicate color: "B" Black, "G" Gray, Example: PP-0625B
- To order **UL 94 V-0**, add "FR" following the color code designation, **Example:** PP-0625BFR
- To order Pole Plug for Heavy Wall Poles, add "H" following the color code designation, **Example:** PP-0625BH

**NOTE:** All Heavy Wall Pole Plugs are made from urethane and are **UL94 V-0** compliant. PP-1500xxx is not available with Heavy Wall.

### Pole Plug

Catalan Numban	Hole Size	Maximum Wall Thickness
Catalog Number	in	in
PP-0625xxx	9/16 and 5/8	
PP-0750xxx	11/16 and 3/4	
PP-0813xxx	13/16	1/4 Standard
PP-0875xxx	7/8 and 15/16	or 11/16 Heavy Wall
PP-1000xxx	1 and 1-1/16	
PP-1125xxx	1-1/8	
PP-1500xxx	1-1/2	3/8
PP-1250x	1-1/4	1/4
PP-1375x	1-3/8	3/8
PP-3000x	3	3/4





## **BIRD-FLIGHT™ DIVERTER**

The **BIRD-FLIGHT Diverter (BFD)** is designed to make overhead lines and guyed structures visible to birds and provides an economical means of reducing the hazard to both lines and birds. For low- and medium-voltage construction, the BFD is applied to the phase conductors (bare or jacketed). For high voltages, it is typically used on the shield wire and/or OPGW cable.

The **Plastic BFD** is manufactured from rigid, high-impact PVC possessing excellent chemical resistance and tensile strength properties. The BFD will retain good physical characteristics over a range of temperatures.

The **Aluminum BFD** is manufactured from a high strength, corrosion-resistant aluminum alloy material. It is designed for use on conductors operated at elevated temperatures (up to  $250^{\circ}$ C).

- · Lightweight, economical, and easily applied by hand or hot stick
- Positive grip prevents product from moving along the span
- Long service life without deterioration of material properties
- Minimal wind resistance
- Manufactured from gray or yellow high-impact PVC with UV protection or aluminum alloy for high temperature requirements (contact PLP for other color/voltage options)
- For voltages up to 230 kV. Contact PLP for 345 kV applications.
- Meets UL 94 V-0 flammability requirements



### **SPACING**

#### Horizontal Line Layout



For optimal results, spacing distances are generally recommended at 15-foot intervals, depending upon local conditions. Since wind resistance is very limited, a sufficient number of BIRD-FLIGHT Diverters can be used to ensure adequate visibility without creating stresses on the line. When marking adjacent spans, overall visibility is improved by staggering the placement between spans.

### **ORDERING INFORMATION**

Select the appropriate BIRD-FLIGHT Diverter size.

- For use on bare and jacketed conductors, strand, and fiber optic cables
- Contact a PLP representative for more information regarding which product to select for a specific application.

#### **BIRD-FLIGHT Diverter**

Catalog	Number	Conductor Di	ameter Range	Overall Lemeth	Diverter Coil	
		Minimum	Maximum	Overall Length	Outer Diameter	Color Code
YELLOW	GRAY	in (mm)	in (mm)	in (mm)	in (mm)	Jour
BFD-MS-3331	BFD-MS-3346	.175 (4.4)	.249 (6.3)	8.00 (203)	2.25 (57)	Black
BFD-MS-3155	BFD-MS-2921	.250 (6.4)	.349 (8.9)	8.50 (216)	2.50 (64)	Blue
BFD-MS-3164	BFD-MS-3355	250 (0.0)	((0(11 ()	9.50 (241)	2.75 (70)	Brown
BFD-MS-11135	BFD-MS-11060	.350 (8.9)	.449 (11.4)	12.37 (314)	4.25 (108)	Brown
BFD-MS-3341	BFD-MS-3366	.450 (11.4)	.599 (15.2)	14.50 (368)	4.25 (108)	Green
BFD-MS-3344	BFD-MS-3371	.600 (15.2)	.770 (19.6)	17.00 (432)	4.25 (108)	Purple
BFD-MS-3345	BFD-MS-3376	.771 (19.6)	.858 (21.8)	15.00 (381)	4.25 (108)	Red
BFD-MS-3405	BFD-MS-11699	.859 (21.8)	.970 (24.6)	16.50 (419)	4.50 (114)	Orange
BFD-MS-11111	BFD-MS-12290	.971 (24.7)	1.121 (28.5)	15.50 (394)	4.25 (108)	Pink
		High-Temper	ature BIRD-FLIGH	T Diverter		
Catalog Number	Material	in (mm) Color Co				
BFD-MS-11543		0.800 (20.3)	0.850 (21.6)	26.00 (660)	4.00 (101)	Pink

nigii-terriperature bikb-r-Lion i biverter							
Material		in (mm)					
Aluminum	0.800 (20.3)	0.850 (21.6)	26.00 (660)	4.00 (101)	Pink		
	1.100 (28.0)	1.150 (29.2)	37.00 (939)	4.00 (101)	Purple		
	1.300 (33.0)	1.350 (34.3)	43.00 (1092)	4.00 (101)	Red		
	1.565 (39.8)	1.635 (41.5)	54.00 (1371)	4.00 (101)	Black		
		Material 0.800 (20.3)  Aluminum 1.300 (33.0)	Material 0.800 (20.3) 0.850 (21.6) 1.100 (28.0) 1.150 (29.2) 1.300 (33.0) 1.350 (34.3)	Material         in (mm)           0.800 (20.3)         0.850 (21.6)         26.00 (660)           1.100 (28.0)         1.150 (29.2)         37.00 (939)           1.300 (33.0)         1.350 (34.3)         43.00 (1092)	Material         in (mm)           0.800 (20.3)         0.850 (21.6)         26.00 (660)         4.00 (101)           1.100 (28.0)         1.150 (29.2)         37.00 (939)         4.00 (101)           1.300 (33.0)         1.350 (34.3)         43.00 (1092)         4.00 (101)		





## **GALVANIZED BIRD-FLIGHT™ DIVERTER**

The **Galvanized BIRD-FLIGHT Diverter** is designed to make guyed structures more visible to birds and provide an economical means of reducing the hazard to both lines and birds. The diverter's positive grip on the cable ensures that it remains in the applied position and will not move along the cable under aeolian vibration or other conditions.

- · Lightweight, economical, and easily applied by hand
- Positive grip prevents product from moving along the cable
- Minimal wind resistance
- Designed for icing situations on down guys
- · Manufactured from galvanized steel





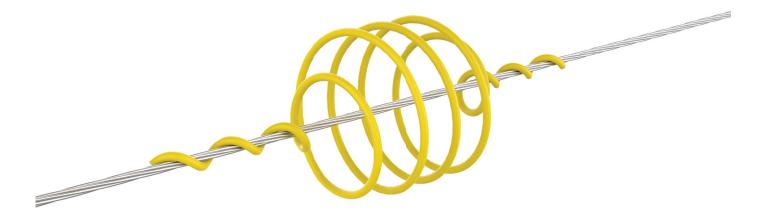
## **ORDERING INFORMATION**

## Galvanized BIRD-FLIGHT™ Diverter

Catalog Number	Conductor Diameter	Overall Length	Diverter Coil Diameter	Weight per set	Color	
	in (mm)	in (mm)	in (mm)	lb	Code	
BDG-5738	3/8 (9.5)	28.00 (711)	3.50 (88.9)	0.58	Orange	
BDG-5739	7/16 (11.1)	30.50 (774)	3.50 (88.9)	0.63	Green	
BDG-5740	1/2 (12.7)	32.50 (825)	3.50 (88.9)	0.90	Blue	
BDG-5741	9/16 (14.2)	33.50 (851)	3.50 (88.9)	0.95	Yellow	
BDG-5742	5/8 (15.8)	36.50 (927)	3.50 (88.9)	1.02	Black	
BDG-5743	3/4 (19.0)	38.00 (965)	3.50 (88.9)	1.07	Orange	

**WARNING**: The Galvanized BIRD-FLIGHT Diverter is not designed to be conductive and is not for use on energized conductors. Contact a PLP representative for information on alternative products designed for energized situations.





## **SWAN-FLIGHT™ DIVERTER**

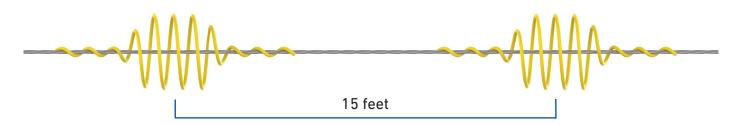
The **SWAN-FLIGHT Diverter (SFD)** is designed for use on conductor/strand to create greater visibility for avian flight paths on overhead lines and tower down guys. For construction up to 230 kV, the SFD can be applied to phase conductors (bare or jacketed). For EHV, it is typically installed on the shield wire. The diverter section increases the visible profile of the cable to a degree necessary to alert wildlife, but avoids an undesirably bulky outline and increased loading on the line.

- · Increases visibility where large, slow-moving bird flight paths are present
- · Lightweight, economical, and easily applied
- Positive grip prevents product from moving along the span
- Long service life without deterioration of material properties
- · Minimal wind resistance
- · Manufactured from gray or yellow rigid, high-impact PVC with UV protection
- Applicable for voltages below 230 kV
- Semi-conductive version available for 230 kV applications
- Meets UL 94 V-0 flammability requirements



### **SPACING**

#### Horizontal Line Layout



For optimal results, spacing distances are generally recommended at 15-foot intervals, depending upon local conditions. Since wind resistance is very limited, sufficient SWAN-FLIGHT Diverters can be used to ensure adequate visibility without creating stresses on the line. When marking adjacent spans, overall visibility is improved by staggering the placement between the spans.

#### ORDERING INFORMATION

- For use on bare and jacketed conductors, strand, and fiber optic cables
- Gray is the standard color. For yellow, add "-Y" after the catalog number. Add suffix "-B" to the catalog number for black semi-conductive layer for applications at 230 kV. **Example:** SFD-2460-B

#### **SWAN-FLIGHT Diverter**

Catalan	Conductor Range		Overall	Diverter Coil	PVC Rod	Approximate	Calan
Catalog Number	Minimum	Maximum	Length	Diameter	Diameter	Weight	Color Code
Number	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	lb	oodc
SFD-0445	0.175 (4.4)	0.249 (6.3)	20 (508)	7.0 (177)	0.375 (9)	0.40	Black
SFD-0635	0.250 (6.3)	0.349 (8.8)	23 (584)	7.0 (177)	0.375 (9)	0.46	Blue
SFD-0890	0.350 (8.9)	0.449 (11.4)	25 (635)	7.5 (190)	0.375 (9)	0.50	Brown
SFD-1140	0.450 (11.4)	0.599 (15.2)	35 (889)	8.0 (203)	0.375 (9)	0.70	Green
SFD-1520	0.600 (15.2)	0.770 (19.5)	38 (1965)	8.0 (203)	0.500 (14)	1.40	Purple
SFD-1960	0.771 (19.5)	0.858 (21.7)	38 (1965)	8.0 (203)	0.500 (14)	1.40	Red
SFD-2220	0.859 (21.8)	0.970 (24.6)	40 (1016)	8.0 (203)	0.500 (14)	1.50	Orange
SFD-2460	0.971 (24.6)	1.121 (28.4)	40 (1016)	8.0 (203)	0.500 (14)	1.50	Pink
SFD-2700	1.122 (28.4)	1.306 (33.1)	40 (1016)	8.0 (203)	0.500 (14)	2.00	Gray
SFD-3035	1.307 (33.2)	1.530 (38.8)	46 (1168)	8.0 (203)	0.500 (14)	2.00	Black

WARNING: The SWAN-FLIGHT Diverter should not be applied on phase conductors energized at voltages of 345 kV and above.





## **RAPTOR CLAMP™ DIVERTER**

The **RAPTOR CLAMP Diverter** is an alternative to the BIRD-FLIGHT™ Diverter and the SWAN-FLIGHT™ Diverter for making overhead power lines visible to birds of all sizes. It provides a cost-beneficial means of reducing hazards to both power lines and birds. PLP also offers the **RAPTOR CLAMP™ LED Diverter**, which includes an exclusive flashing LED module that provides a visible indication of overhead lines in dark and low-light conditions.

- UAV (drone) installation is available through PLP's UAV Installation Services
- Clamp's trigger mechanism is simple to open and set
- Easy "bump and snap" installation on the cable
- · No special tools required
- Manufactured from UV-stabilized polycarbonate and polyethylene materials
- All metal hardware is corrosion-resistant stainless steel
- Operational temperatures up to 125°C continuous
- Applications to 69 kV three phase





UAV (drone) installation is available through PLP's UAV Installation Services.

### **SPACING**

#### Horizontal Line Layout



For optimal results, spacing distances are generally recommended at 15-foot intervals, depending upon local conditions. Since wind resistance is very limited, a sufficient number of RAPTOR CLAMP Diverters can be used to ensure adequate visibility without creating stresses on the line. When marking adjacent spans, overall visibility is improved by staggering placement between the spans.

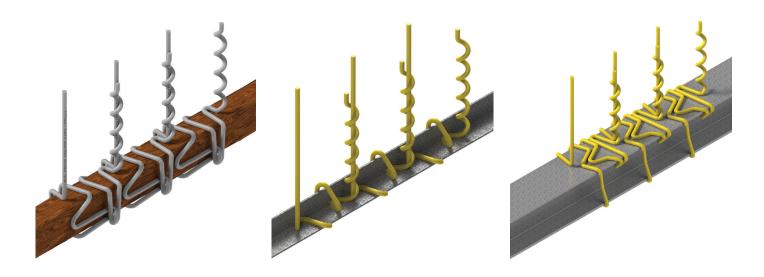
#### ORDERING INFORMATION

#### RAPTOR CLAMP™ Diverter and RAPTOR CLAMP™ LED Diverter

	Diameter Range		Wajaht
Catalog Number	Minimum	Maximum	Weight
	in (mm)	in (mm)	lb
RAPTOR-YEL	0.1 (2.54)	1.75 (44.45)	0.40
RAPTOR-LED-W*			1.10
RAPTOR-LED-UV*			1.10

<sup>\*</sup>W: White flashing light; UV: UV flashing light





## **BIRD PERCH DETERRENT**

The Bird Perch Deterrent (BPD) is designed to eliminate roosting areas on structures that are electrocution hazards or over equipment to keep it free from bird contamination. Bird Perch Deterrents provide an economical means of reducing avian fatalities, line outages, and equipment flashovers, and are easily installed over the structural support.

- Eliminate perching to prevent fouling of equipment or incidental contact electrocution
- · Economical and easily applied
- · Long service life without deterioration
- Interlocking design, no attachment hardware
- 8" (203 mm) spacing between uprights
- Lightweight (no metal parts), minimal wind resistance
- Outdoor-grade PVC performs in extreme temperatures
- Meets UL 94 V-0 flammability requirements

- **APPLICATIONS:** Standard Crossarms, Heavy-Duty Crossarms, Angle Iron, Davit Arms, W6 and W10 I-Beams
  - Other designs are available upon request. Please provide information about structure, shape, and dimensions.





## **ORDERING INFORMATION**

- To calculate the number of Bird Perch Deterrents required, measure the distance to be covered and divide by 8.
- A minimum of two Bird Perch Deterrents ARE REQUIRED to ensure proper application.
- Standard color is gray; to order yellow, add suffix code "-Y" to the catalog number.

#### **Bird Perch Deterrent**

		Crossarm Dimensions		
Catalog Number	Application	Width	Height	Carton Quantity
ramber		in (mm)	in (mm)	duantity
BPD-XARM	Crossarm	3.25 (83)	4.25 (108)	16
BPD-A22	Angle	2 (50)	2 (50)	24
BPD-IA22	Inverted Angle	2 (50)	2 (50)	24
BPD-A25	Angle	2.5 (63)	2.5 (63)	24
BPD-IA25	Inverted Angle	2.5 (63)	2.5 (63)	24
BPD-A225	Angle	2 (50)	2.5 (63)	24
BPD-IA225	Inverted Angle	2 (50)	2.5 (63)	24
BPD-W6I	I-Beam	6 (152)	6 (152)	16
BPD-W10I	I-Beam	10 (254)	10 (254)	16
BPD-HD64	Heavy-Duty Crossarm	6 (152)	4 (102)	16
BPD-HD55	Heavy-Duty Crossarm	5 (127)	5 (127)	12
BPD-DAVIT	Davit Arm	Universal	Universal	30
BPD-HD3585	Heavy-Duty Crossarm	3.5 (89)	8.5 (216)	16
BPD-HD5777	Heavy-Duty Crossarm	5.75 (146)	7.75 (197)	16

**WARNING**: Bird Perch Deterrents should not be used if nesting of large birds is already present.





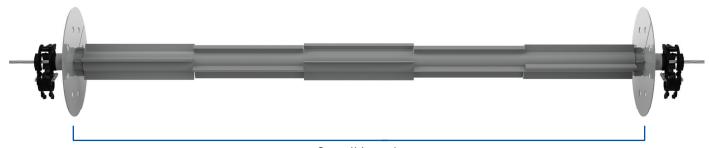
## **SQUIRREL DETERRENT SYSTEM**

The **Squirrel Deterrent System (SDS)** is intended to prevent squirrels from gaining access to electrical components within the distribution system and causing outages. Statistics show that squirrels cause more electrical outages than any other species of wildlife. They travel along conductors, gaining access to substations, switches, and transformers where the energized conductors and the ground potential are close enough together that the squirred can short them. This obviously will fatally harm the squirrel and will result in equipment damage and failure.

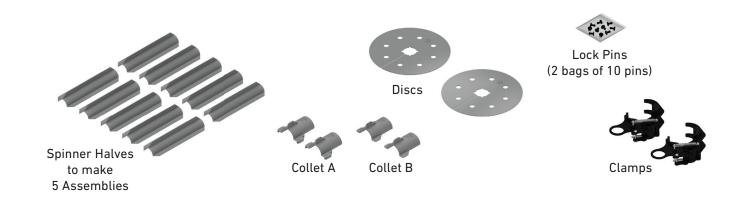
- Accommodates conductors up to 1.5" diameter
- Line voltages up to 69 kV
- UV-stabilized, outdoor-grade PVC
- · Easy to install, no tools required
- · Customize to fit application using additional modular components
- · Durable PVC is lightweight and cost-effective
- Meets UL 94 V-0 flammability requirements



## **COMPONENTS**



Overall Length 5 feet



## **ORDERING INFORMATION**

### **Squirrel Deterrent System**

Catalog Number	Description	Carton Quantity	Carton Weight
SDS-005	Squirrel Deterrent System-5 Feet (Includes 5 Spinner Assemblies, 2 Collet Assemblies (A+B), 2 Discs, 2 Clamps, and 2 bags of 10 Lock Pins)	1	8
Accessories			
SDC-001	Spinner Assembly	10	10
SDC-002	Collet Kit (Includes 2A and 2B Collet Assemblies)	4 (8 halves)	1
SDC-003	Disc Kit	4	2
SDC-004	Clamp	4	2
SDC-005	Small Lock Pin Kit (Includes 2 bags of 10 Lock Pins)	2 (2 bags of 10 pins)	1



## **INSTALLATION INSTRUCTIONS**

#### **FEATURED PRODUCTS:**

SP3065 RAPTOR PROTECTOR™ for Single & Double Insulator Supports

SP3203 RAPTOR PROTECTOR™ Articulating Angle

SP3155 RAPTOR PROTECTOR™ Horizontal Trunnion

SP3156 RAPTOR PROTECTOR™ Vertical Trunnion

SP3204 RAPTOR PROTECTOR™ Dead-End Cover

SP3418 RAPTOR PROTECTOR™ Platform for Side-of-Pole Mounting Applications 3' x 3'

SP3419 RAPTOR PROTECTOR™ Platform for Top-of-Pole Mounting Applications 3' x 3'

SP3420 RAPTOR PROTECTOR™ Platform for Extended Top-of-Pole Mounting Applications 3' x 3'

SP3582 RAPTOR PROTECTOR™ Platform for Pole Top Applications 5' x 5'

SP3586 Perch Kit Assembly for RAPTOR PROTECTOR™ Platform

SP2759 Bushing Cover (WP-2.25F)

SP2959 Bushing Cover (WP-11S, WP-CSP, WP10T, WP-17T)

SP2824 Protector Tubing

SP3093 Pole Plug

SP2805 BIRD-FLIGHT™ Diverters

SP3053 BIRD-FLIGHT™ Aluminum Diverters

SP3427 Galvanized BIRD-FLIGHT™ Diverters

SP3081 SWAN-FLIGHT™ Diverters

SP3519 RAPTOR CLAMP™ Diverters

SP3143 Bird Perch Deterrent for Structural Steel

SP3189 Bird Perch Deterrent for Distribution Crossarms/Box Arms

SP3196 Bird Perch Deterrent for Inverted Structural Steel

SP3219 Bird Perch Deterrent for I-Beams

SP3143 Bird Perch Deterrent for Structural Steel

SP3535 Squirrel Deterrent System

Installation Instructions and Videos are available on PLP.COM.

Easily find products by searching the product name or SP number.



### **NOTES:**



### NOTES:



### **NOTES:**



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