



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.

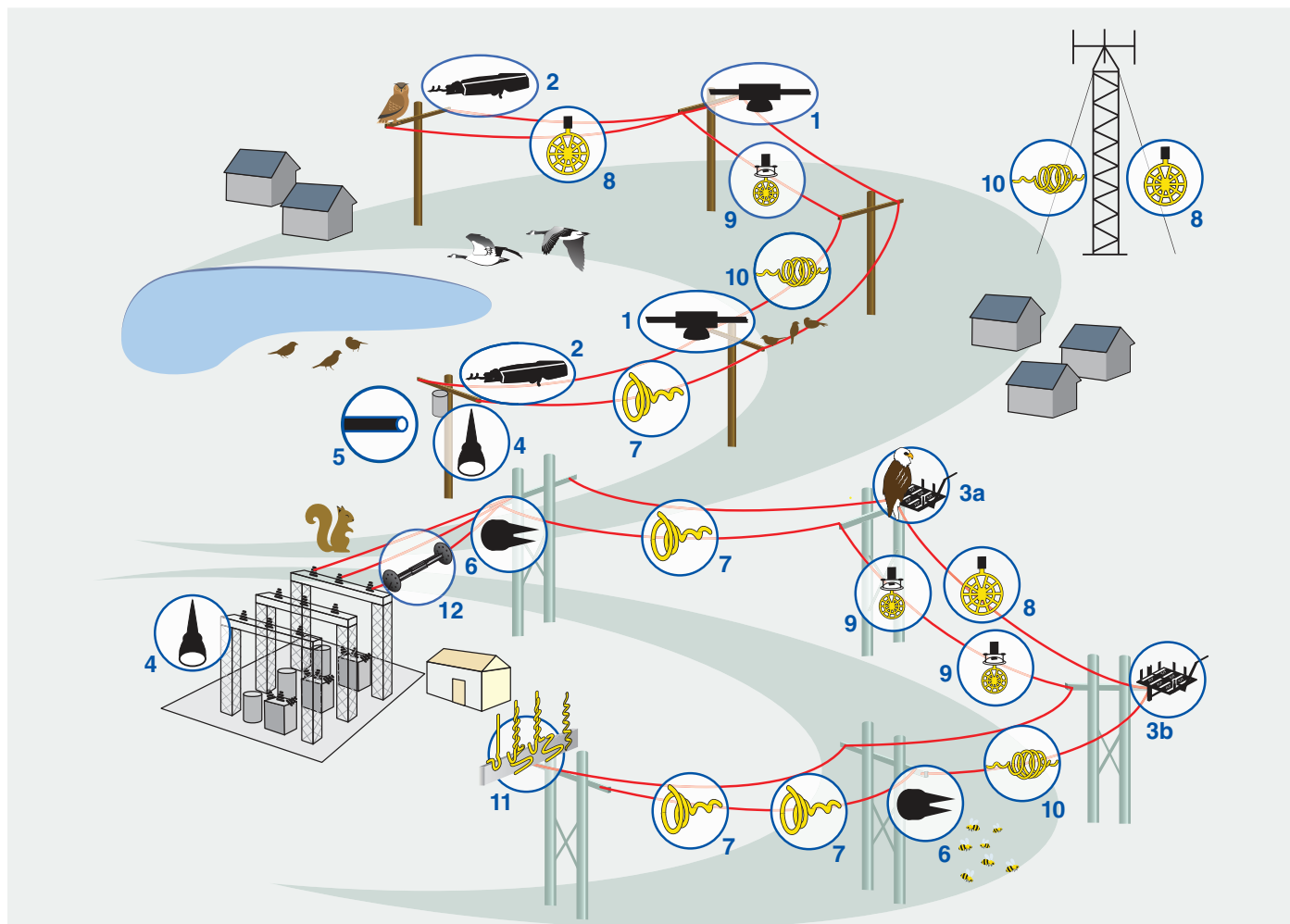




WILDLIFE MITIGATION

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

1. 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



**ELECTRIC UTILITY
SALES**



**COMMUNICATIONS
SALES**

CUSTOMER SUPPORT

U.S. SUPPORT

Tel: 440.461.5200

Fax: 440.442.8816

Email: info@plp.com

INTERNATIONAL SUPPORT

Email: international@plp.com



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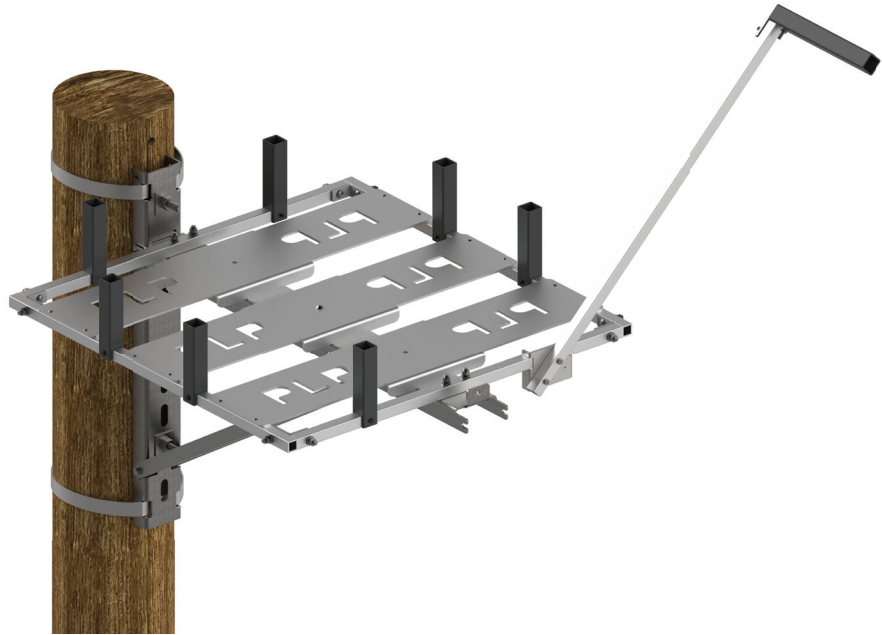
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RAPTOR PROTECTOR™ PLATFORM

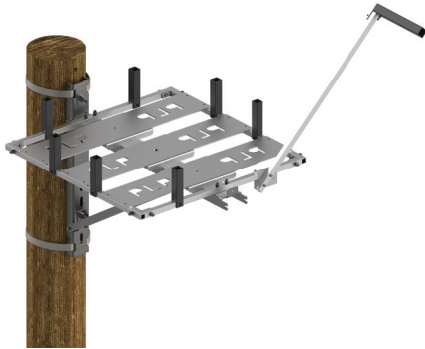
The **RAPTOR PROTECTOR Platform (RPP)** is designed to provide an alternative to nesting on utility structures, where they are in danger of electrocution. The RAPTOR PROTECTOR Platform also reduces outages caused by raptors and their young due to electrical short circuits and the fouling of insulators. 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

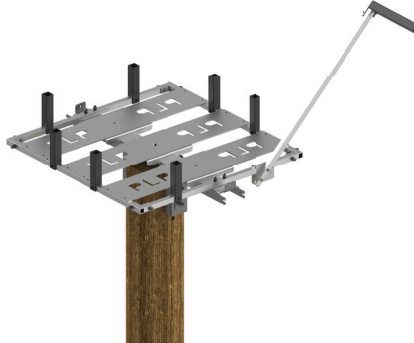
- Manufactured of lightweight aluminium
- Galvanized hardware
- Easily installed and reusable
- No maintenance required
- Installs quickly on wood, steel, or composite poles
- Optional accessories: perch, nest retention posts

3' x 3'

Side-of-Pole



Top-of-Pole

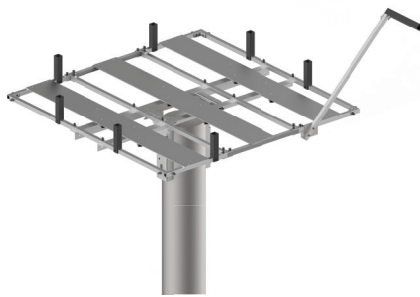


Extended Top-of-Pole



5' x 5'

Steel Top-of-Pole



Wood Top-of-Pole



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

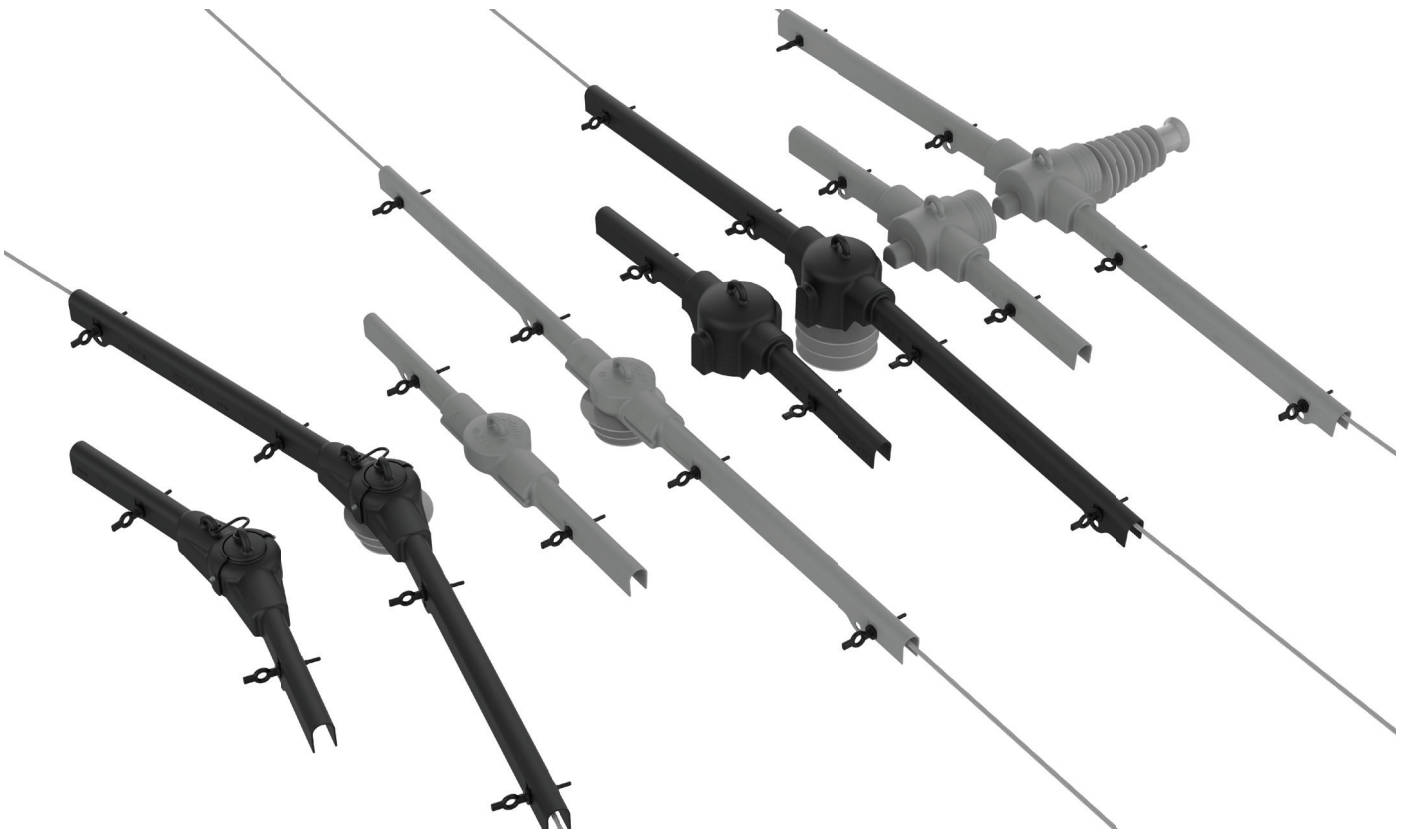
RAPTOR PROTECTOR Platform

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

FEATURES AND BENEFITS

- 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™ 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". For double pin insulators, the RPC can accommodate 6.5" - 22" center-to-center distances. The heavy-angle RPC can be used on angles up to 30°. 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		1.10	42	10	Black
RPC-0800			80		Black
RPC-0801-S			42		Gray
RPC-0801			80		Gray
Heavy Angle Tangent					
RPC-0810-S		1.10	42	30	Black
RPC-0810			80		Black
RPC-0811-S			42		Gray
RPC-0811			80		Gray
Horizontal Trunnion					
RPC-0820-S		1.25	42	10	Black
RPC-0820			80		Black
RPC-0821-S			42		Gray
RPC-0821			80		Gray
Vertical Trunnion					
RPC-0830-S		1.25	42	10	Black
RPC-0830			80		Black
RPC-0831-S			42		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.

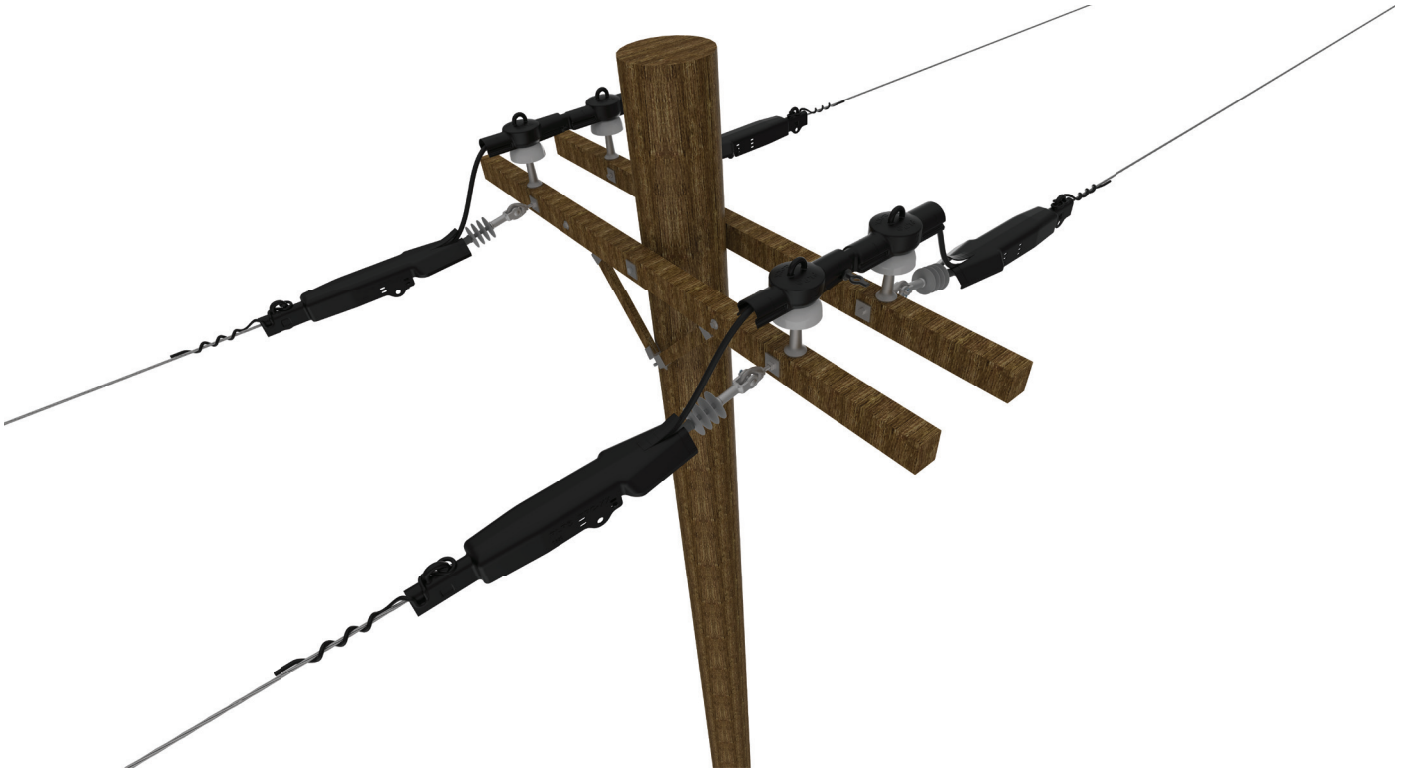


RAPTOR PROTECTOR™ DEAD-END COVER

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.

FEATURES AND BENEFITS

- 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	.175 - .295	30	Black	Black
RPC-0850G-0295			Gray	
RPC-0850B-0400	.296 - .400	30	Black	White
RPC-0850G-0400			Gray	
RPC-0850B-0540	.401 - .540	30	Black	Green
RPC-0850G-0540			Gray	
RPC-0850B-0730	.541 - .730	30	Black	Blue
RPC-0850G-0730			Gray	

Large

Catalog Number	Conductor Diameter Range	Overall Length	Color	Color Code
	in	in		
RPC-0860B-0730	.541 - .730	30	Black	Blue
RPC-0860G-0730			Gray	
RPC-0860B-0920	.731 - .920	30	Black	Orange
RPC-0860G-0920			Gray	
RPC-0860B-1100	.921 - 1.100	30	Black	Red
RPC-0860G-1100			Gray	
RPC-0860B-1300	1.101 - 1.300	30	Black	Black
RPC-0860G-1300			Gray	

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.

FEATURES AND BENEFITS

- 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

Catalog Number	Product Image	Description	Carton Quantity	Height	Width	Length	Tap Wire Opening
				in			in
WP-CLF15 ¹		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 lightning arrestor.	20	8.75	3.50	12.25	0.40
WP-2.25F ¹		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

¹Designed for use with current-limiting fuse



PROTECTOR TUBING

Protector Tubing has an overlapping design with 360 degree coverage and is slit for ease of application. Protector Tubing serves different functions. It protects the cable jacket from abrasion caused by structures, trees, and other cables, as well as protects energized lines from incidental contact with wildlife and vegetation.

FEATURES AND BENEFITS

- 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
- Profile accommodates distribution ranges of conductor applications
- Ideal for transformer stinger wires and arrestor connections
- Available in continuous rolls. Contact PLP with your requirements.



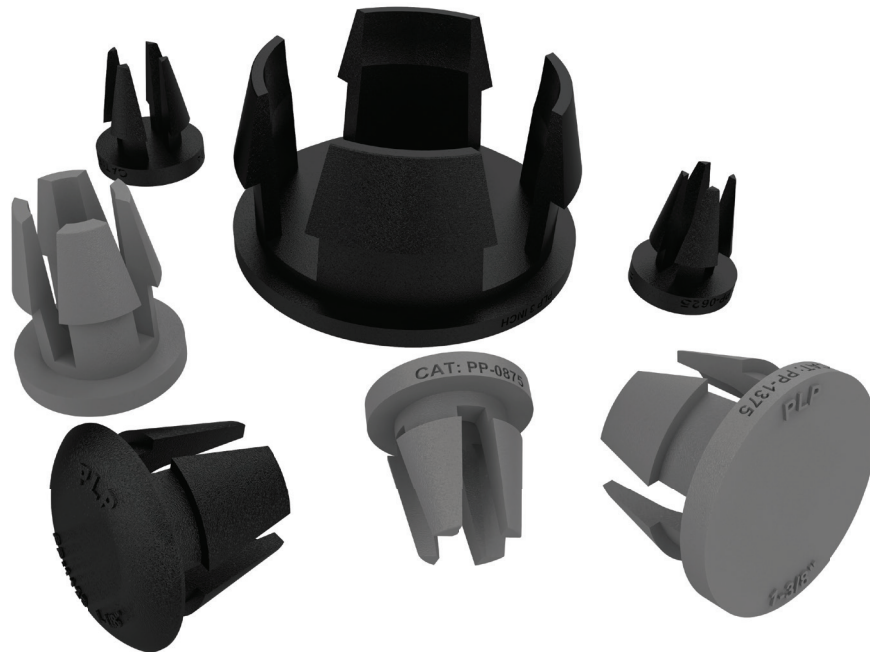
ORDERING INFORMATION

Protector Tubing

Catalog Number	Conductor Diameter Range		Length ¹	Weight per Unit	Quantity per Carton
	Minimum	Maximum			
	in (mm)	in (mm)	ft (m)	lb	
PT-0375	0.162 (4.1)	0.375 (9.5)	8 (2.43)	0.85	30
PT-0375-50			50 (15.24)	5.5	3
PT-0625	0.376 (9.6)	0.625 (15.8)	8 (2.43)	1.5	25
PT-0625-50			50 (15.24)	10	3
PT-0938	0.626 (15.9)	0.938 (23.8)	8 (2.43)	2.3	25
PT-0938-50			50 (15.24)	14	2
PT-1300	0.939 (23.9)	1.30 (33.0)	8 (2.43)	2.7	10
PT-1300-50			50 (15.24)	17	2

¹Contact 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.

FEATURES AND BENEFITS

- 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



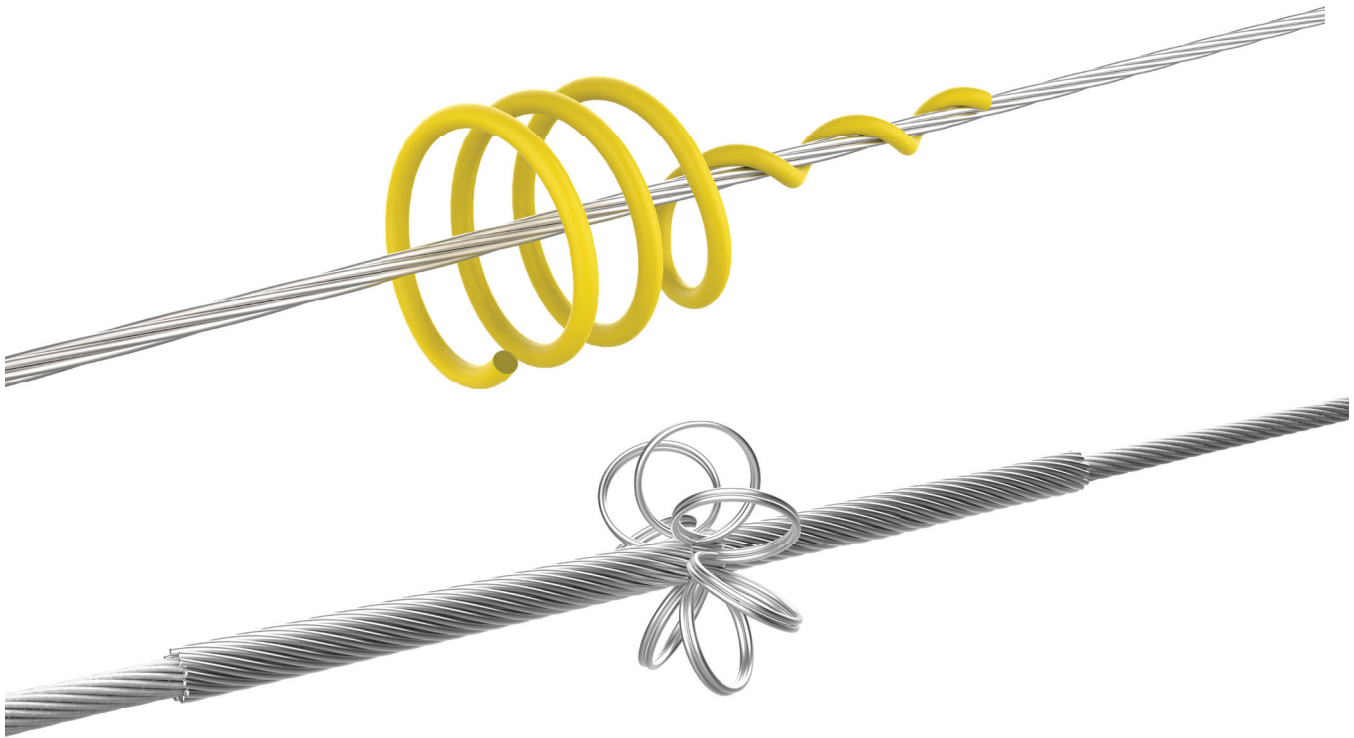
ORDERING INFORMATION

- 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

Catalog Number	Hole Size	Maximum Wall Thickness
	in	in
PP-0625xxx	9/16 and 5/8	1/4 Standard or 11/16 Heavy Wall
PP-0750xxx	11/16 and 3/4	
PP-0813xxx	13/16	
PP-0875xxx	7/8 and 15/16	
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 installed directly 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. For most OHSW and OPGW applications, the BFD can be installed robotically.

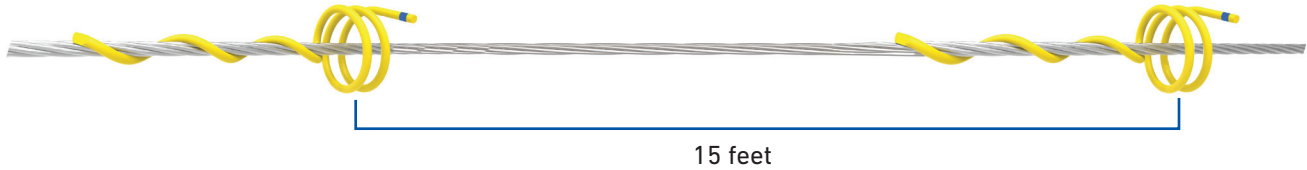
The **Aluminum BFD** is manufactured from a high strength, corrosion-resistant aluminum alloy material. It is designed for use on conductors operated at elevated temperatures (up to 250°C).

FEATURES AND BENEFITS

- 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 options)
- For voltages up to 230 kV. Contact PLP for 345 kV applications.
- Meets **UL 94 V-0** flammability requirements
- Robotically installed versions available for the plastic BFD

SPACING

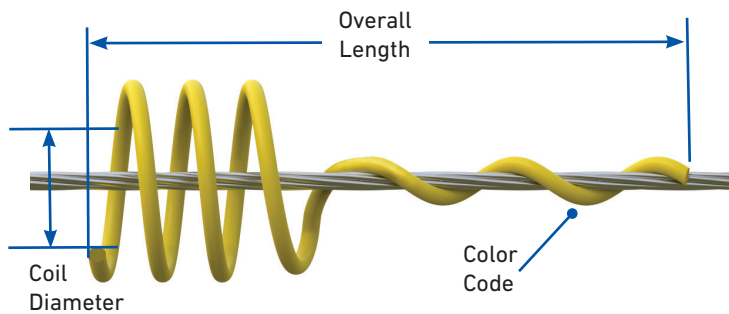
Horizontal Line Layout



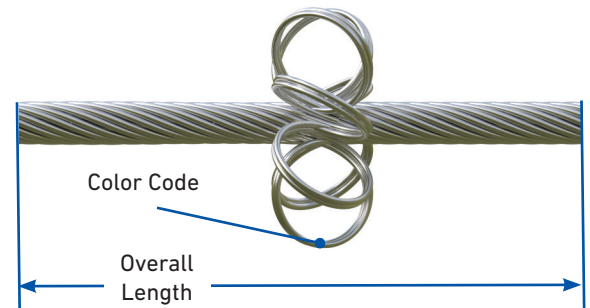
For optimal results, spacing distances are generally recommended at 15-foot intervals, but is dependent upon local conditions. Since wind resistance is very limited, a sufficient number of BIRD-FLIGHT Diverter can be used to ensure adequate visibility without creating stresses on the line. When marking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

NOTE: See Appendix for additional Horizontal Line Layouts on medium voltage, three phase, and one phase.

SPECIFICATIONS



Plastic



Aluminum

BIRD-FLIGHT Diverter

Characteristics	Description	
	Plastic (PVC)	Aluminum
Length	Distance product covers the conductor	
Color Code	Identifies the conductor diameter ranges for colors corresponding to tabular information on catalog pages	
Coil Diameter	Internal diameter of diverter coil	Approximately 4 inches
Application Voltage	Gray and Yellow; 230 kV and below Semi-Conductive 345 kV	230 kV and below
Thermal Rating	125°C Continuous	250°C Continuous

BIRD-FLIGHT DIVERTER ROBOTIC INSTALLATIONS

LineFly™ Robot

Offered as a service in partnership with FulcrumAir, installations of PLP's BIRD-FIGHT Diverter utilizing the revolutionary LineFly™ robot provide utility asset owners with dramatic improvements in workplace safety and project efficiency while also reducing environmental disruptions. Using proprietary systems jointly developed by FulcrumAir and PLP, the robotic system quickly delivers precision installations of PLP's BIRD-FLIGHT Diverter, positioning them within inches of any predetermined distance.

Improved Workplace Safety

- Reduces lineworker exposure to safety hazards
- Eliminates the need for helicopter installations

Enhanced Project Efficiency

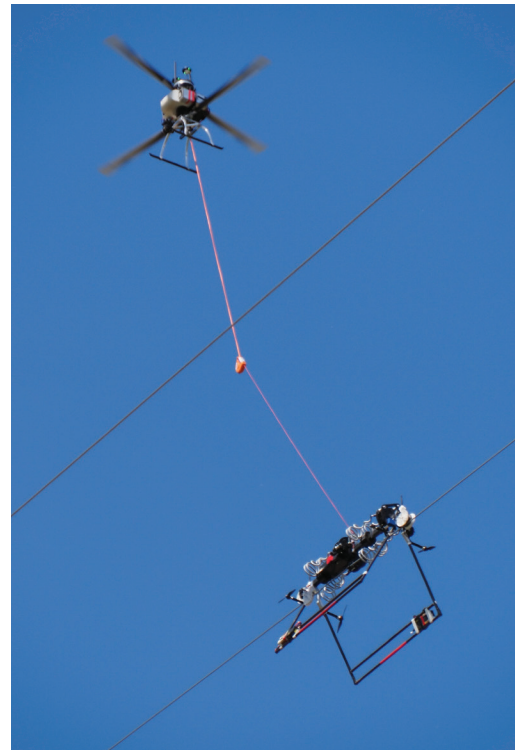
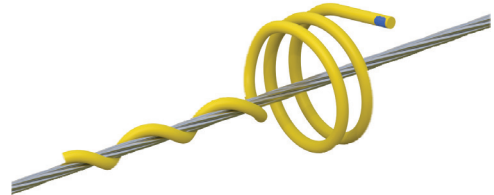
- More cost-effective than traditional installation methods
- Multiple robots can be used simultaneously for rapid construction completion
- Spans covered in a matter of minutes

Precision Product Installations

- Installs BIRD-FLIGHT Diverter at precise locations, ensuring optimal visual alert for avian species

Reduced Environmental Disruptions

- Battery-powered propulsion drones provide a significantly quieter and more environmentally friendly method of installing diverters compared to using helicopters or bucket trucks



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 – PVC

Catalog Number		LineFly™ Robotic Installation	Conductor Diameter Range		Overall Length	Diverter Coil Outer Diameter	PVC Rod Diameter	Color Code
YELLOW	GRAY		Minimum	Maximum				
in (mm)								
BFDMS3331	BFDMS3346	–	0.175 (4.4)	0.249 (6.3)	8.00 (203)	2.25 (57)	0.375 (9.53)	Black
BFDMS3155	BFDMS2921	–	0.250 (6.4)	0.349 (8.9)	8.50 (216)	2.50 (64)		Blue
BFDMS13152R	BFDMS13153R	Yes	0.312 (7.9)	0.349 (8.9)	10 (254)	4.25 (108)		Blue
BFDMS3164	BFDMS3355	–	0.350 (8.9)	0.449 (11.4)	9.5 (241)	2.75 (70)		Brown
BFDMS11135	BFDMS11060	–			12.37 (314)	4.25 (108)		
BFDMS11135R	BFDMS11060R	Yes	0.350 (8.9)	0.449 (11.4)	11.5 (292)	4.25 (108)		Brown
BFDMS3341	BFDMS3366	–	0.450 (11.4)	0.602 (15.3)	14.5 (368)	4.25 (108)		Green
BFDMS3341R	BFDMS3366R	Yes	0.450 (11.4)	0.602 (15.3)	13.5 (343)	4.25 (108)		Green
BFDMS3344	BFDMS3371	–	0.603 (15.3)	0.770 (19.6)	17.00 (432)	4.25 (108)		Purple
BFDMS3345	BFDMS3376	–	0.771 (19.6)	0.858 (21.8)	15.00 (381)	4.25 (108)		Red
BFDMS3405	BFDMS11699	–	0.859 (21.8)	0.970 (24.6)	16.50 (419)	4.50 (114)		Orange
BFDMS11111	BFDMS12290	–	0.971 (24.7)	1.121 (28.5)	15.50 (394)	4.25 (108)		Pink
BFDMS11430		–	1.222 (31)	1.306 (33.2)	16.25 (412.8)	4.38 (111.3)	0.438 (11.13)	Gray
BFDMS11110		–	1.307 (33.2)	1.530 (38.7)	17.00 (431.8)	4.70 (119.3)		Black
BFDMS12351		–	1.531 (38.9)	1.786 (45.4)	20.00 (508)	4.88 (124)		White
BFDMS11566		–	1.787 (45.4)	2.100 (53.3)	23.00 (584.2)	5.25 (133.4)		Purple
BFDMS12603		–	2.101 (53.4)	2.500 (63.5)	26.00 (660.4)	5.25 (133.4)		Orange

NOTE: Catalog Numbers ending with "R" are for Robotic Installations. Please see page 22 for additional details on LineFly Robotic Installation.

High-Temperature BIRD-FLIGHT Diverter

Catalog Number	Material		Conductor Diameter Range		Overall Length	Diverter Coil Outer Diameter	Color Code
			Minimum	Maximum			
			in (mm)				
BFDMS11543	Aluminum		0.800 (20.3)	0.850 (21.6)	26.00 (660)	4.00 (101)	Pink
BFDMS12679			1.100 (28.0)	1.165 (29.5)	37.00 (939)		Purple
BFDMS12645			1.300 (33.0)	1.350 (34.3)	43.00 (1092)		Red
BFDMS12687			1.565 (39.8)	1.635 (41.5)	54.00 (1371)		Black

NOTE: High-Temperature BIRD-FLIGHT Diverters are **NOT** LineFly Robot installable. Consult PLP for BIRD-FLIGHT Diverters for 345kV Phase Conductor application.

CONTACT A PLP REPRESENTATIVE

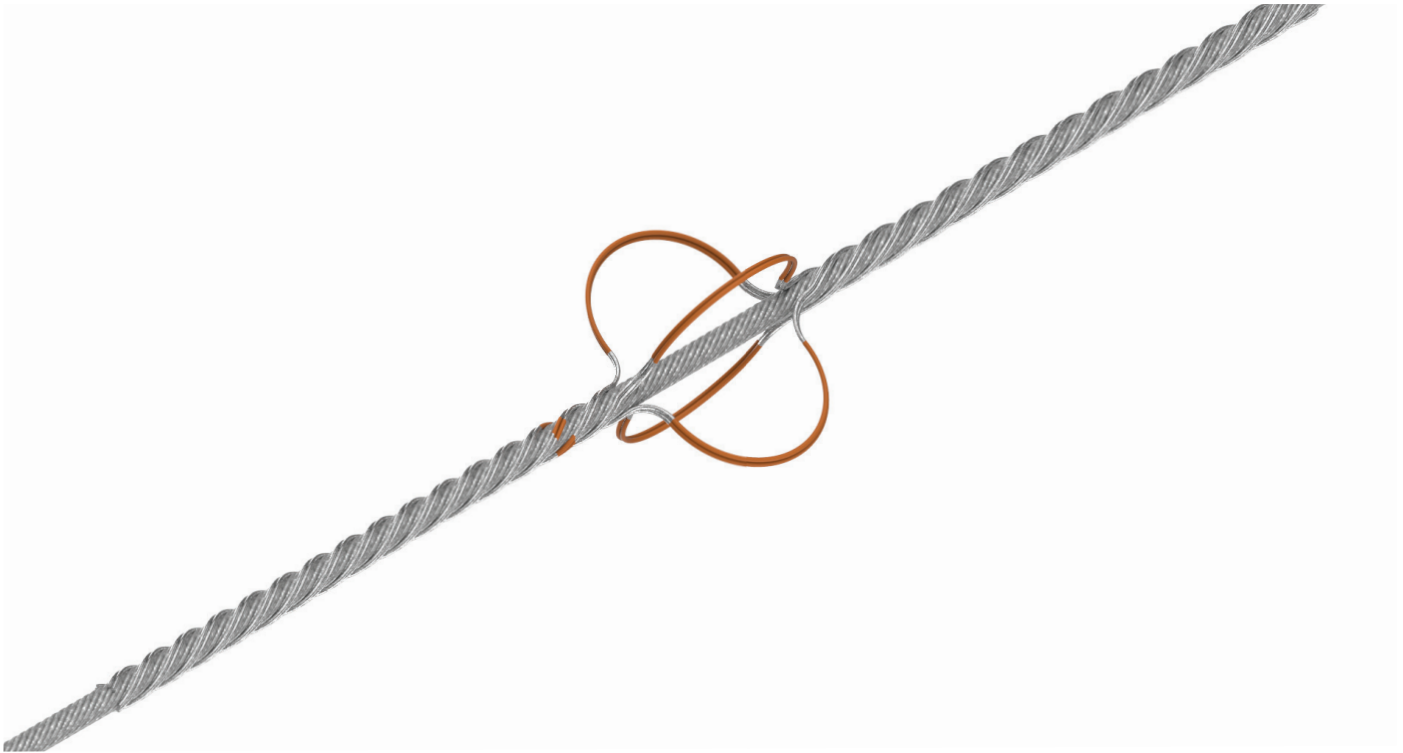
UNITED STATES



INTERNATIONAL

JAIME PALLARES
GLOBAL MARKET MANAGER
TRANSMISSION

+34 95 499 72 23
jaime.pallares@plp.com



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.

FEATURES AND BENEFITS

- 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



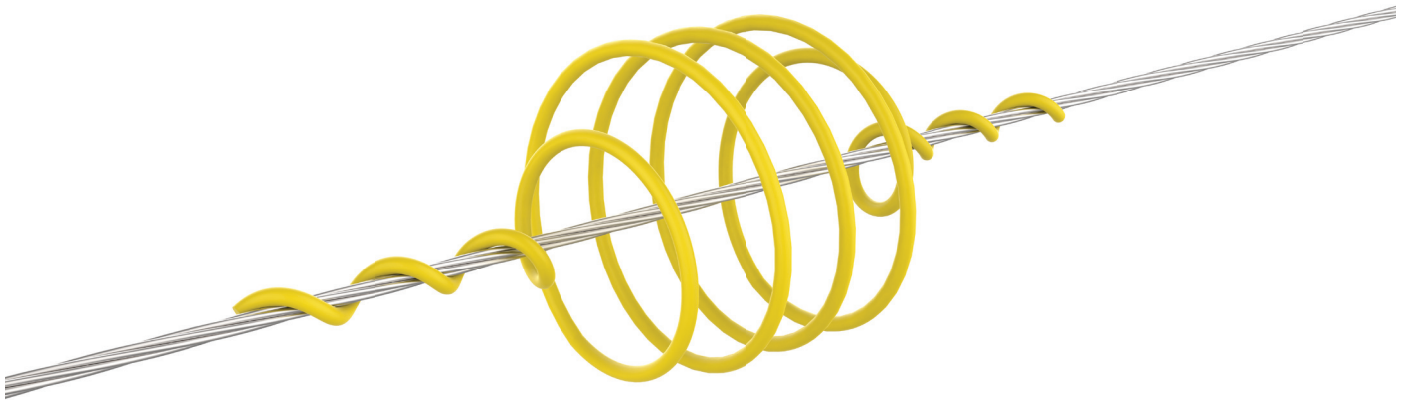
ORDERING INFORMATION

Galvanized BIRD-FLIGHT™ Diverter

Catalog Number	Conductor Diameter	Overall Length	Diverter Coil Diameter	Weight per set	Color Code
	in (mm)	in (mm)	in (mm)	lb	
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.

NOTE: See Appendix for additional Horizontal Line Layouts on medium voltage, three phase, and one phase.



SWAN-FLIGHT™ DIVERTER

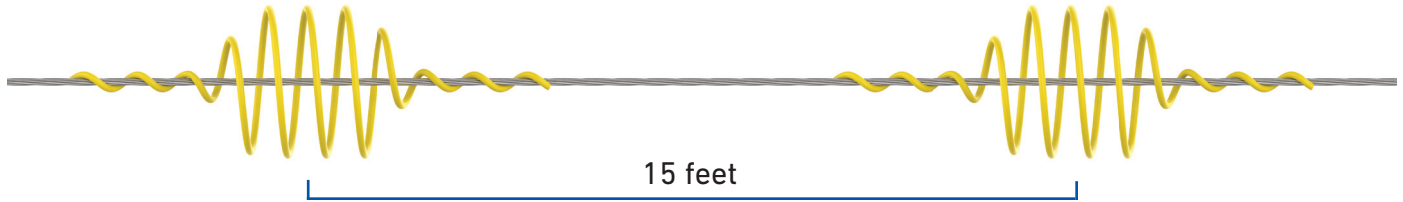
The **SWAN-FLIGHT Diverter (SFD)** is designed for use on conductor/strand to create greater visibility for avian flight paths on overhead lines and tower down guys. For construction up to 230 kV, the SFD can be applied to phase conductors (bare or jacketed). For EHV, it is typically installed on the 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.

FEATURES AND BENEFITS

- 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 Diverter coils 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.

NOTE: See Appendix for additional Horizontal Line Layouts on medium voltage, three phase, and one phase.

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

Catalog Number	Conductor Range		Overall Length	Diverter Coil Diameter	PVC Rod Diameter	Approximate Weight	Color Code
	Minimum	Maximum					
	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	lb	
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.

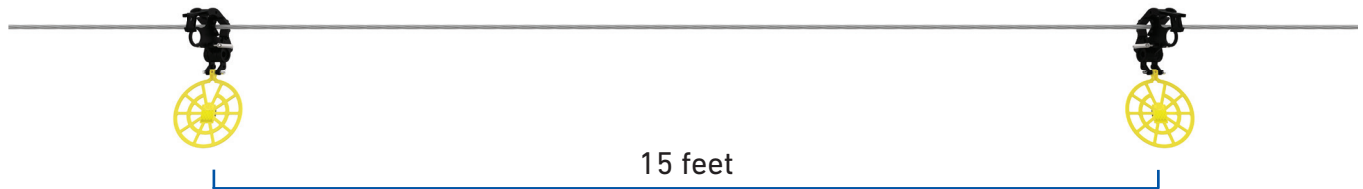
FEATURES AND BENEFITS

- Trigger mechanism is simple to set and operate
- Easy “bump and snap” installation on the cable
- No special tools required
- Manufactured from UV-stabilized polycarbonate and polyethylene materials
- Corrosion-resistant stainless steel hardware
- Operational temperatures up to 125°C continuous
- Rated for use on overhead shield wire and OPGW systems
- Rated for single-conductor systems with voltages up to 138kV and twin/tri-bundled systems up to 345kV
- Installable via drone when paired with PLP’s RAPTOR CLAMP Drone Kit for DJI M300/M350 models

NOTE: Ice and wind load information is available upon request.

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 Diverter 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.

NOTE: See Appendix for additional Horizontal Line Layouts on medium voltage, three phase, and one phase.

DRONE INSTALLATION KIT

The industry's leading clamp-style diverter is now the first to offer a do-it-yourself drone based installation kit.



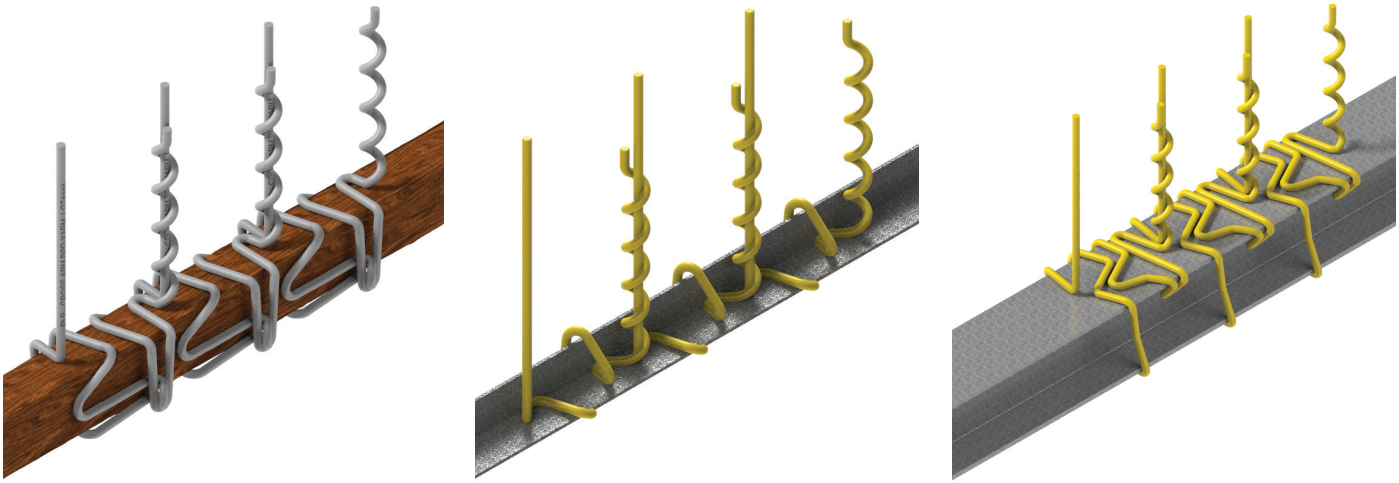
Scan or click
the QR Code
to learn more.

ORDERING INFORMATION

RAPTOR CLAMP™ Diverter and RAPTOR CLAMP™ LED Diverter

Catalog Number	Description	Diameter Range		Weight
		Minimum	Maximum	
		in (mm)	in (mm)	lb
RAPTOR-YEL	RAPTOR CLAMP Diverter, Yellow Reflective Tape	0.1 (2.5)	1.8 (45.7)	0.4
RAPTOR-YW	RAPTOR CLAMP Diverter, White and Yellow Reflective Tape		Hand or Hot Stick Installed	1.1
RAPTOR-LED-W	RAPTOR CLAMP LED Diverter, White Flasher with Yellow Reflective Tape			
RAPTOR-LED-WYW	RAPTOR CLAMP LED Diverter, White Flasher, with White and Yellow Reflective Tape		1.0 (25.4) Drone Installed	1.1
RAPTOR-LED-UV	RAPTOR CLAMP LED Diverter, Ultra-Violet Flasher with Yellow Reflective Tape			
RAPTOR-LED-UVYW	RAPTOR CLAMP LED Diverter, Ultra-Violet Flasher, White and Yellow Reflective Tape			

NOTE: Contact PLP for other options, including brackets for hanging signs.



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.

FEATURES AND BENEFITS

- 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.



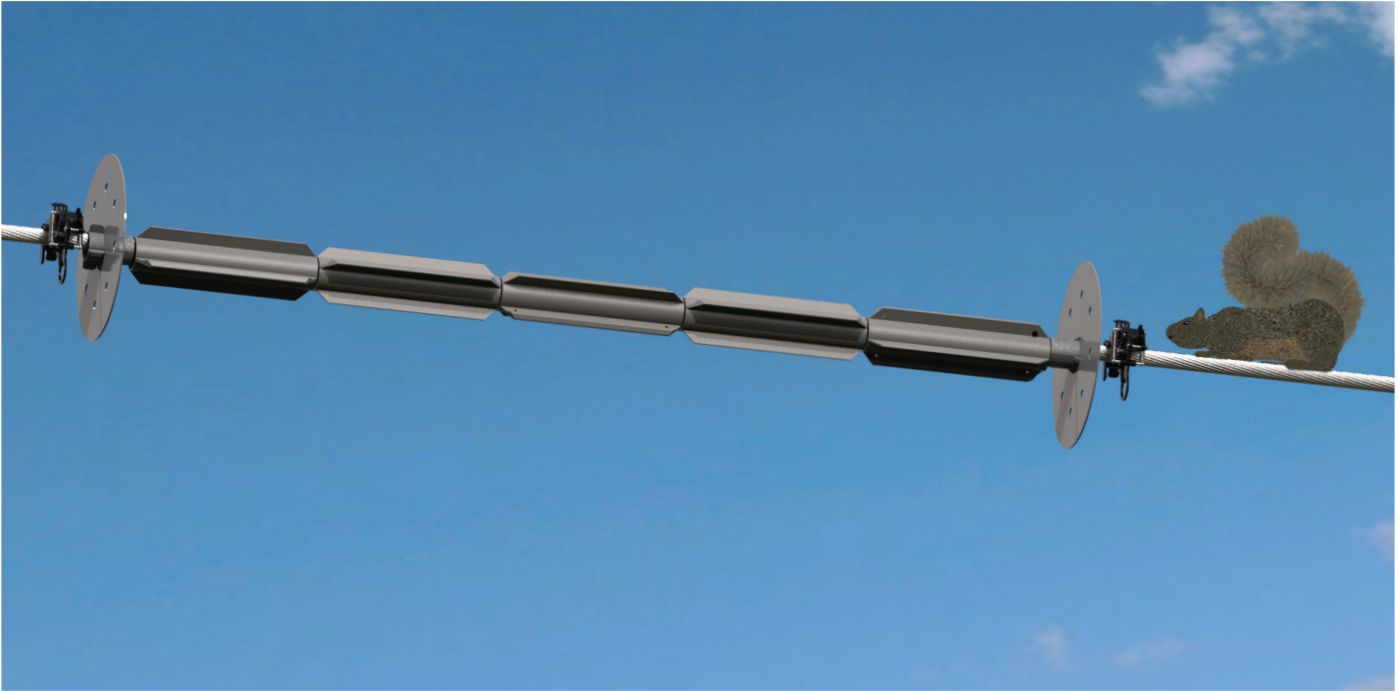
ORDERING INFORMATION

- 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

Catalog Number	Application	Crossarm Dimensions		Carton Quantity
		Width	Height	
		in (mm)	in (mm)	
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.



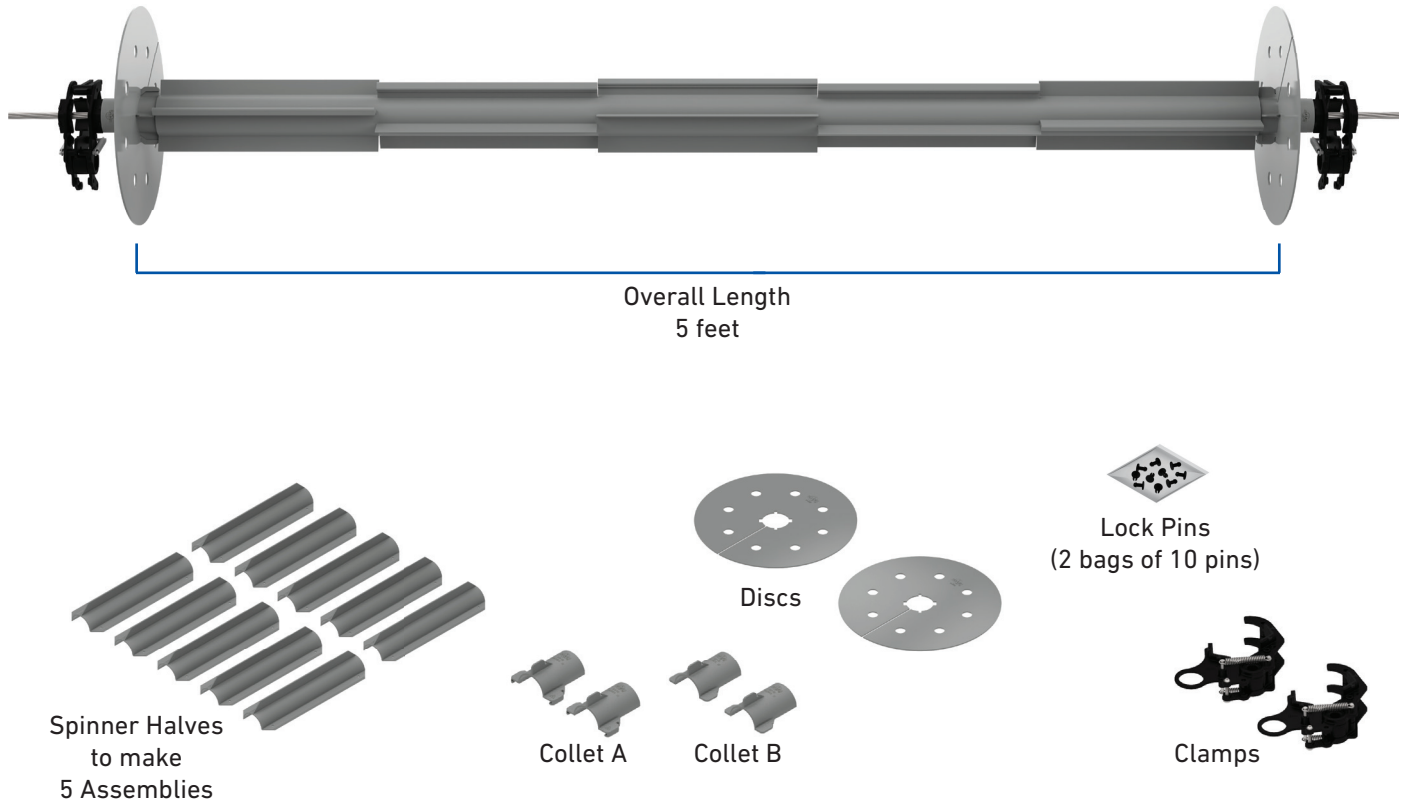
SQUIRREL DETERRENT SYSTEM

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 squirrel can short them. This obviously will fatally harm the squirrel and will result in equipment damage and failure.

FEATURES AND BENEFITS

- 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



ORDERING INFORMATION

Squirrel Deterrent System

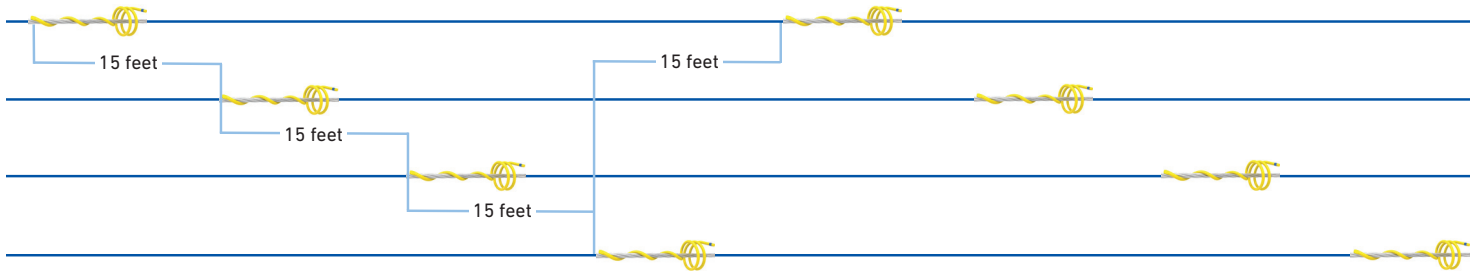
Catalog Number	Description	Carton Quantity	Carton Weight
			lb
SDS-005	Squirrel Deterrent System-5 Feet (Includes 5 Spinner Assemblies, 2 Collet Assemblies (A+B), 2 Discs, 2 Clamps, and 2 bags of 10 Lock Pins)	1	8
Accessories			
SDC-001	Spinner Assembly	10	10
SDC-002	Collet Kit (Includes 2A and 2B Collet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

APPENDIX

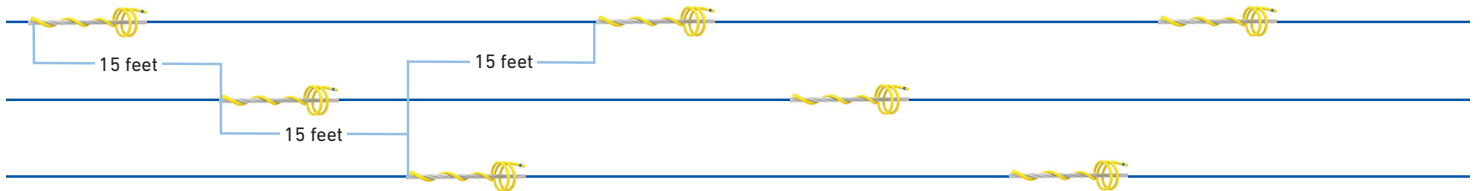
BIRD-FLIGHT™ DIVERTER, SWAN-FLIGHT™ DIVERTER, AND RAPTOR-CLAMP™ DIVERTER SPACING

Horizontal Line Layout

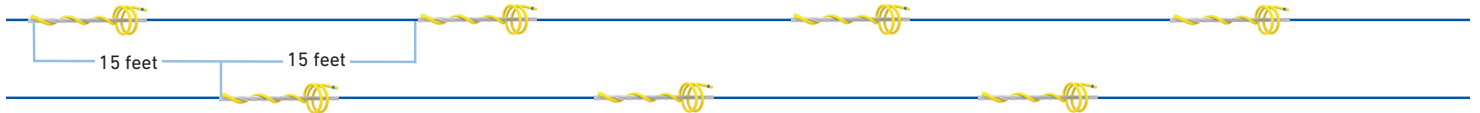
Medium Voltage



Three Phase



One Phase



BIRD-FLIGHT Diverters are shown in the diagram above, SWAN-FLIGHT Diverters and RAPTOR CLAMP™ Diverters are placed in the same positions. For optimal results, spacing distances are generally recommended at 15-foot intervals, depending upon local conditions.

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'
SP3721 RAPTOR CLAMP™ Diverter Installation System Using The DJI M300/M350 Drone
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™ Diversers
SP3053 BIRD-FLIGHT™ Aluminum Diversers
SP3427 Galvanized BIRD-FLIGHT™ Diversers
SP3081 SWAN-FLIGHT™ Diversers
SP3519 RAPTOR CLAMP™ Diversers
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.



GLOBAL HEADQUARTERS
660 BETA DRIVE
CLEVELAND, OHIO 44143

+1 440 461 5200
INFO@PLP.COM
PLP.COM

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