

## SD312-HL- PIM Certified 2 dipole antenna, 4.0/4.5dBd gain, low PIM, HD, 370-512 MHz

- Industry-leading -150 dBc PIM rating, covering 370-512 MHz in 3 band splits
- 4.0 dBd in elliptical (bi-directional) pattern (1/2 wave), 4.5 dBd in offset pattern (1/4 wave)
- Heavy duty wind ratings, with 150W power handling

The SD312-HL series is an extremely rugged 2-bay exposed dipole antenna designed for applications where moderate gain is required and Passive Intermodulation interference (PIM) is a consideration. These premium-quality antennas are well suited to public safety/public security applications in either the TETRA or APCO P-25 bands.

The SD312-HL provides industry leading -150 dBc Passive Intermodulation (PIM) performance, the result of a redesign of the SD312 platform to remove PIM sources from the antenna.

### Application Notes

- The SD312-HL is a rugged low-PIM, medium-gain dipole antenna designed to provide coverage for public safety applications. The SD312-HL is especially well suited to multicoupled applications where PIM is a consideration.
- The SD312-HL series covers 370-512 MHz in 3 band splits: 370-430 MHz (F1: for TETRA applications), 406-470 MHz (F2, for APCO P-25 applications), 450-512 MHz (F3).

Model	Description	Pattern
<a href="#">SD312-HF1P2LDF</a>	4.0 dBd gain, 7/16 DIN (female) connector, elliptical, 370-430 MHz	Bi-directional
<a href="#">SD312-HF1P4LDF</a>	4.5 dBd gain, 7/16 DIN (female) connector, offset, 370-430 MHz	Offset
<a href="#">SD312-HF2P2LDF</a>	4.0 dBd gain, 7/16 DIN (female) connector, elliptical, 406-470 MHz	Bi-directional
<a href="#">SD312-HF2P4LDF</a>	4.5 dBd gain, 7/16 DIN (female) connector, offset, 406-470 MHz	Offset
<a href="#">SD312-HF3P2LDF</a>	4 dBd gain, 7/16 DIN (female) connector, elliptical, 450-512 MHz	Bi-directional
<a href="#">SD312-HF3P4LDF</a>	4.5 dBd gain, 7/16 DIN (female) connector, offset, 450-512 MHz	Offset



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Product Specification Sheet		SD312-HL- PIM Certified		Dated: 05-02-10

SD312-HF1P2LDF

SD312-HF1P4LDF

SD312-HF2P2LDF

SD312-HF2P4LDF

**Electrical Specifications**

Frequency Range, MHz	370 to 430	370 to 430	406 to 470	406 to 470
Gain (nominal), dBd (dBi)	4 (6.1)	4.5 (6.6)	4 (6.1)	4.5 (6.6)
Input VSWR (max)	1.5:1	1.5:1	1.5:1	1.5:1
Polarization	vertical	vertical	vertical	vertical
Pattern	Bi-directional	Offset	Bi-directional	Offset
Horizontal beamwidth, degrees		185		185
Vertical beamwidth, degrees	32	36	32	36
Average Power Input (max), W	150	150	150	150
Passive intermod. (2x20W, 3rd ord.), dBc	-150	-150	-150	-150
Lightning protection	DC ground	DC ground	DC ground	DC ground
Bandwidth, MHz	60	60	64	64

**Mechanical Specifications**

Connector	7/16 DIN (female)	7/16 DIN (female)	7/16 DIN (female)	7/16 DIN (female)
Length/ Height, in (mm)	83.1 (2112)	83.1 (2112)	83.1 (2112)	83.1 (2112)
Width, in (mm)	18.9 (480)	12.3 (311)	18.9 (480)	12.3 (311)
Depth, in (mm)	3.5 (89)	3.5 (89)	3.5 (89)	3.5 (89)
Base pipe diameter, in (mm)	1.9 (48)	1.9 (48)	1.9 (48)	1.9 (48)
Base pipe mounting length, in (mm)	18 (457)	18 (457)	18 (457)	18 (457)
Weight, lbs (kg)	10.3 (4.7)	9.6 (4.4)	10.3 (4.7)	9.6 (4.4)
Weight iced, lbs (kg)	14.1 (6.4)	12.7 (5.7)	13.9 (6.3)	12.3 (5.6)
Actual Shipping weight, lbs (kg)	20 (9.1)	20 (9.1)	20 (9.1)	20 (9.1)
Shipping dimensions, in (mm)	83x50x20 (2108x1270x508)	83x50x20 (2108x1270x508)	83x50x20 (2108x1270x508)	83x50x20 (2108x1270x508)
Mounting hardware	clamps not supplied	clamps not supplied	clamps not supplied	clamps not supplied

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SD312-HF3P2LDF

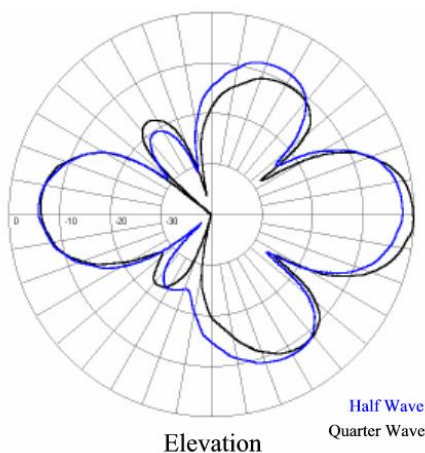
SD312-HF3P4LDF

**Electrical Specifications**

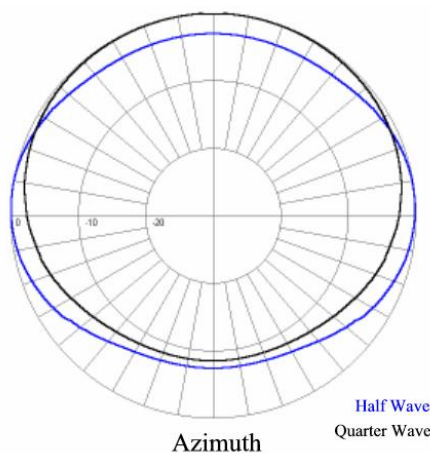
Frequency Range, MHz	450 to 512	450 to 512
Gain (nominal), dBd (dBi)	4 (6.1)	4.5 (6.6)
Input VSWR (max)	1.5:1	1.5:1
Polarization	vertical	vertical
Pattern	Bi-directional	Offset
Horizontal beamwidth, degrees		190
Vertical beamwidth, degrees	32	36
Average Power Input (max), W	150	150
Passive intermod. (2x20W, 3rd ord.), dBc	-150	-150
Lightning protection	DC ground	DC ground
Bandwidth, MHz	62	62

**Mechanical Specifications**

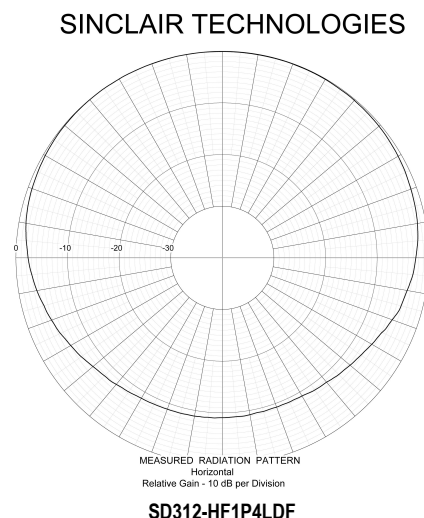
Connector	7/16 DIN (female)	7/16 DIN (female)
Length/ Height, in (mm)	83.1 (2112)	83.1 (2112)
Width, in (mm)	16.8 (425)	11.4 (290)
Depth, in (mm)	3.5 (89)	3.5 (89)
Base pipe diameter, in (mm)	1.9 (48)	1.9 (48)
Base pipe mounting length, in (mm)	18 (457)	18 (457)
Weight, lbs (kg)	10.1 (4.6)	9.6 (4.4)
Weight iced, lbs (kg)	13.4 (6.1)	12.1 (5.5)
Actual Shipping weight, lbs (kg)	20 (9.1)	20 (9.1)
Shipping dimensions, in (mm)	83x50x20 (2108x1270x508)	83x50x20 (2108x1270x508)
Mounting hardware	clamps not supplied	clamps not supplied



SD312-HF1P2LDF

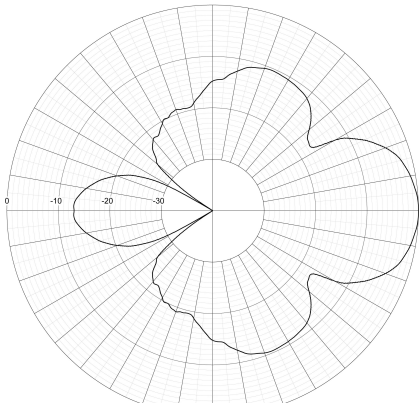


SD312-HF1P2LDF



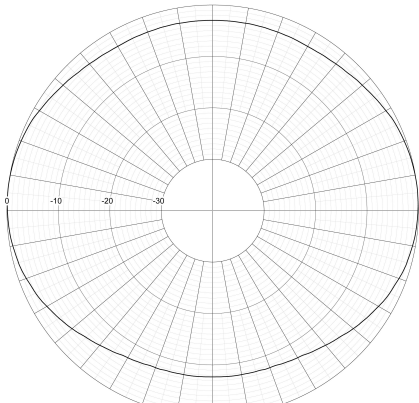
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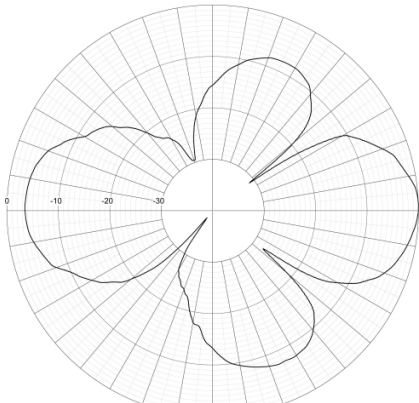
MEASURED RADIATION PATTERN  
Vertical  
Relative Gain - 10 dB per Division  
**SD312-HF1P4LDF**

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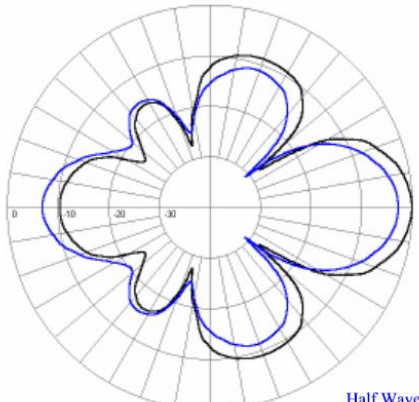
MEASURED RADIATION PATTERN  
Horizontal  
Relative Gain - 10 dB per Division  
**SD312-HF2P2LDF**

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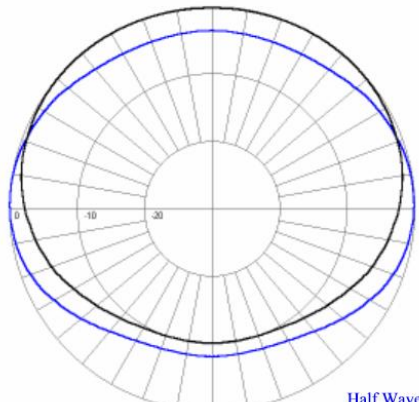


MEASURED RADIATION PATTERN  
Vertical  
Relative Gain - 10 dB per Division  
**SD312-HF2P2LDF**

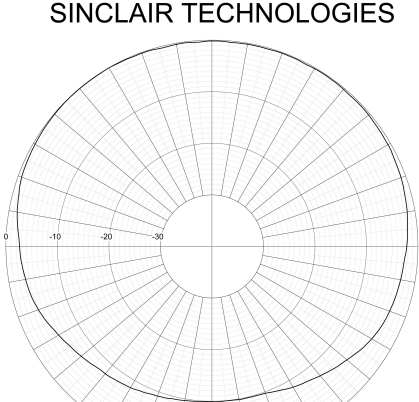
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**Elevation**  
Half Wave  
Quarter Wave  
**SD312-HF3P2LDF**

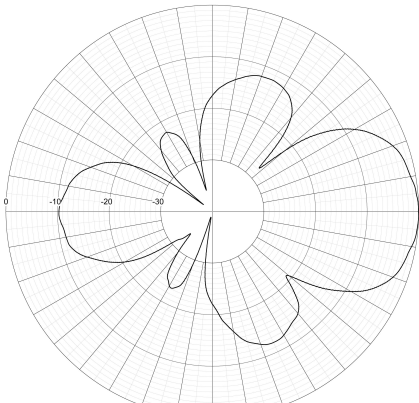


**Azimuth**  
Half Wave  
Quarter Wave  
**SD312-HF3P2LDF**



MEASURED RADIATION PATTERN  
Horizontal  
Relative Gain - 10 dB per Division  
**SD312-HF3P4LDF**

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MEASURED RADIATION PATTERN  
Vertical  
Relative Gain - 10 dB per Division  
**SD312-HF3P4LDF**

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