

Summary – Directional Antennas

360 – 512 MHz

KATHREIN
Antennen · Electronic

Высокоэффективные направленные антенны для работы в составе базовых станций систем диспетчерской и транкинговой связи стандартов TETRA, SmarTrunk, MPT 1327, APCO 25, а также разнообразных систем передачи данных и телеметрии в диапазоне 360-512 МГц.

Type	Type No.	Height [mm]	Input	Page
XPol Panel 380–500 65° 12dBi	741515	992	2 x 7-16 female	22
XPol Panel 380–470 65° 14dBi 0°–14°	80010403	1999	2 x 7-16 female	23
XPol Panel 380–500 65° 15dBi	741516	2000	2 x 7-16 female	24
XPol Panel 380–470 68° 14.5dBi 6°T	742242	2000	2 x 7-16 female	25
XPol Panel 380–500 88° 10.5dBi	741517	1007	2 x 7-16 female	26
XPol Panel 380–500 88° 13.5dBi	741518	1997	2 x 7-16 female	27
VPol Panel 406–512 63° 9dBi	K733621	493	N female	28
VPol Panel 380–500 65° 12dBi	80010252	992	7-16 female	29
VPol Panel 380–500 65° 15dBi	80010253	2000	7-16 female	30
VPol Panel 380–430 115° 8.5dBi	739504	974	7-16 female	31
VPol Panel 380–430 115° 11.5dBi	739506	1934	7-16 female	32
VPol Panel 400–470 120° 9dBi	731291	992	7-16 female	33
LogPer 406–512 67° 10.5dBi	K722241	353	N female	34
LogPer 406–512 67° 10.5dBi	K722247	353	7-16 female	34
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Corner 360–490 44° 11dBi	K731221	500	N female	36
RHCPol Helix 400–470 33° 12dBi	K735121	718	N female	37
Remote Electrical Tilt (RET) System				38

Directional
360 – 512 MHz

Panel Dual Polarization Half-power Beam Width

380–500

X

65°

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TETRAPOL

XPoI Panel 380–500 65° 12dBi

Type No.	741515	
Frequency range	380–500	
	380 – 430 MHz	430 – 500 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	11.5 dBi	12 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 68° Vertical: 37°	Horizontal: 65° Vertical: 32°
Front-to-back ratio, copolar	> 25 dB	
Isolation	> 30 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)	
Max. power per input	500 W (at 50 °C ambient temperature)	

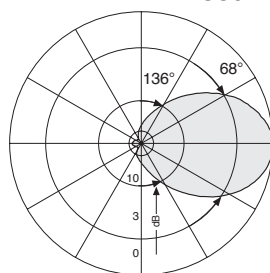


Material:
 Radiator: Tin-plated copper.
 Reflector screen: Weather-proof aluminum.
 Radome: Fiberglass, colour: Grey.
 All screws and nuts: Stainless steel.

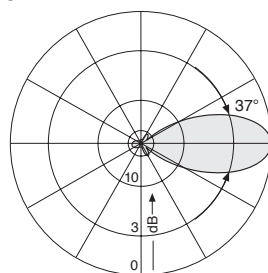
Ice protection:
 Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Grounding:
 The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.

380 – 430 MHz

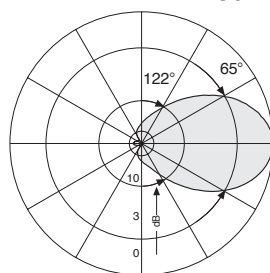


Horizontal Pattern

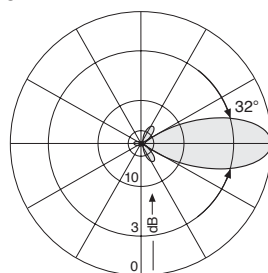


Vertical Pattern

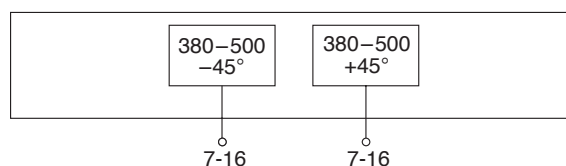
430 – 500 MHz



Horizontal Pattern



Vertical Pattern



Mechanical specifications

Input	2 x 7-16 female
Connector position	Rearside
Wind load	Frontal: 500 N (at 150 km/h) Lateral: 220 N (at 150 km/h) Rearside: 715 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	992 / 492 / 190 mm
Category of mounting hardware	M (Medium)
Weight	12 kg
Packing size	1062 x 562 x 274 mm

Panel

Dual Polarization

Half-power Beam Width

Adjust. Electr. Downtilt

set by hand or by optional RCU (Remote Control Unit)

XPol Panel 380–470 65° 14dBi 0°–14°T

380–470

X

65°

0°–14°

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TETRA/
TETRAPOL

Directional
360 – 512 MHz

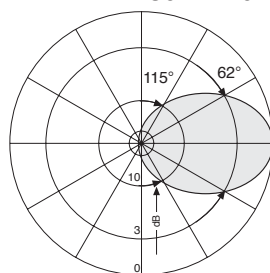
Type No.	80010403	
Frequency range	380–470	
	380 – 430 MHz	430 – 470 MHz
Polarization	+45°, –45°	+45°, –45°
Gain (dBi)	13.5 ... 13 ... 12.5	14 ... 13.5 ... 13
Tilt	0° ... 7° ... 14°	0° ... 7° ... 14°
Horizontal Pattern:		
Half-power beam width	66°	62°
Front-to-back ratio, copolar (180° ±30°)	> 25 dB	
Cross polar ratio 0°	Typically: 25 dB	
Maindirection ±60°	> 10 dB	
Vertical Pattern:		
Half-power beam width	22°	19°
Electrical tilt	0° – 14°, continuously adjustable	
Impedance	50 Ω	
VSWR	< 1.5	
Isolation	> 30 dB	
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)	
Max. power per input	400 W (at 50 °C ambient temperature)	

Material: Radiator: Tin-plated copper.
Reflector screen: Weather-proof aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

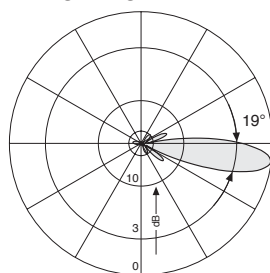
Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Grounding: The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.

430 – 470 MHz: +45°/–45°

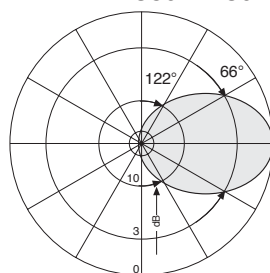


Horizontal Pattern

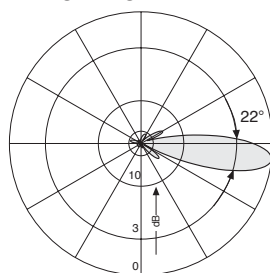


Vertical Pattern
0°–14° electrical downtilt

380 – 430 MHz: +45°/–45°



Horizontal Pattern



Vertical Pattern
0°–14° electrical downtilt



380–470 –45°	380–470 +45°
7-16	7-16

Mechanical specifications	
Input	2x 7-16 female
Connector position	Bottom
Adjustment mechanism	1 x, Position bottom continuously adjustable
Wind load	Frontal: 1160 N (at 150 km/h) Lateral: 480 N (at 150 km/h) Rearside: 1870 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	1999 / 575 / 199 mm
Category of mounting hardware	H (Heavy)
Weight	22 kg
Packing size	2250 x 640 x 225 mm

Panel Dual Polarization Half-power Beam Width

380–500

X

65°

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TETRA/
TETRAPOL

XPoI Panel 380–500 65° 12dBi

Type No.	741516	
Frequency range	380–500	
	380 – 430 MHz	430 – 500 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	14.5 dBi	15 dBi
Half-power beam width Copol +45°/–45°	Horizontal: 65° Vertical: 18°	
Front-to-back ratio, copolar	> 25 dB	
Isolation	> 30 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)	
Max. power per input	500 W (at 50 °C ambient temperature)	

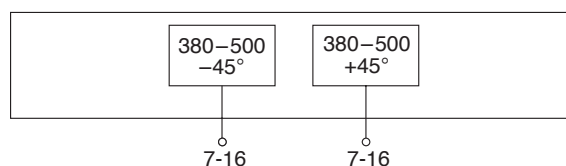
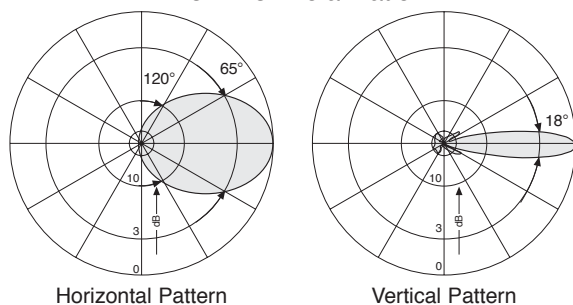
Material: Radiator: Tin-plated copper.
Reflector screen: Weather-proof aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Grounding: The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.



+45°/–45° Polarization



Mechanical specifications

Input	2 x 7-16 female
Connector position	Rearside
Wind load	Frontal: 1100 N (at 150 km/h) Lateral: 440 N (at 150 km/h) Rearside: 1540 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	2000 / 492 / 190 mm
Category of mounting hardware	H (Heavy)
Weight	19 kg
Packing size	2060 x 562 x 274 mm

Panel Dual Polarization Half-power Beam Width Fixed Electrical Downtilt

380–470

X

65°

6°

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TETRA/
TETRAPOL

XPol Panel 380–470 65° 14.5dBi 6°T

Type No.	742242	
Frequency range	380–470	
	380 – 430 MHz	430 – 470 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 14.5 dBi	2 x 14.7 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 68° Vertical: 18°	Horizontal: 65° Vertical: 17°
Electrical tilt	6°	6°
Front-to-back ratio, copolar	> 25 dB	> 24 dB
Isolation	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	500 W (at 50 °C ambient temperature)	

Material: Radiator: Tin-plated copper.
Reflector screen: Weather-proof aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

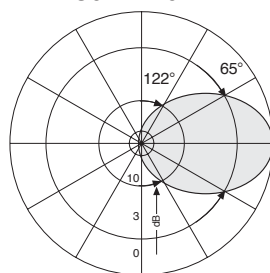
Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Grounding: The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.

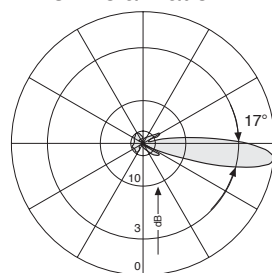


Directional
360 – 512 MHz

430 – 470 MHz: +45°/–45° Polarization

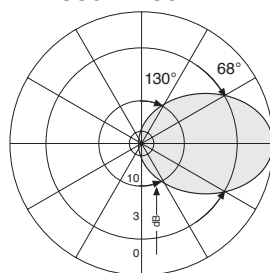


Horizontal Pattern

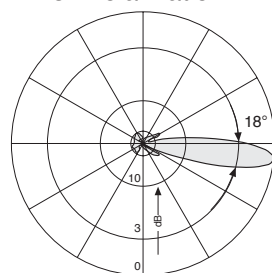


Vertical Pattern
6° electrical downtilt

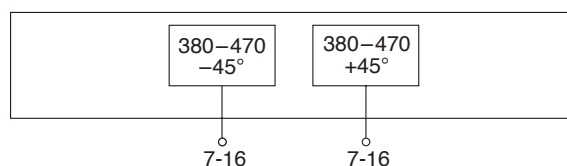
380 – 430 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
6° electrical downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Rearside
Wind load	Frontal: 1100 N (at 150 km/h) Lateral: 440 N (at 150 km/h) Rearside: 1540 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	2000 / 492 / 190 mm
Category of mounting hardware	H (Heavy)
Weight	19 kg
Packing size	2060 x 562 x 274 mm

Panel Dual Polarization Half-power Beam Width

380–500

X

88°

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TETRA/
TETRAPOL

XPol Panel 380–500 88° 10.5dBi

Type No.	741517	
Frequency range	380–500	
	380 – 430 MHz	430 – 500 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 10 dBi	2 x 10.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 88° Vertical: 40°	Horizontal: 86° Vertical: 35°
Front-to-back ratio, copolar	> 20 dB	> 20 dB
Isolation	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3	< – 150 dBc (2 x 43 dBm carrier)	
Max. power per input	500 W (at 50 °C ambient temperature)	

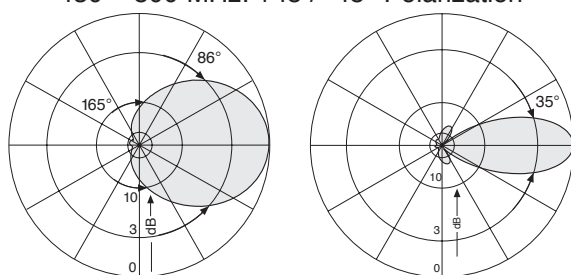
Material: Reflector screen: Weather-proof aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Grounding: The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.



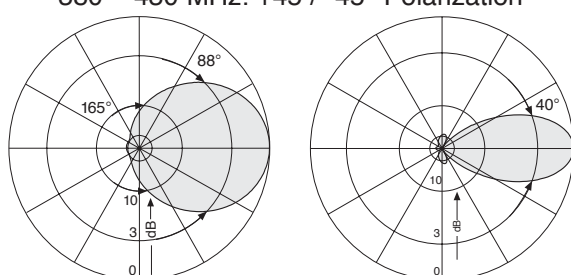
430 – 500 MHz: +45°/–45° Polarization



Horizontal Pattern

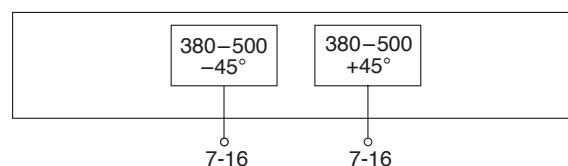
Vertical Pattern

380 – 430 MHz: +45°/–45° Polarization



Horizontal Pattern

Vertical Pattern



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Wind load	Frontal: 365 N (at 150 km/h) Lateral: 210 N (at 150 km/h) Rearside: 540 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	1007 / 317 / 193 mm
Category of mounting hardware	M (Medium)
Weight	10.5 kg
Packing size	1140 x 330 x 240 mm

Panel Dual Polarization Half-power Beam Width

380–500

X

88°

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TETRA/
TETRAPOL

XPol Panel 380–500 88° 13.5dBi

Type No.	741518	
Frequency range	380–500	
	380 – 430 MHz	430 – 500 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 13 dBi	2 x 13.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 88° Vertical: 20°	Horizontal: 86° Vertical: 17°
Front-to-back ratio, copolar	> 20 dB	> 20 dB
Isolation	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)	
Max. power per input	500 W (at 50 °C ambient temperature)	

Material: Reflector screen: Weather-proof aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

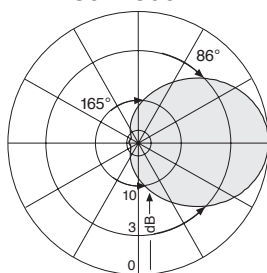
Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Grounding: The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.

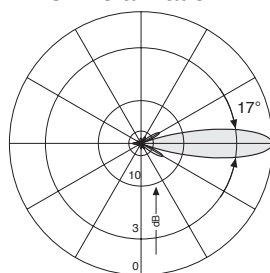


Directional
360 – 512 MHz

430 – 500 MHz: +45°/–45° Polarization

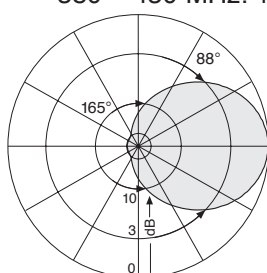


Horizontal Pattern

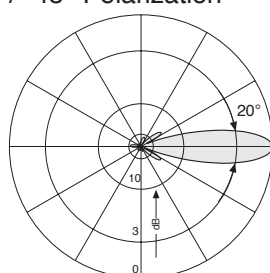


Vertical Pattern

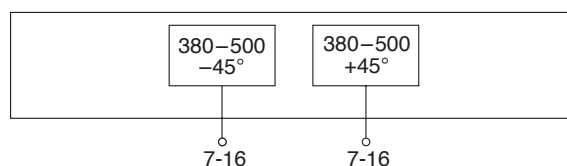
380 – 430 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Wind load	Frontal: 800 N (at 150 km/h) Lateral: 480 N (at 150 km/h) Rearside: 1150 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	1997 / 317 / 193 mm
Category of mounting hardware	H (Heavy)
Weight	18.5 kg
Packing size	2130 x 330 x 240

Panel

Vertical Polarization

Half-power Beam Width

406–512

V

63°

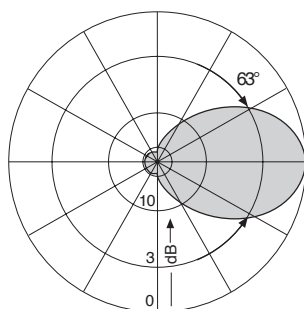
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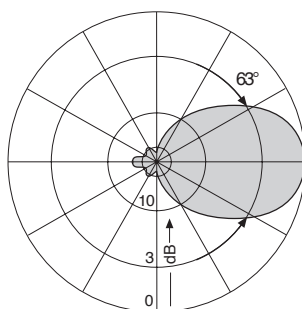
VPol Panel 406–512 63° 9dBi

Type No.	K733621
Frequency range	406 – 5120 MHz
Polarization	Vertical
Gain	9 dBi
Half-power beam width	H-plane: 63° E-plane: 63°
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)
Max. power	500 W (at 50 °C ambient temperature)

Arrays:	This antenna is especially suitable as a component in arrays to achieve various radiation patterns.
Scope of supply:	Antenna including two weather-proof covers for straight and elbow connector, but without mounting hardware.
Material:	Dipoles and reflector screen: Weather-resistant aluminum. Radome: Fiberglass, colour: White. All screws and nuts: Stainless steel.
Ice protection:	Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.
Grounding:	All metal parts of the antenna including the mounting kit are DC grounded. The inner conductor is capacitively coupled.



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	N female
Connector position	Rearside
Wind load	Frontal: 220 N (at 150 km/h) Lateral: 110 N (at 150 km/h) Rearside: 330 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	493 / 493 / 209 mm
Category of mounting hardware	M (Medium)
Weight	6 kg
Packing size	603 x 567 x 282 mm

Panel Dual Polarization Half-power Beam Width

380–500

V

65°

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TETRA/
TETRAPOL

VPol Panel 380–500 65° 12dBi

Type No.	80010252	
Frequency range	380–500	
	380 – 430 MHz	430 – 500 MHz
Polarization	Vertical	Vertical
Gain	11.5 dBi	12 dBi
Half-power beam width	Horizontal: 68° Vertical: 37°	Horizontal: 63° Vertical: 32°
Front-to-back ratio, copolar	> 18 dB	> 20 dB
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)	
Max. power per input	500 W (at 50 °C ambient temperature)	

Material:
Reflector screen: Weather-proof aluminum.
Radiator: Tin-plated copper.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

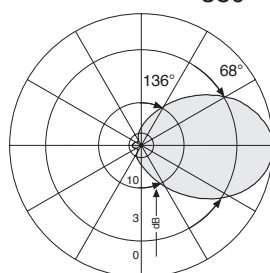
Ice protection:
Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Grounding:
The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.

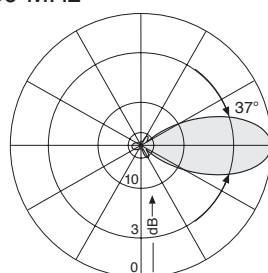


Directional
360 – 512 MHz

380 – 430 MHz

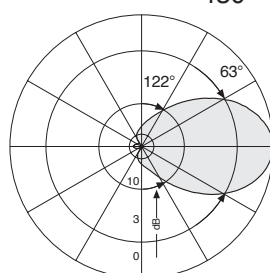


Horizontal Pattern

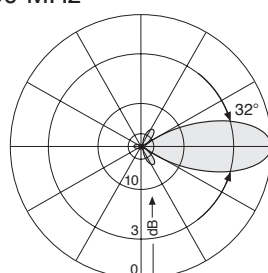


Vertical Pattern

430 – 500 MHz



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	1 x 7-16 female
Connector position	Rearside
Wind load	Frontal: 500 N (at 150 km/h) Lateral: 220 N (at 150 km/h) Rearside: 715 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	992 / 492 / 190 mm
Category of mounting hardware	M (Medium)
Weight	12 kg
Packing size	1062 x 562 x 274 mm

Panel
Dual Polarization
Half-power Beam Width

380–500

V

65°

KATHREIN

Antennen · Electronic

TETRA/
TETRAPOL

VPol Panel 380–500 65° 12dBi

Type No.	80010253	
Frequency range	380–500	
	380 – 430 MHz	430 – 500 MHz
Polarization	Vertical	Vertical
Gain	14.5 dBi	15 dBi
Half-power beam width	Horizontal: 68° Vertical: 18°	Horizontal: 63° Vertical: 16°
Front-to-back ratio, copolar	> 20 dB	> 20 dB
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)	
Max. power per input	500 W (at 50 °C ambient temperature)	

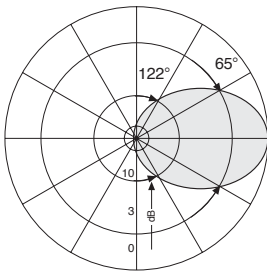
Material: Reflector screen: Weather-proof aluminum.
Radiator: Tin-plated copper.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

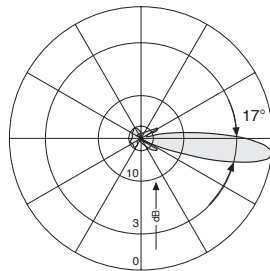
Grounding: The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.



430 – 470 MHz: +45°/–45° Polarization

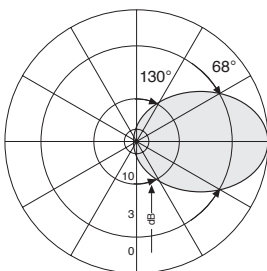


Horizontal Pattern

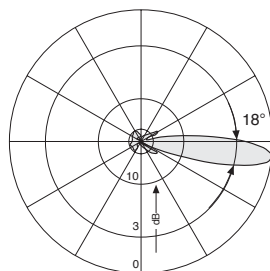


Vertical Pattern
6° electrical downtilt

380 – 430 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
6° electrical downtilt

Mechanical specifications

Input	1 x 7-16 female
Connector position	Rearside
Wind load	Frontal: 1100 N (at 150 km/h) Lateral: 440 N (at 150 km/h) Rearside: 1540 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	2000 / 492 / 190 mm
Category of mounting hardware	H (Heavy)
Weight	20 kg
Packing size	2060 x 562 x 274 mm

Panel Vertical Polarization Half-power Beam Width

380–430

V

115°

KATHREIN

Antennen · Electronic

TETRA/
TETRAPOL

VPol Panel 380–430 115° 8.5dBi

Type No.	739504
Frequency range	380 – 430 MHz
Polarization	Vertical
Gain	8.5 dBi
Half-power beam width	Horizontal: 115° Vertical: 38°
Front-to-back ratio	> 18 dB
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)
Max. power	500 W (at 50 °C ambient temperature)

Material: Reflector screen: Weather-resistant aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

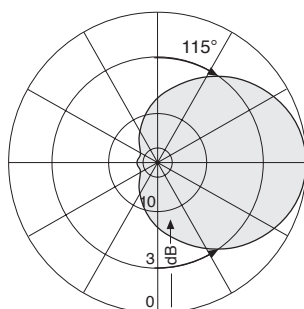
Attachment: See the “Mechanical Accessories” part of this catalogue.

Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

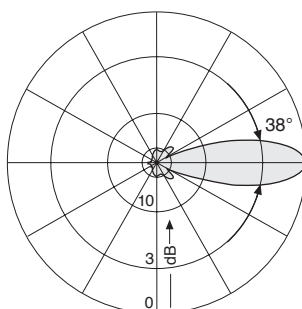
Grounding: All metal parts of the antenna including the mounting kit and the inner conductor are DC grounded.



Directional
360 – 512 MHz



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	7-16 female
Connector position	Bottom
Wind load	Frontal: 260 N (at 150 km/h) Lateral: 120 N (at 150 km/h) Rearside: 420 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	974 / 258 / 103 mm
Category of mounting hardware	M (Medium)
Weight	4.5 kg
Packing size	1102 x 272 x 160 mm

Panel
Vertical Polarization
Half-power Beam Width

380–430

V

115°

KATHREIN

Antennen · Electronic

**TETRA/
TETRAPOL**

VPol Panel 380–430 115° 11.5dBi

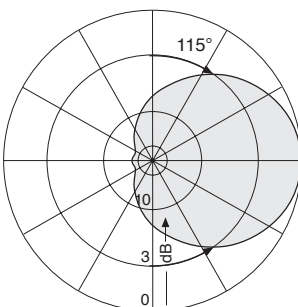
Type No.	739506
Frequency range	380 – 430 MHz
Polarization	Vertical
Gain	11.5 dBi
Half-power beam width	H-plane: 115° E-plane: 18°
Front-to-back ratio	> 18 dB
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)
Max. power	500 W (at 50 °C ambient temperature)

Material: Reflector screen: Weather-resistant aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

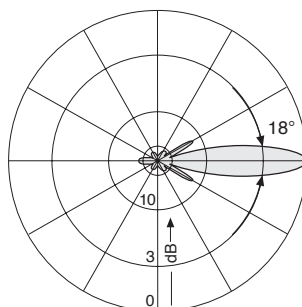
Attachment: See the “Mechanical Accessories” part of this catalogue.

Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Grounding: All metal parts of the antenna including the mounting kit and the inner conductor are DC grounded.



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	7-16 female
Connector position	Rearside
Wind load	Frontal: 550 N (at 150 km/h) Lateral: 250 N (at 150 km/h) Rearside: 930 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	1934 / 258 / 103 mm
Category of mounting hardware	M (Medium)
Weight	9 kg
Packing size	2062 x 272 x 160 mm

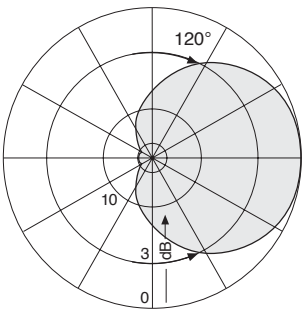
Panel
Vertical Polarization
Half-power Beam Width

400–470
V
120°

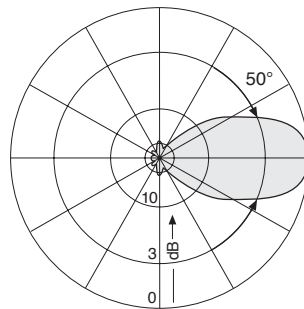
VPol Panel 400–470 120° 9dBi

Type No.	731291
Frequency range	400 – 470 MHz
Polarization	Vertical
Gain	9 dBi
Half-power beam width	H-plane: 120° E-plane: 50°
Impedance	50 Ω
VSWR	< 1.5
Max. power	500 W (at 50 °C ambient temperature)

- Scope of supply: Antenna including two weather-proof covers for straight and elbow connector, but without mounting hardware.
- Material: Dipole system: Brass and copper.
Reflector screen: Weather-resistant aluminum.
Radome: Fiberglass, colour: White.
All screws and nuts: Stainless steel.
- Attachment: See the “Mechanical Accessories” part of this catalogue.
- Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.
- Grounding: All metal parts of the antenna including the mounting kit and the inner conductor are DC grounded.



Horizontal Pattern



Vertical Pattern

Mechanical specifications	
Input	1 x 7-16 female
Connector position	Rearside
Wind load	Frontal: 500 N (at 150 km/h) Lateral: 220 N (at 150 km/h) Rearside: 715 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	992 / 492 / 190 mm
Category of mounting hardware	M (Medium)
Weight	9 kg
Packing size	1062 x 562 x 274 mm

Directional
360 – 512 MHz

Logarithmic-periodic Vertical/Horizontal Polarization Half-power Beam Width

406–512

V or H

67°

KATHREIN

Antennen · Electronic

LogPer 406–512 67° 10.5dBi

Type No.	K722241	K722247
Frequency range	406 – 512 MHz	
Polarization	Usable for horizontal or vertical polarization.	
Gain	10.5 dBi	
Half-power beam width	H-plane: 67° E-plane: 53°	
Side-lobe Suppression	> 25 dB at 440 – 512 MHz > 20 dB at 406 – 512 MHz	
Impedance	50 Ω	
VSWR	< 1.4	
Max. power	300 W (at 50 °C ambient temperature)	

Arrays: Several antennas can be combined to increase the gain and to produce radiation patterns with very high side-lobe suppressions.

Scope of supply: Antenna with weather protective casing for straight connectors.

Material: Radiator and mounting kit: Aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

Attachment: To tubular masts of 48 – 115 mm diameter using supplied clamps.

Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Grounding: All metal parts of the antenna including the mounting kit and the inner conductor are DC grounded.



For vertical polarization



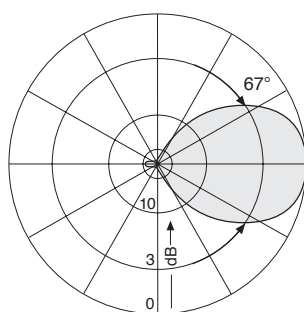
For horizontal polarization



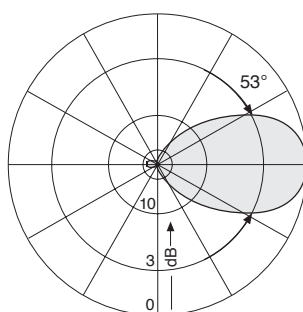
For vertical polarization



For horizontal polarization



Radiation Pattern
in H-Plane



Pariation Pattern
in E-Plane

Mechanical specifications	K 72 22 41	K 72 22 47
Input	N female	7-16 female
Weight	9 kg	
Wind load: Vertical:	Frontal: 55 N (at 150 km/h) Lateral: 440 N (at 150 km/h)	
Horizontal:	Frontal: 55 N (at 150 km/h) Lateral: 90 N (at 150 km/h)	
Max. wind velocity	180 km/h	
Packing size	1172 x 372 x 225 mm	
Height/width/depth	1153 / 353 / 180 mm	

Logarithmic-periodic Vertical Polarization Half-power Beam Width

380 – 520

V

87°

KATHREIN

Antennen · Electronic

TETRA/
TETRAPOL

VPol LogPer 380–520 87° 9dBi

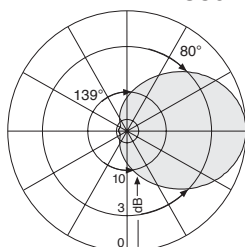
Type No.	80010391		
Frequency range	380 – 410 MHz	410 – 470 MHz	470 – 520 MHz
Polarization	Vertical		
Gain	9.2 dBi	9 dBi	8.7 dBi
Half-power beam width	Horizontal: 80° Vertical: 61°	Horizontal: 85° Vertical: 60°	Horizontal: 88° Vertical: 59°
Impedance	50 Ω		
VSWR	< 1.5		
Intermodulation IM3	< – 150 dBc (2 x 43 dBm carrier)		
Max. power	500 W (at 50 °C ambient temperature)		



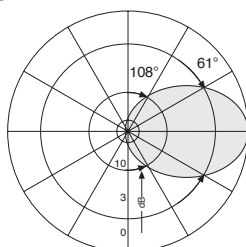
Directional
360 – 512 MHz

Scope of supply:	Antenna with weather protective casing for straight connectors.
Material:	Radiator: Weather resistant aluminium. Radome: Fiberglass, colour: White. All screws and nuts: Stainless steel.
Attachment:	To tubular masts of 50 – 380 mm diameter depending on the separate available clamps.
Ice protection:	Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.
Grounding:	All metal parts of the antenna including the mounting kit and the inner conductor are DC grounded.

380–410 MHz

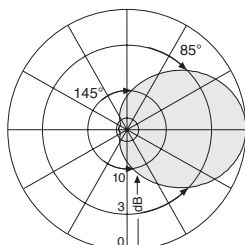


Horizontal Pattern

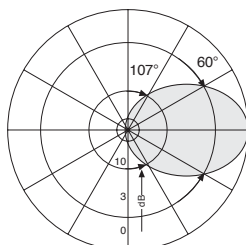


Vertical Pattern

410–470 MHz

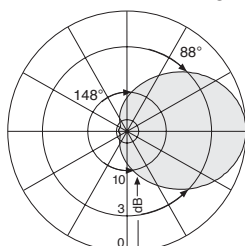


Horizontal Pattern

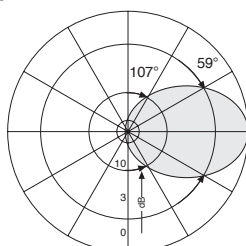


Vertical Pattern

470–520 MHz



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	7-16 female
Connector position	Rearside, pointing downwards
Weight	6 kg
Wind load	Frontal: 54 N (at 150 km/h) Lateral: 150 N (at 150 km/h)
Max. wind velocity	180 km/h
Packing size	915 x 485 x 485 mm
Height/width/depth	785 / 400 / 400 mm

Corner-reflector Antenna
Vertical Polarization
Half-power Beam Width

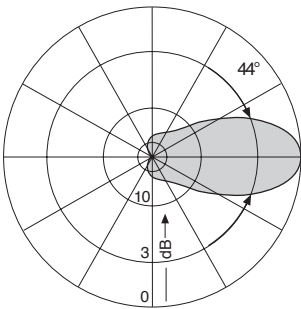
360–490
V
44°

VPol Corner 360–490 44° 11dBi

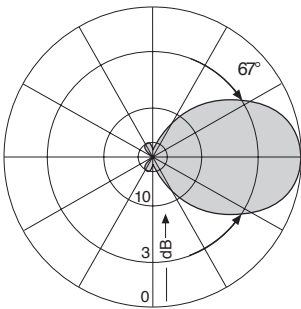
Type No.	K731221
Frequency range	360 – 490 MHz
Polarization	Vertical
Gain	11 dBi
Half-power beam width	H-plane: 44° E-plane: 67°
Impedance	50 Ω
VSWR	< 1.5 at 360 – 490 MHz < 1.3 at 400 – 470 MHz
Max. power	180 W (at 50 °C ambient temperature)



- Scope of supply: Antenna with weather protective casing for straight connectors, mounting kit included.
- Material: Radiator and reflector: Weather-resistant aluminum.
Mounting U-bolt: Stainless steel.
All screws and nuts: Stainless steel.
- Attachment: To tubular masts of 30 – 54 mm diameter using supplied U-bolts.
- Special features: The reflector screen folds together for transport.
- Grounding: All metal parts of the antenna including the mounting kit and the inner conductor are DC grounded.



Horizontal Pattern



Vertical Pattern

Mechanical specifications	
Input	N female
Weight	2.8 kg
Wind load	140 N (at 150 km/h)
Max. wind velocity	150 km/h
Packing size	842 x 524 x 187 mm
Height/width/depth	500 / 1155 / 577 mm

Helix Antenna

Right Handed Circular Polarization

Half-power Beam Width

400–470

RHC

33°

KATHREIN

Antennen · Electronic

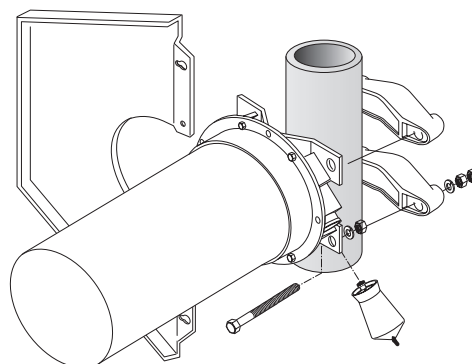
RHCPol Helix 400–470 33° 12dBi

Type No.	K735121
Frequency range	400 – 470 MHz
Polarization	Right handed circular
Gain	12 dBi (ref. to the circularly polarized isotropic antenna)
Half-power beam width	33°
Impedance	50 Ω
VSWR	< 1.2
Max. power	560 W (at 50 °C ambient temperature)

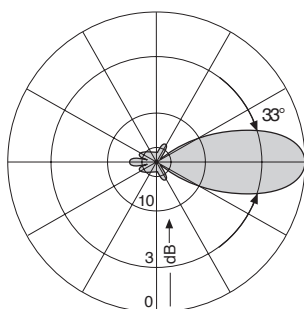
Scope of supply:	Antenna with weather protective casing for straight connectors, mounting kit included.
Material:	Antenna: Copper band helix in protective fiberglass tube, colour: Grey. Reflector screen: Weather-resistant aluminum. Attachment construction: Hot dip galvanized steel. All screws and nuts: Stainless steel.
Attachment:	To tubular masts of 60 – 125 mm diameter using supplied U-bolts.
Special features:	The reflector screen is made of two parts and can be removed for transport.
Grounding:	All metal parts of the antenna including the mounting kit and the inner conductor are DC grounded.



Directional
360 – 512 MHz



Mounting Instructions



Relative field strength in mid-band

Mechanical specifications

Input	N female
Weight	12 kg
Wind load	Frontal: 450 N (at 150 km/h) Lateral: 175 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1684 x 388 x 277 mm
Reflector diameter	718 mm
Length / tube dia.	1540 / 204 mm

Network planning is becoming ever more complicated, even for TETRA/TETRAPOL systems. The challenge for wireless network operators is to balance coverage, capacity, call quality and costs, in order to gain maximum revenue from their network.

The possibility of coverage adjustment through the vertical antenna pattern is thus a very important aspect for mobile communication planners. Kathrein's Remote Electrical Tilt (RET) system represents the latest antenna system technology.

RET components:

- Remote Control Unit (RCU)
- Central Control Unit (CCU)
- Control cable
- DC power and signal splitter
- Lightning protection device
- Earthing clamp

Advantage of Kathrein's RET system:

- Easy network extension as no special installation teams are required

Kathrein's overall RET System works in accordance with the AISG (Antenna Interface Standards Group) standard and the 3 GPP (3rd Generation Partnership Project).

For further information please contact:
mobilcom@kathrein.de

