6-Port Antenna	R1	B1	B2
Frequency Range	790–960	1710–1880	1920–2170
Dual Polarization	X	X	X
HPBW	65°	65°	65°
Adjust. Electr. DT	0°–14°	0°–8°	0°–8°

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

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6-Port Antenna 790–960/1710–1880/1920–2170 65°/65°/65° 15/17/17dBi 0°–14°/0°–8°/0°–8°T

Type No.		742270V03		
Lowband		R1, connector 1–2		
			790–960	
Frequency Range	MHz	790 – 862	824 – 894	880 – 960
Gain at mid Tilt	dBi	14.3	14.5	14.6
Gain over all Tilts	dBi	14.3 ± 0.2	14.4 ± 0.3	14.6 ± 0.3
Horizontal Pattern:				
Azimuth Beamwidth	°	69 ± 1.0	68 ± 1.6	67 ± 1.0
Front-to-Back Ratio, Total Power, ± 30°	dB	> 25	> 26	> 27
Cross Polar Discrimination at Boresight	dB	> 24	> 25	> 26
Cross Polar Discrimination over Sector	dB	> 13.5	> 13.0	> 12.5
Azimuth Beam Port-to-Port Tracking	dB	< 1.0	< 1.0	< 1.5
Vertical Pattern:				
Elevation Beamwidth	°	16.8 ± 0.5	16.4 ± 0.9	15.6 ± 0.9
Electrical Downtilt continuously adjustable	°	0.0 – 14.0		
Tilt Accuracy	°	< 0.6	< 0.5	< 0.7
First Upper Side Lobe Suppression	dB	> 15	> 17	> 18
Cross Polar Isolation	dB	> 30		
Port to Port Isolation	dB	> 45 (R1 // B1 // B2)		
Max. Effective Power per Port	W	300 (at 50 °C ambient temperature)		
Max. Effective Power Port 1–2	W	600 (at 50 °C ambient temperature)		

Values based on NGMN-P-BASTA (version 9.6) requirements.



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Highbands		B1, connector 3–4	B2, connector 5–6
		1710–1880	1920–2170
Frequency Range	MHz	1710 – 1880	1920 – 2170
Gain at mid Tilt	dBi	17.1	17.1
Gain over all Tilts	dBi	17.0 ± 0.4	17.0 ± 0.5
Horizontal Pattern:			
Azimuth Beamwidth	°	62 ± 3.1	60 ± 3.6
Front-to-Back Ratio, Total Power, ± 30°	dB	> 28	> 24
Cross Polar Discrimination at Boresight	dB	> 26	> 25
Cross Polar Discrimination over Sector	dB	> 12.5	> 13.0
Azimuth Beam Port-to-Port Tracking	dB	< 0.5	< 1.5
Vertical Pattern:			
Elevation Beamwidth	°	7.5 ± 0.3	6.8 ± 0.6
Electrical Downtilt continuously adjustable	°	0.0 – 8.0	0.0 – 8.0
Tilt Accuracy	°	< 0.3	< 0.3
First Upper Side Lobe Suppression	dB	> 16	> 15
Cross Polar Isolation	dB	> 30	
Port to Port Isolation	dB	> 45 (R1 // B1 // B2) > 30 (B1 // B2)	
Max. Effective Power per Port	W	150 (at 50 °C ambient temperature)	
Max. Effective Power Port 3–4, Port 5–6	W	400 (at 50 °C ambient temperature)	

Values based on NGMN-P-BASTA (version 9.6) requirements.

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Electrical specifications, all systems		
Impedance	Ω	50
VSWR		< 1.5
Return Loss	dB	> 14
Interband Isolation	dB	> 30
Passive Intermodulation	dBc	< –150 (2 x 43 dBm carrier)
Polarization	°	+45, –45
Max. Effective Power for the Antenna	W	900 (at 50 °C ambient temperature)

Values based on NGMN-P-BASTA (version 9.6) requirements.

Mechanical specifications		
Input		6 x 7-16 female long neck
Connector Position		bottom
Adjustment Mechanism		3x, Position bottom continuously adjustable
Wind load (at Rated Wind Speed: 150 km/h)	N | lbf	Frontal: 325 | 73 Maximal: 355 | 80
Max. Wind Velocity	km/h mph	241 150
Height / Width / Depth	mm inches	1384 / 261 / 146 54.5 / 10.3 / 5.7
Category of Mounting Hardware		M (Medium)
Weight	kg lb	19.0 / 21.2 (clamps incl.) 41.9 / 46.7 (clamps incl.)
Packing Size	mm inches	1696 / 282 / 182 66.8 / 11.1 / 7.2
Scope of Supply		Panel and 2 units of clamps for 42–115 mm | 1.7–4.5 inches diameter

Accessories (order separately if required)

Type No.	Description	Remarks mm | inches	Weight approx. kg | lb	Units per antenna
731651	1 clamp	Mast diameter: 28 – 60 | 1.1 – 2.4	0.8 | 1.8	2
85010002	1 clamp	Mast diameter: 110 – 220 | 4.3 – 8.7	2.7 | 6.0	2
85010003	1 clamp	Mast diameter: 210 – 380 | 8.3 – 15.0	4.8 | 10.6	2
737978	1 downtilt kit	Downtilt angle: 0° – 14.5°	2.3 | 5.1	1

Accessories (included in the scope of supply)

738546	1 clamp	Mast diameter: 42 – 115 | 1.7 – 4.5	1.1 | 2.4	2

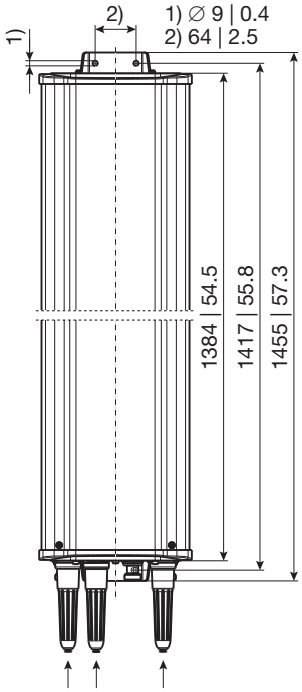
For downtilt mounting use the clamps for an appropriate mast diameter together with the downtilt kit.
Wall mounting: No additional mounting kit needed.

Material:

Reflector screen: Weather-proof aluminum.
Fiberglass housing: It covers totally the internal antenna components. The special design reduces the sealing areas to a minimum and guarantees the best weather protection. Fiberglass material guarantees optimum performance with regards to stability, stiffness, UV resistance and painting. The color of the radome is light grey.
All screws and nuts: Stainless steel or hot-dip galvanized steel.

Grounding:

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



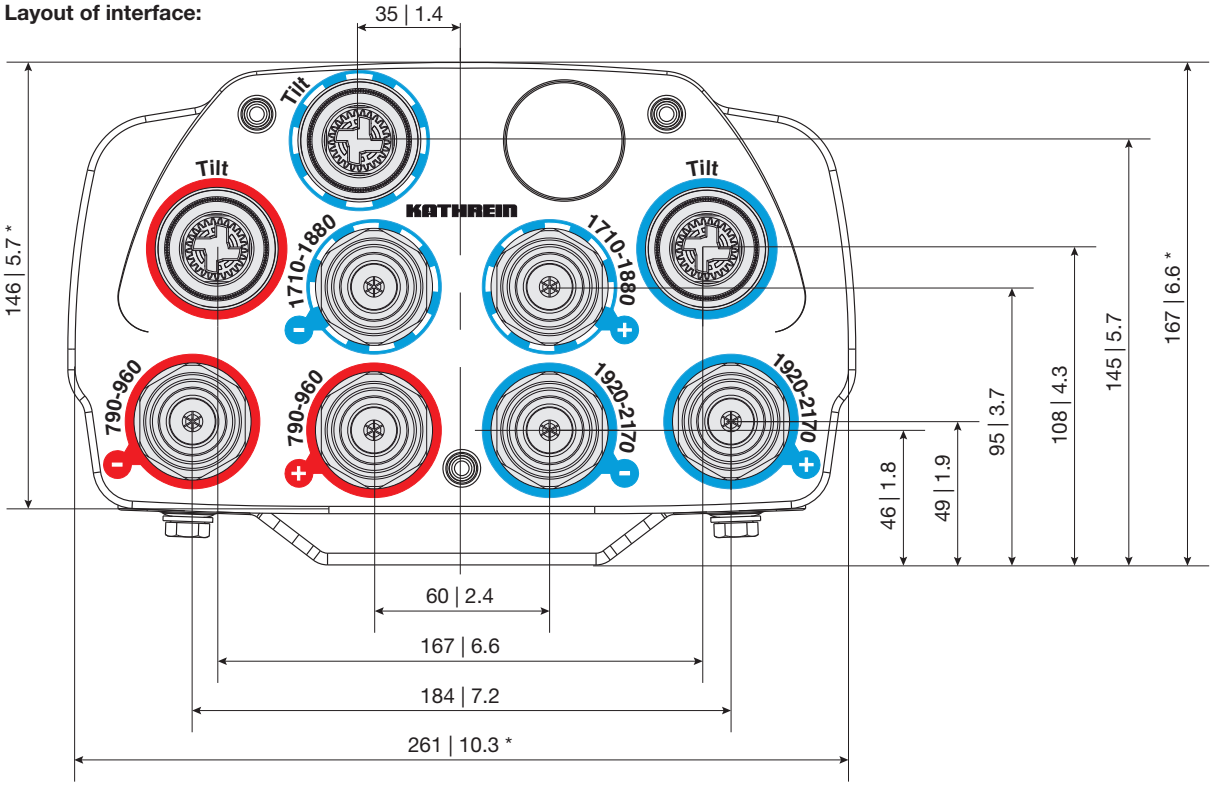
Adjustment mechanism with integrated scale

All dimensions in mm | inches

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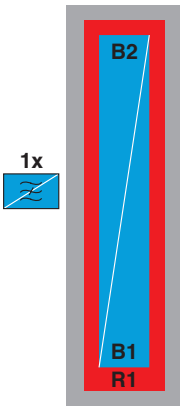
Layout of interface:



Bottom view
* Dimensions refer to radome
All dimensions in mm | inches

Correlation Table

Frequency range	Array	Connector
790–960 MHz	R1	1–2
1710–1880 MHz	B1	3–4
1920–2170 MHz	B2	5–6



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Any previous data sheet issues have now become invalid.

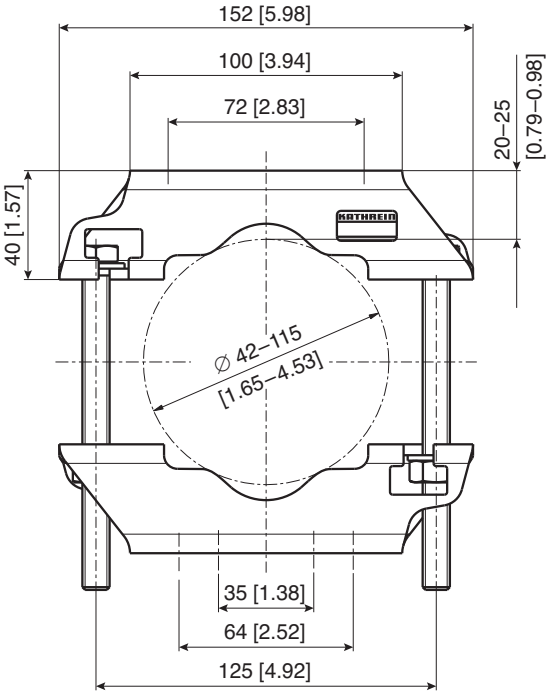
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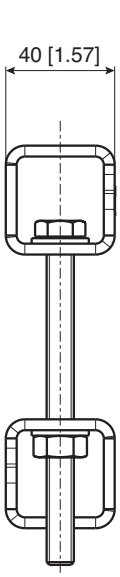
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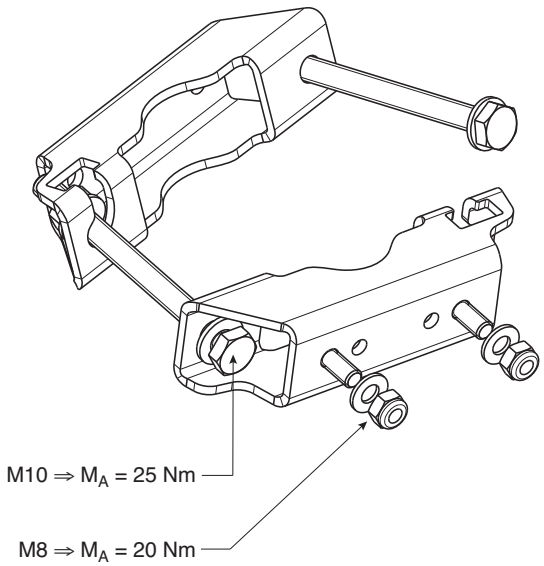
Mounting Hardware
Clamp Included in the Scope of Supply

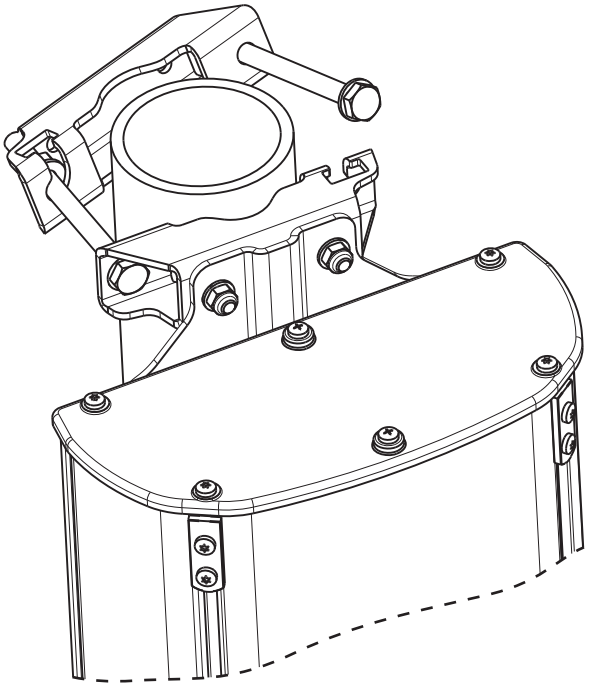
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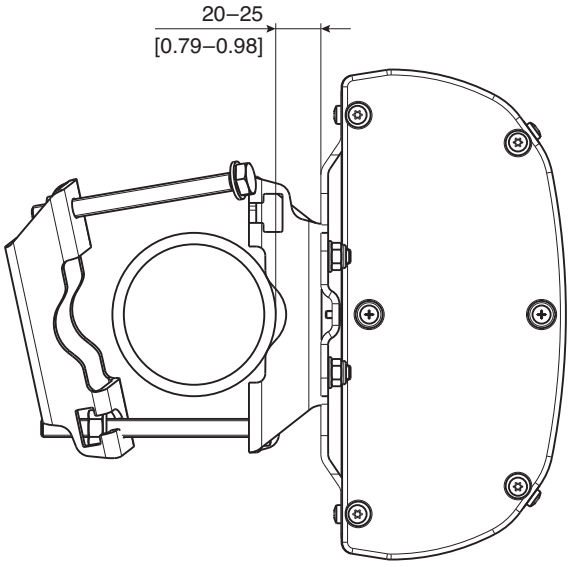
Suitable for mast diameter	(mm) [inches]	42 – 115 [1.65 – 4.53]
Antenna – mast distance	(mm) [inches]	20 – 25 [0.79 – 0.98]
Material of clamp and screws		Hot-dip galvanized steel / stainless steel
Weight	(kg) [lb]	1.1 [2.43]











936.3920/c Subject to alteration.

Please note: Kathrein does not recommend to use counter nuts.
The additional nuts supplied are only meant as spares.

All dimensions in mm and [inches]

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General Instructions for Adjustment Mechanism

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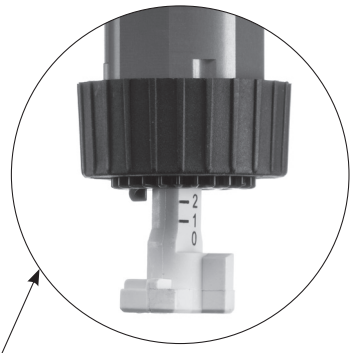
Description of the adjustment mechanism (protective cap removed):



① Adjustment wheel with twist-lock function.
② Downtilt spindle with integrated scale.



① Thread for fixing the protective cap or the RCU (Remote Control Unit).
② Gearwheel for RCU power drive.

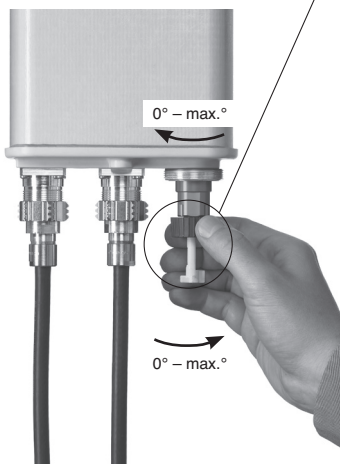


To set the downtilt angle exactly, you must look horizontally at the scale. The lower edge of the gear-wheel must be used for alignment.

Manual adjustment procedure:



Remove the protective cap.

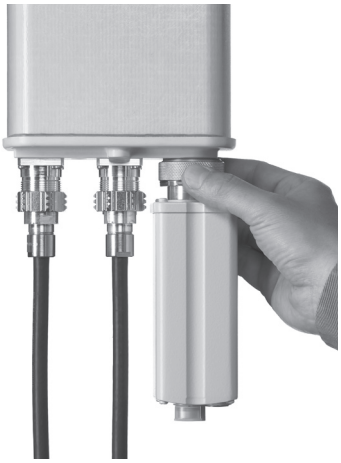


Set downtilt angle by rotating the adjustment wheel.



Screw on the protective cap again.

Optional: RCU (Remote Control Unit) for remote-controlled downtilt adjustment:



For a description of RCU installation please refer to the respective data sheet.

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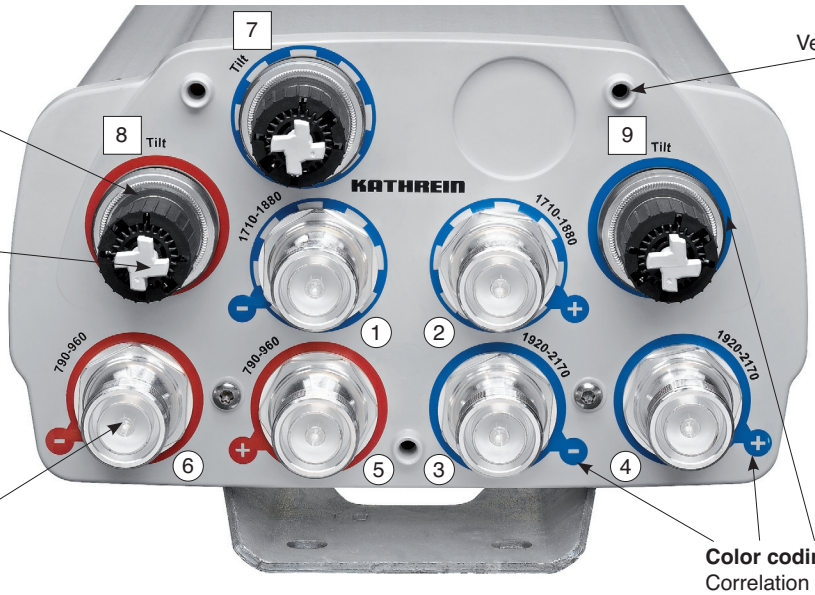
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General Instructions for Feederline Installation for Triple-band Antennas

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Please note: To avoid any damage to the interfaces, please ensure that only suitable tools are used. To tighten the feederline connector interfaces, we strongly recommend using a special Kathrein installation tool (as shown below) in combination with a standard torque-wrench.

Description of bottom end cap (exemplary picture):



Adjustment mechanism
(protective cap removed)

Spindle with tilting scale

7-16 female (long neck)

Ventilation hole

Color coding:
Correlation of each RF input to:
– the corresponding adjustment mechanism
– the frequency range
– the polarization

There are six feederline connectors and three adjustment mechanisms located at the bottom of the antenna.

Installation of the feederline connector and RCU (optional):

In order to protect the adjustment mechanism the protective caps have to be attached during feederline installation!



The sequence for installation is: feederline no. 1, 2, 3, 4, 5, 6. Carefully put the connector in place and hand-screw the nut.

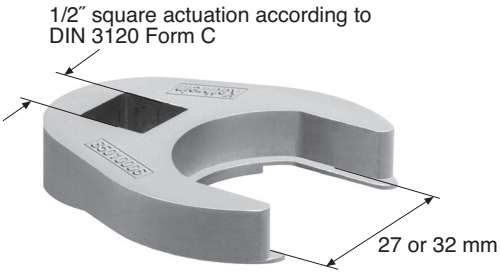
Use a torque-wrench to finish installation (see installation tool).

Repeat operations as shown for each feederline!



After feederline installation, the optional remote control units (RCU) 7, 8, 9 can be mounted if required. For a full description of RCU installation please refer to the respective data sheet.

Kathrein installation set: Type No. 85010005
Set has to be ordered separately!
Set consists of two spanners of 27 and 32 mm width.



These tools are suitable for 7-16 connectors with a wrench size of 27 or 32 mm.

Tighten nut within a torque range of 25 – 33 Nm depending on connector manufacturers' specifications.

936.4137 Subject to alteration.

All specifications are subject to change without notice.
The latest specifications are available at www.kathreinusa.com

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