

# 6-Port Antenna

<b>R1</b>	<b>B1</b>	<b>B2</b>
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# KATHREIN

## Frequency Range

790–960	1710–2180	1710–2180
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## Dual Polarization

X	X	X
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## HPBW

65°	65°	65°
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## Adjust. Electr. DT

2°–14°	0°–14°	0°–14°
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set by hand or by optional RCU (Remote Control Unit)



### 6-Port Antenna 790–960/1710–2180/1710–2180 65°/65°/65° 16.5/16.5/16.5dBi 2°–14°/0°–14°/0°–14°T

Type No.		80010291v02		
Lowband		R1, connector 1–2		
		790–960		
Frequency range	MHz	790 – 866	824 – 894	880 – 960
Polarization	°	+45, –45	+45, –45	+45, –45
Average gain:	dBi	16.2 ... 16.0 ... 15.7	16.3 ... 16.1 ... 15.8	16.4 ... 16.2 ... 15.8
Tilt	°	2 ... 8 ... 14	2 ... 8 ... 14	2 ... 8 ... 14
<b>Horizontal Pattern:</b>				
Half-power beam width	°	68	67	65
Front-to-back ratio (180°±30°)	dB	> 25	> 25	> 25
Cross polar ratio		Typically:	Typically:	Typically:
Main direction	0°	25	25	25
Sector	±60°	> 10	> 10	> 10
Tracking	dB	1.0		
<b>Vertical Pattern:</b>				
Half-power beam width	°	10	9.7	9.3
Electrical tilt	°	2–14, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	°T dB	2 ... 8 ... 14 17 ... 17 ... 15	2 ... 8 ... 14 17 ... 17 ... 16	2 ... 8 ... 14 17 ... 17 ... 16
Impedance	Ω	50		
VSWR		< 1.5		
Isolation: Intrasystem	dB	> 30		
Isolation: Intersystem	dB	> 35 (790–960 // 1710–2180 MHz) > 30 (1710–2180 // 1710–2180 MHz)		
Intermodulation IM3	dBc	< –153 (2 x 43 dBm carrier)		
Max. effective power per port	W	400 (at 50 °C ambient temperature)		
Max. effective power for the antenna		900 (at 50 °C ambient temperature)		



936.4883/c Subject to alteration.

All specifications are subject to change without notice.  
The latest specifications are available at [www.kathreinusa.com](http://www.kathreinusa.com)

Highbands		B1, connector 3-4; B2, connector 5-6		
		1710-2180	1710-2180	
Frequency range	MHz	1710 - 1880	1850 - 1990	1920 - 2180
Polarization	°	+45, -45	+45, -45	+45, -45
Average gain:				
1710-2180 MHz	B1: dBi	15.9 ... 15.9 ... 15.5	16.2 ... 16.2 ... 15.7	16.3 ... 16.3 ... 15.8
1710-2180 MHz	B2: dBi	15.8 ... 15.8 ... 15.4	16.1 ... 16.1 ... 15.4	16.3 ... 16.2 ... 15.5
Tilt	°	0 ... 7 ... 14	0 ... 7 ... 14	0 ... 7 ... 14
<b>Horizontal Pattern:</b>				
Half-power beam width	°	65	64	60
Front-to-back ratio (180°±30°)	dB	> 25	> 25	> 25
Cross polar ratio		Typically:	Typically:	Typically:
Main direction	0°	18	19	20
Sector	±60°	> 10	> 10	> 10
Tracking		1.0		
<b>Vertical Pattern:</b>				
Half-power beam width	°	9.5	9	8.7
Electrical tilt	°	0-14, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	°T dB	0 ... 7 ... 14 18 ... 17 ... 17	0 ... 7 ... 14 18 ... 17 ... 17	0 ... 7 ... 14 18 ... 17 ... 17
Impedance	Ω	50		
VSWR		< 1.5		
Isolation: Intrasystem	dB	> 30		
Isolation: Intersystem	dB	> 35 (790-960 // 1710-2180 MHz) > 30 (1710-2180 // 1710-2180 MHz)		
Intermodulation IM3	dBc	< -153 (2 x 43 dBm carrier)		
Max. effective power per port	W	250 (at 50 °C ambient temperature)		
Max. effective power for the antenna		900 (at 50 °C ambient temperature)		

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: 515   115 Maximal: 565   127
Max. wind velocity	km/h mph	200 124
Height/width/depth	mm inches	2058 / 262 / 149 81.0 / 10.3 / 5.9
Category of mounting hardware	M (Medium)	
Weight	kg lb	27 / 29 (clamps incl.) 59.5 / 63.9 (clamps incl.)
Packing size	mm inches	2385 x 282 x 182 93.9 x 11.1 x 7.2
<b>Scope of supply</b>	Panel and 2 units of clamps for 42-115 mm   1.7-4.5 inches diameter	

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# Accessories

## General Information

### 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° – 11°	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
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For downtilt mounting use the clamps for an appropriate mast diameter together with the downtilt kit.  
Wall mounting: No additional mounting kit needed.

#### Material:

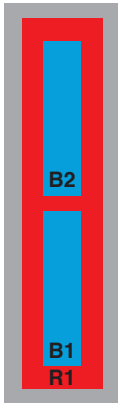
**Reflector screen:** Weather-proof aluminum.

**Fiberglass housing:** It covers totally the internal antenna components. 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.

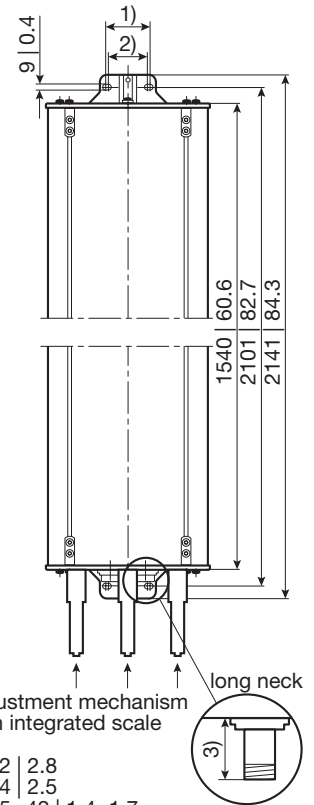
#### Grounding:

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



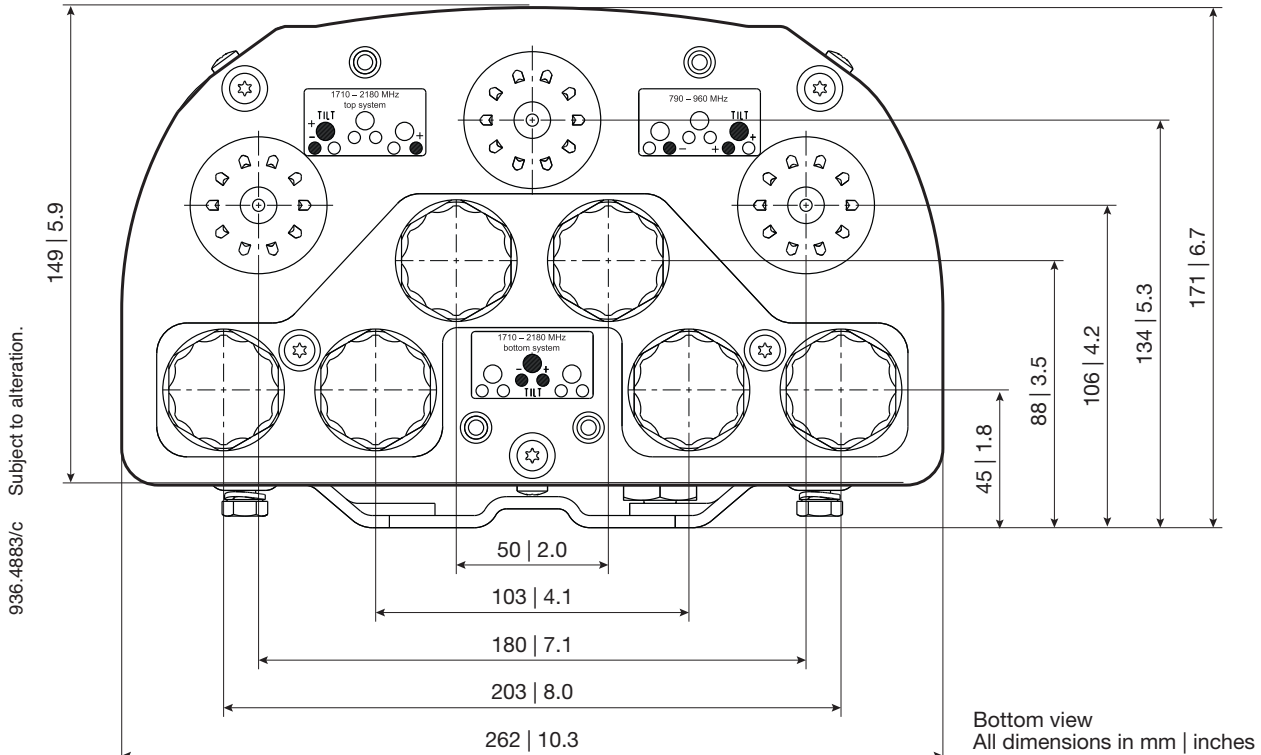
### Correlation Table

Frequency range	Array	Connector
790– 960 MHz	R1	1–2
1710–2180 MHz	B1	3–4
1710–2180 MHz	B2	5–6



All dimensions in mm | inches

### Layout of interface:

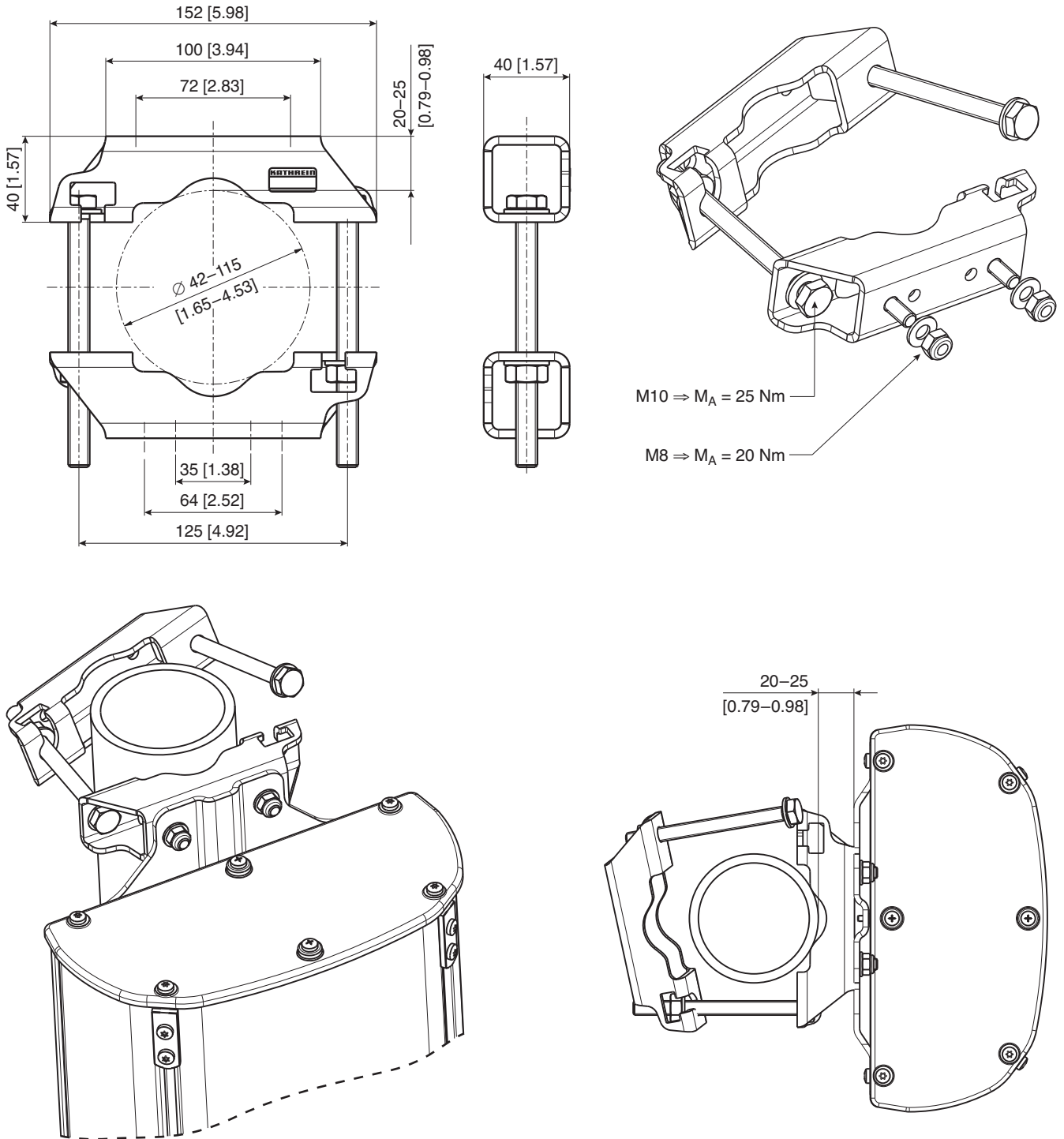


# Mounting Hardware

## Clamp Included in the Scope of Supply

**KATHREIN**

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]



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**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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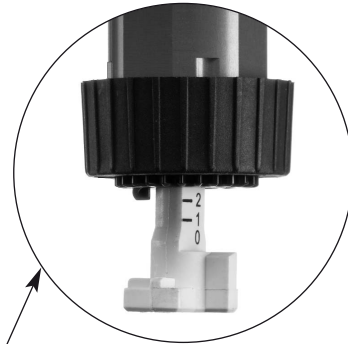
## Description of the adjustment mechanism (protective cap removed):



- 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.

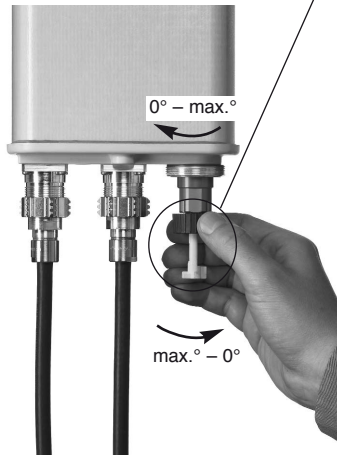


To set the downtilt angle exactly, you must look horizontally at the scale. The lower edge of the gear-wheel must be used for alignment.

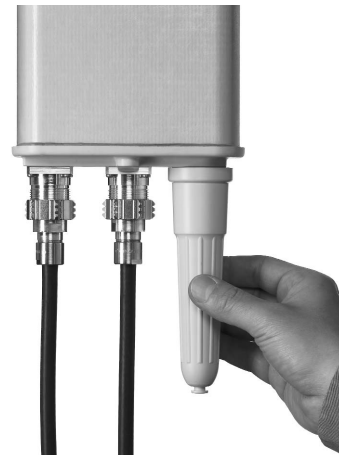
## Manual adjustment procedure:



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:



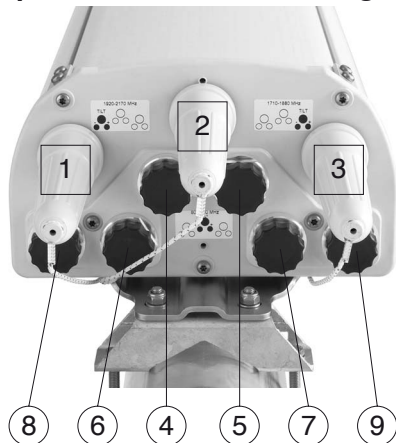
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For a description of RCU installation please refer to the respective data sheet.

# General Instructions for Feederline Installation for Triple-band Antennas with Kathrein Installation Set, Type No. 85010005

**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 connector arrangement:



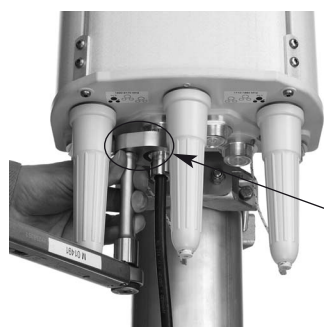
Adjustment mechanisms (1 – 3)

Feederline connectors (4 – 9)

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

## Attachment of the feederline connector and RCU (optional):

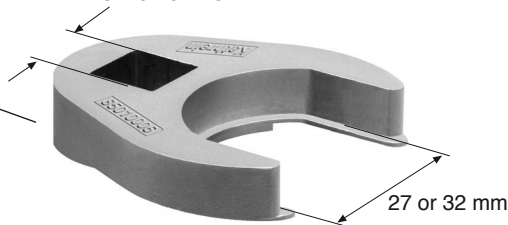
**In order to protect the adjustment mechanism the protective caps have to be attached during feederline installation!**



### Kathrein installation set: Type No. 85010005 Set has to be ordered separately!

Set consists of two spanners of 27 and 32 mm width.

1/2" square actuation according to  
DIN 3120 Form C



The sequence for installation is:  
feederline no. 4, 5, 6, 7, 8, 9.  
Put the connector carefully in  
place and hand-screw the nut.

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

Repeat operations as shown for  
each feederline!

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.



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

**Please note:** Additional weather sealing of correctly installed feederline connector interfaces is not required, nor is it recommended by the connector manufacturers.