4-Port Antenna

	R1	B1
Frequency Range	790–960	1710–2180
Dual Polarization	X	X
HPBW	90°	90°
Adjust. Electr. DT	0.5°–7	0°–6°

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

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4-Port Antenna 790–960/1710–2180 90°/90° 16.5/18dBi 0.5°–7°/0°–6°T



Type No.		80010123V03		
Lowband		R1, connector 1–2		
			790–960	
Frequency range	MHz	790 – 862	824 – 894	880 – 960
Polarization	°	+45, –45	+45, –45	+45, –45
Average gain Tilt	dBi °	16.1 ... 16.2 ... 16.1 0.5 ... 4 ... 7	16.3 ... 16.4 ... 16.3 0.5 ... 4 ... 7	16.5 ... 16.6 ... 16.5 0.5 ... 4 ... 7
Horizontal Pattern:				
Half-power beam width	°	86	86	86
Front-to-back ratio, copolar	dB	> 25	> 25	> 25
Cross polar ratio Maindirection 0° Sector ±60° ±60°	dB	Typically: 18 > 10 avg. 16	Typically: 18 > 10 avg. 16	Typically: 20 > 13 avg. 19
Tracking, Avg.	dB	0.5		
Squint	°	±3.0		
Vertical Pattern:				
Half-power beam width	°	7.3	7.2	6.9
Electrical tilt	°	0.5–7, continuously adjustable		
Min. sidelobe supression for first sidelobe above main beam	°T dB	0.5 ... 4 ... 7 15 ... 14 ... 14	0.5 ... 4 ... 7 15 ... 14 ... 14	0.5 ... 4 ... 7 15 ... 14 ... 15
VSWR		< 1.5		
Isolation: Intrasystem	dB	> 30		
Isolation: Intersystem	dB	> 42 (790–960 // 1710–2180 MHz)		
Intermodulation IM3	dBc	< –150 (2 x 43 dBm carrier)		
Max. power per input Total power	W	500 (at 50 °C ambient temperature) 1000 (at 50 °C ambient temperature)		

936.4888/b Subject to alteration.

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Highband		B1, connector 3–4		
		1710–2180		
Frequency range	MHz	1710 – 1880	1850 – 1990	1920 – 2180
Polarization	°	+45, –45	+45, –45	+45, –45
Average gain Tilt	dBi °	17.8 ... 17.7 ... 17.4 0 ... 3 ... 6	18.0 ... 17.9 ... 17.4 0 ... 3 ... 6	17.9 ... 17.8 ... 17.3 0 ... 3 ... 6
Horizontal Pattern:				
Half-power beam width	°	84	85	88
Front-to-back ratio (180°±30°)	dB	> 23	> 23	> 23
Cross polar ratio Maindirection 0° Sector ±60° ±60°	dB	Typically: 16 > 10 avg. 16	Typically: 16 > 12 avg. 17	Typically: 15 > 10 avg. 18
Tracking, Avg.	dB	0.5		
Squint	°	±3.0		
Vertical Pattern:				
Half-power beam width	°	4.8	4.5	4.2
Electrical tilt	°	0–6, continuously adjustable		
Min. sidelobe supression for first sidelobe above main beam	°T dB	0 ... 3 ... 6 18 ... 17 ... 16	0 ... 3 ... 6 18 ... 17 ... 17	0 ... 3 ... 6 18 ... 16 ... 17
VSWR		< 1.5		
Isolation: Intrasystem	dB	> 30		
Isolation: Intersystem	dB	> 42 (790–960 // 1710–2180 MHz)		
Intermodulation IM3	dBc	< –150 (2 x 43 dBm carrier)		
Max. power per input Total power	W	250 (at 50 °C ambient temperature) 500 (at 50 °C ambient temperature)		



Correlation Table

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

Mechanical specifications		
Input		4 x 7-16 female (long neck)
Connector position		Bottom
Adjustment Mechanism		2x, Position bottom continuously adjustable
Wind load (at Rated Wind Speed: 150 km/h)	N | lbf	Frontal: 680 | 153 Maximal: 750 | 169
Max. wind velocity	km/h mph	200 124
Height / width / depth	mm inches	2635 / 262 / 149 103.7 / 10.3 / 5.9
Category of mounting hardware		H (Heavy)
Weight	kg lb	33.0 / 35.0 (clamps incl.) 72.8 / 77.2 (clamps incl.)
Packing size	mm inches	2966 x 282 x 182 116.8 x 11.1 x 7.2
Scope of Supply		Panel and 2 units of clamps for 42–115 mm | 1.7–4.5 inches diameter

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Accessories
General Information

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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
85010008	1 downtilt kit	Downtilt angle: 0° – 8°	4.3 | 9.5	1

Accessories (included in the scope of supply)

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

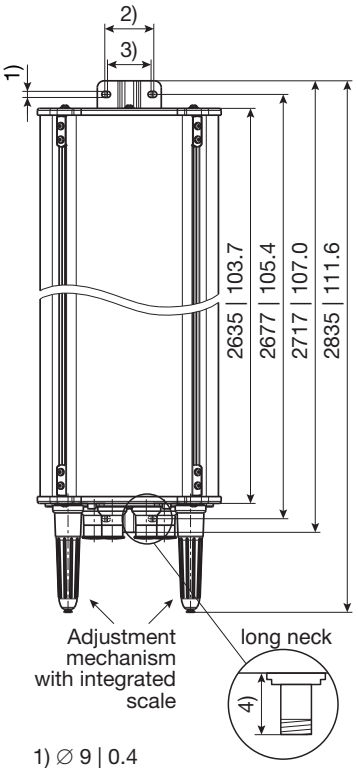
For downtilt mounting use the clamps for an appropriate mast diameter together with the downtilt kit.
Wall mounting: No additional mounting kit needed.

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.

Grounding:

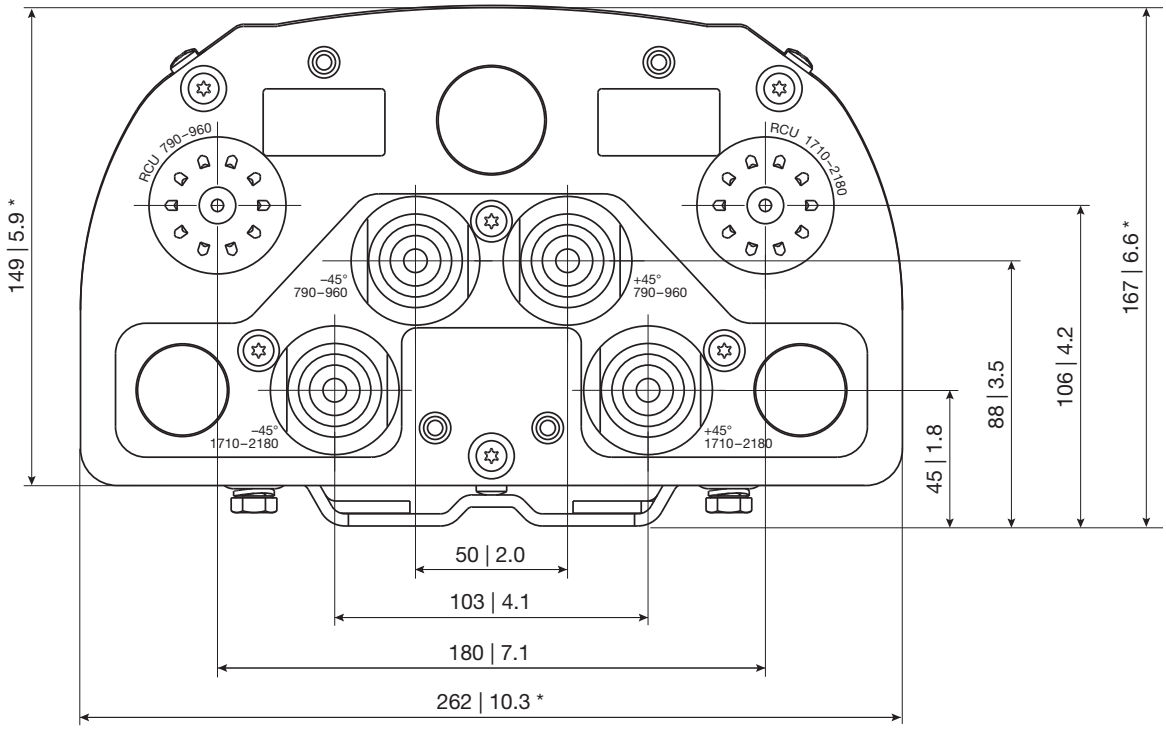
The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.



1) ∅ 9 | 0.4
2) 72 | 2.8
3) 64 | 2.5
4) 35–42 | 1.4–1.7

All dimensions in mm | inches

Layout of interface:



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

936.4888/b Subject to alteration.

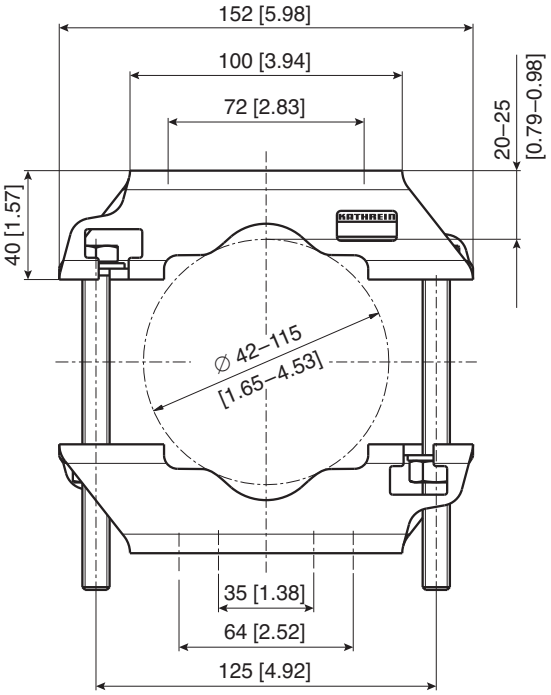
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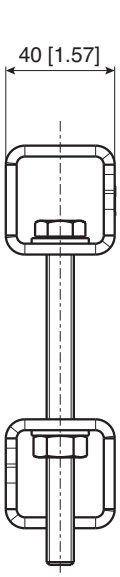
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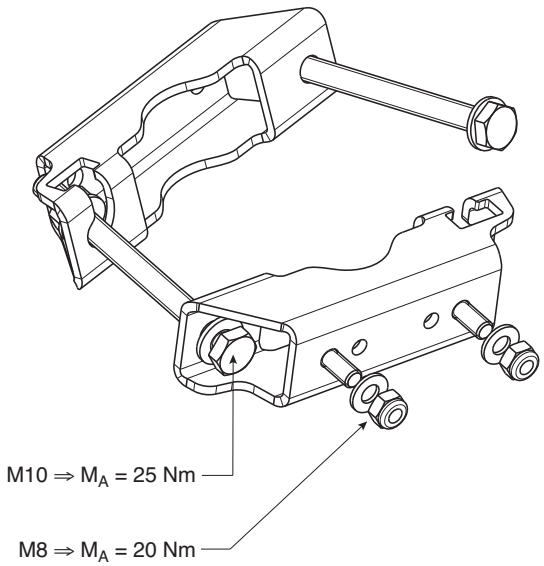
Mounting Hardware
Clamp Included in the Scope of Supply

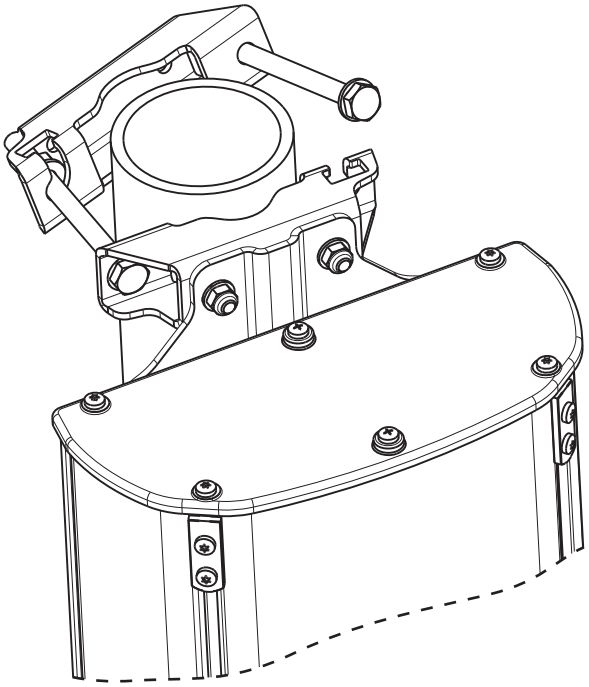
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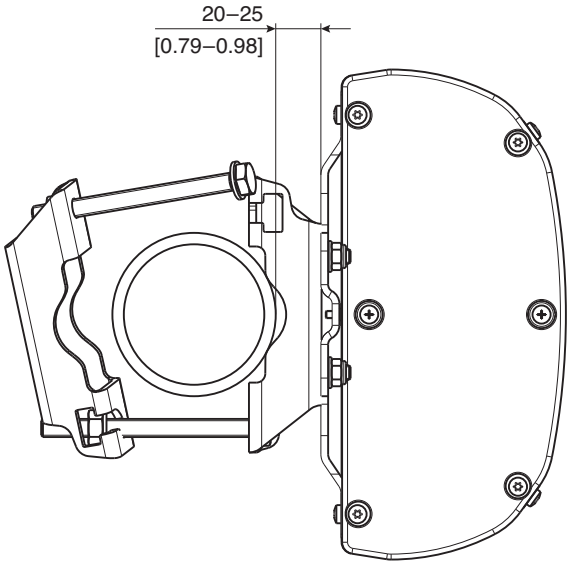
Suitable for mast diameter	(mm) [inches]	42 – 115 [1.65 – 4.53]
Antenna – mast distance	(mm) [inches]	20 – 25 [0.79 – 0.98]
Material of clamp and screws		Hot-dip galvanized steel / stainless steel
Weight	(kg) [lb]	1.1 [2.43]











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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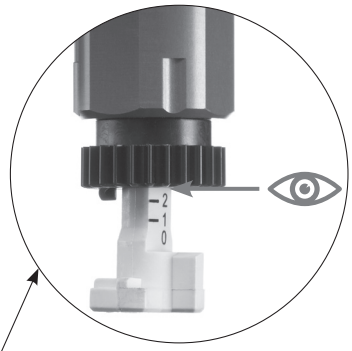
Description of the adjustment mechanism (protective cap removed):



① Twist protection.
② Downtilt spindle with integrated scale.

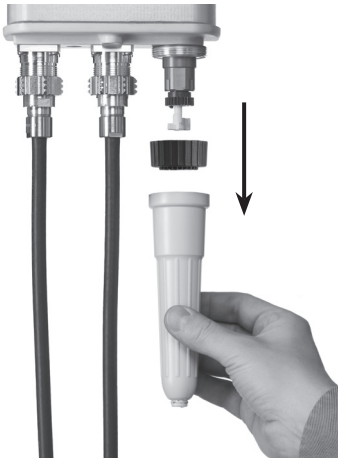


① Thread for fixing the protective cap or the RCU (Remote Control Unit).
② Gearwheel for RCU power drive.

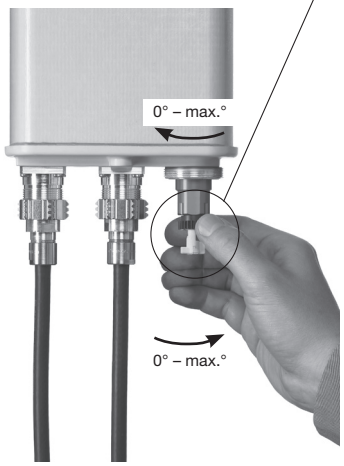


To set the downtilt angle exactly, you must look horizontally at the scale. The lower edge of the gearwheel must be used for alignment.

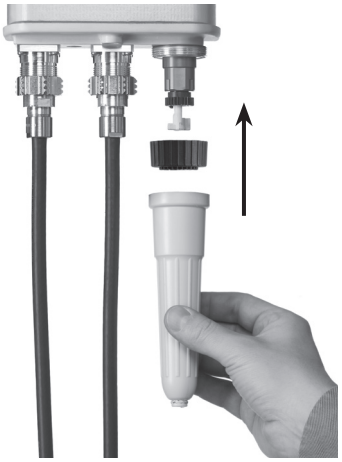
Manual adjustment procedure:



Remove the protective cap and the twist protection completely.

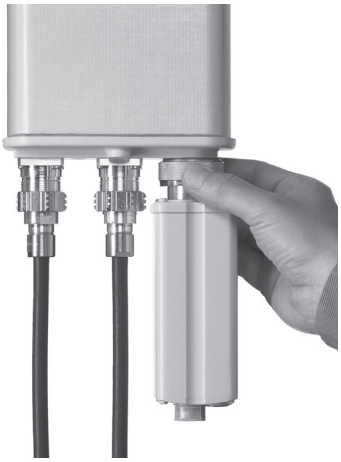


Set downtilt angle by rotating the gearwheel.



Screw on the twist protection and 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.

936.4037/a Subject to alteration.

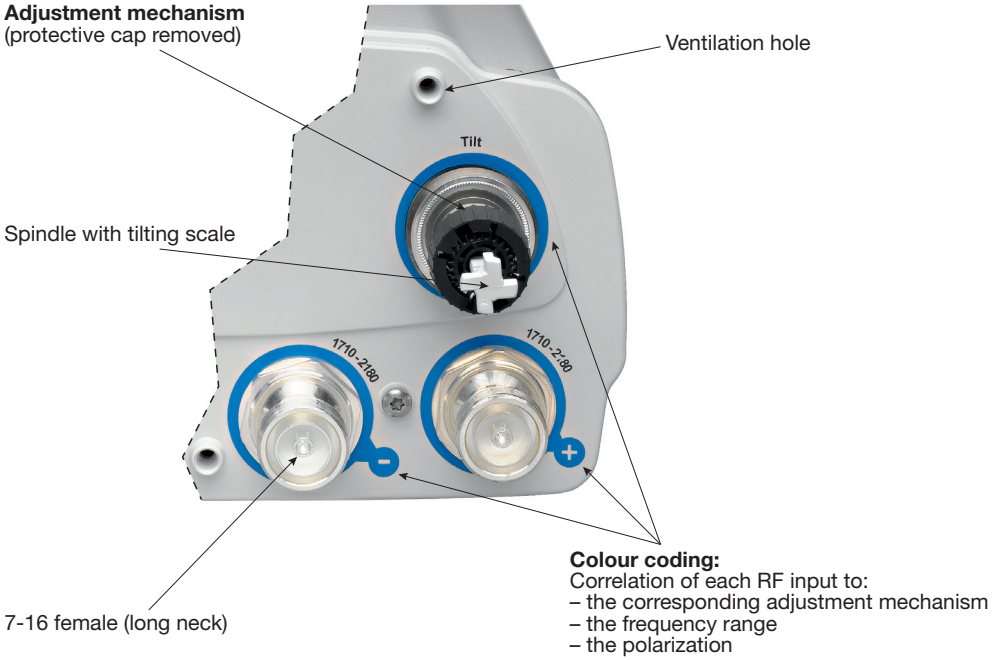
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General Instructions for Feederline and RCU Installation for Antennas

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Please note: In order not to damage the interfaces, please make sure that only the right tools are used. Tighten the feederline connector interfaces solely by using a common torque-wrench with a suitable wrench width.

Description of bottom end cap (exemplary picture):



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!



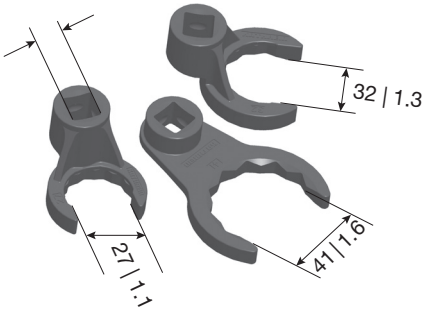
Carefully place the connector and fix the nut using a torque-wrench (according to the manufacturers guidelines).



After feederline installation, the optional remote control units (RCUs) can be mounted.

Kathrein installation set: Type No. 85010077
Set has to be ordered separately!
Set consists of three spanners of divers width 27, 32 and 41 mm | 1.1, 1.3 and 1.6 inches

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



All dimensions in mm | inches

These tools are suitable for 7-16 connectors with a wrench size of 27 or 32 mm | 1.1 or 1.3 inches, and the RCU attachment nut with a wrench size of 41 mm | 1.6 inches.

Tighten nuts within a torque range of 25 – 33 Nm depending on connector manufacturers' specifications, respectively the RCU nut with a torque range of 15 – 18 Nm.

936.4037/a Subject to alteration.

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