

Dual-band Panel

Dual Polarization

Half-power Beam Width

Adjust. Electr. Downtilt

Integrated Combiner

824-960	1710-2180
X	X
65°	65°
0°-14°	0°-8°
C	

KATHREIN

Antennen · Electronic

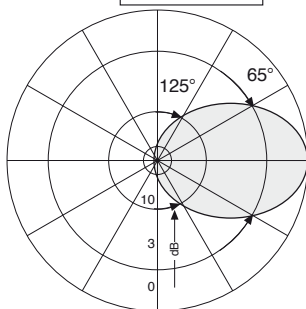
Downtilt set by hand or by optional RCU (Remote Control Unit)

XXPol Panel 824-960/1710-2180 C 65°/65° 14/17dBi 0°-14°/0°-8°T

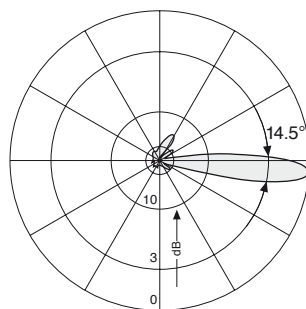
Type No.	742 223				
Frequency range	824-960		1710-2180		
	824-894 MHz	880-960 MHz	1710-1880 MHz	1850-1990 MHz	1900-2180 MHz
Polarization	+45°, -45°	+45°, -45°	+45°, -45°	+45°, -45°	+45°, -45°
Gain	2 x 14 dBi	2 x 14 dBi	2 x 16.5 dBi	2 x 16.8 dBi	2 x 17 dBi
Horizontal Pattern:					
Half-power beam width	68°	65°	66°	63°	62°
Front-to-back ratio, copolar	> 26 dB	> 26 dB	> 25 dB	> 25 dB	> 25 dB
Cross polar ratio	Typically: 20 dB	Typically: 20 dB	Typically: 18 dB	Typically: 19 dB	Typically: 20 dB
Maindirection Sector	0° ±60°	> 10 dB	> 10 dB	> 10 dB	> 10 dB
Vertical Pattern:					
Half-power beam width	15.5°	14.3°	7.8°	7.7°	7.4°
Electrical tilt	0°-14°, continuously adjustable		0°-8°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 7° ... 14° T 14 ... 13 ... 12 dB	0° ... 7° ... 14° T 16 ... 14 ... 13 dB	0° ... 4° ... 8° T 18 ... 18 ... 15 dB	0° ... 4° ... 8° T 18 ... 18 ... 16 dB	0° ... 4° ... 8° T 15 ... 17 ... 17 dB
Impedance	50 Ω				
VSWR	< 1.5				
Isolation: Intrasystem	> 30 dB				
Intermodulation IM3	< -150 dBc (2 x 43 dBm carrier)				
Max. power	250 W		200 W		
	(at 50 °C ambient temperature)				
Max. power per combined input	450 W (at 50 °C ambient temperature)				
Integrated combiner	The insertion loss is included in the given antenna gain values.				



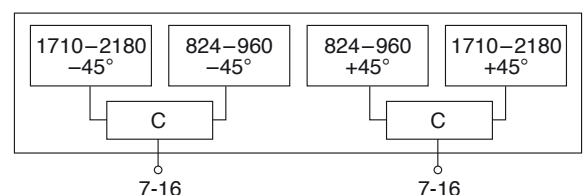
824-960 +45°/-45° Polarization



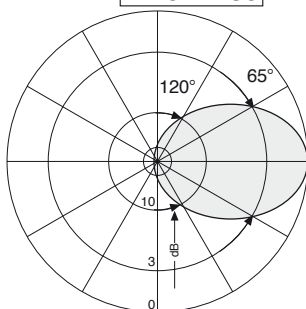
Horizontal Pattern



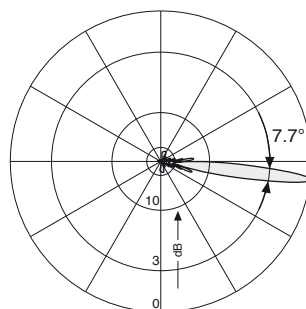
Vertical Pattern
0°-14° electrical downtilt



1710-2180 +45°/-45° Polarization



Horizontal Pattern



Vertical Pattern
0°-8° electrical downtilt

Mechanical specifications

Input	2 x 7-16 female (long neck)
Connector position	Bottom
Adjustment mechanism	2x, Position bottom continuously adjustable
Weight	16.5 kg
Wind load	Frontal: 230 N (at 150 km/h) Lateral: 180 N (at 150 km/h) Rearside: 430 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1626 x 282 x 172 mm
Height/width/depth	1316 / 262 / 139 mm

936.3279/a Subject to alteration.

Accessories (order separately)

Type No.	Description	Remarks	Weight approx.	Units per antenna
738 546	1 clamp	Mast: 50 – 115 mm diameter	1.0 kg	2
850 10002	1 clamp	Mast: 110 – 220 mm diameter	2.7 kg	2
850 10003	1 clamp	Mast: 210 – 380 mm diameter	4.8 kg	2
733 677	1 clamp	Mast: 60 – 115 mm diameter	2.0 kg	2
733 678	1 clamp	Mast: 115 – 210 mm diameter	2.6 kg	2
733 679	1 clamp	Mast: 210 – 380 mm diameter	4.0 kg	2
733 680	1 clamp	Mast: 380 – 521 mm diameter	5.3 kg	2
737 974	1 downtilt kit	Downtilt angle: 0° – 16°	2.8 kg	1

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 colour 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 inputs are DC grounded.

Environmental conditions:

Kathrein cellular antennas are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1 E.

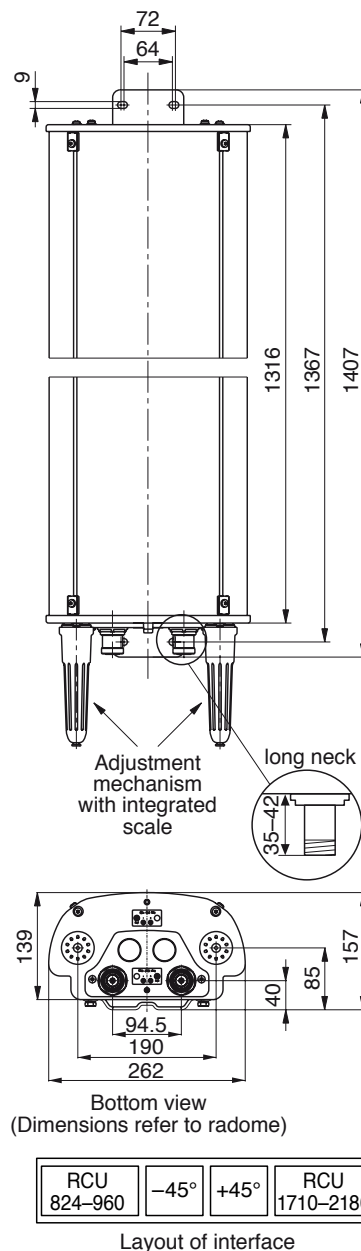
The antennas exceed this standard with regard to the following items:

- Low temperature: –55 °C
- High temperature (dry): +60 °C

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.

Environmental tests:

Kathrein antennas have passed environmental tests as recommended in ETS 300 019-2-4. The homogenous design of Kathrein's antenna families use identical modules and materials. Extensive tests have been performed on typical samples and modules.



Please note:

As a result of more stringent legal regulations and judgements regarding product liability, we are obliged to point out certain risks that may arise when products are used under extraordinary operating conditions.

The mechanical design is based on the environmental conditions as stipulated in ETS 300 019-1-4, which includes the static mechanical load imposed on an antenna by wind at maximum velocity. Extraordinary operating conditions, such as heavy icing or exceptional dynamic stress (e.g. strain caused by oscillating support structures), may result in the breakage of an antenna or even cause it to fall to the ground. These facts must be considered during the site planning process.

The installation team must be properly qualified and also be familiar with the relevant national safety regulations.

The details given in our data sheets have to be followed carefully when installing the antennas and accessories.

The limits for the coupling torque of RF-connectors, recommended by the connector manufacturers must be obeyed.

Any previous datasheet issues have now become invalid.



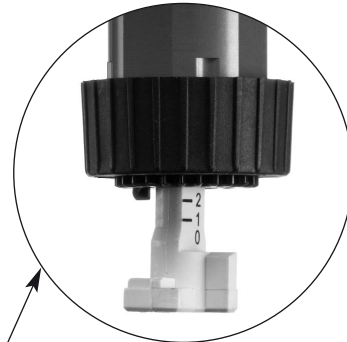
Description of the adjustment mechanism (protective cap removed):



- 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.

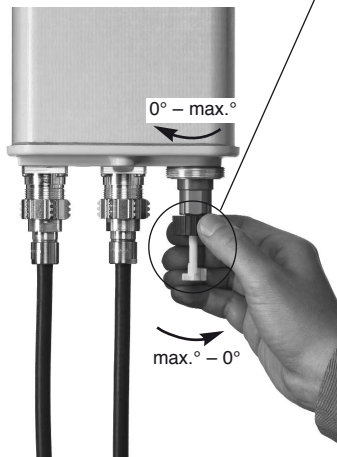


To set the downtilt angle exactly, you must look horizontally at the scale. The lower edge of the gear-wheel must be used for alignment.

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:

936.3279/a Subject to alteration.



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