

Dual-band Panel

824-960

1710-2180

Dual Polarization

X

X

Half-power Beam Width

65°

65°

Adjust. Electr. Downtilt

0°-10°

0°-6°

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

KATHREIN

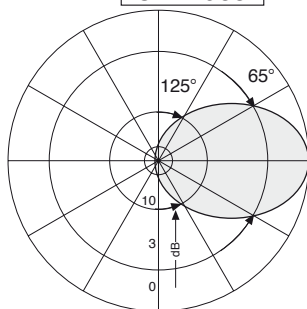
Antennen · Electronic

XXPol Panel 824-960/1710-2180 65°/65° 16/18.5dBi 0°-10°/0°-6°T

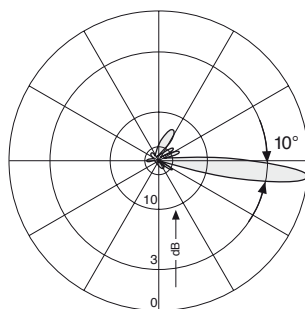
Type No.	742 265				
Frequency range	824-960 824-894 MHz 880-960 MHz		1710-2180 1710-1880 MHz 1850-1990 MHz 1920-2180 MHz		
Polarization	+45°, -45°	+45°, -45°	+45°, -45°	+45°, -45°	+45°, -45°
Gain	2 x 15.5 dBi	2 x 16 dBi	2 x 17.8 dBi	2 x 18.2 dBi	2 x 18.3 dBi
Horizontal Pattern:					
Half-power beam width	68°	65°	67°	65°	63°
Front-to-back ratio (180°±30°)	> 27 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Cross polar ratio Maindirection 0° Sector ±60°	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB	Typically: 16 dB > 10 dB	Typically: 18 dB > 10 dB	Typically: 18 dB > 10 dB
Vertical Pattern:					
Half-power beam width	10.5°	10°	5.2°	5.0°	4.9°
Electrical tilt continuously adjustable	0.5°-9.5°	0.5°-9.5°	0°-6°	0°-6°	0°-6°
Sidelobe suppression for first sidelobe above main beam	0.5°... 5°... 9.5°T 15 ... 15 ... 15 dB	0.5°... 5°... 9.5°T 15 ... 17 ... 19 dB	0° ... 3° ... 6° T 14 ... 15 ... 15 dB	0° ... 3° ... 6° T 18 ... 17 ... 17 dB	0° ... 3° ... 6° T 17 ... 17 ... 16 dB
Impedance	50 Ω	50 Ω	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Isolation: Intrasystem	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Isolation: Intersystem	Typically: > 50 dB (824-960 // 1710-2180 MHz)				
Intermodulation IM3	< -150 dBc (2 x 43 dBm carrier)		< -150 dBc (2 x 43 dBm carrier)		
Max. power per input	500 W		250 W		
Total power	1000 W		500 W		
(at 50 °C ambient temperature)					



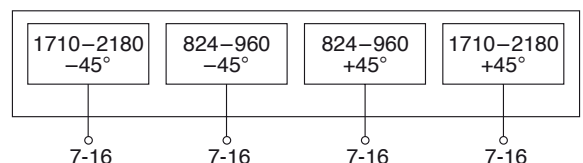
824-960 +45°/-45° Polarization



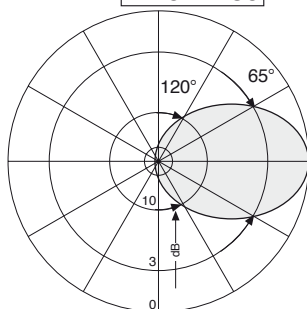
Horizontal Pattern



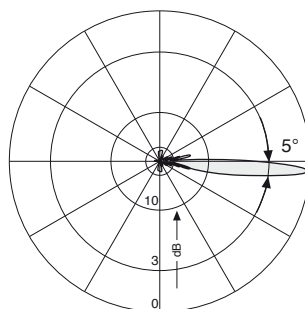
Vertical Pattern
0.5°-9.5° electrical downtilt



1710-2180 +45°/-45° Polarization



Horizontal Pattern



Vertical Pattern
0°-6° electrical downtilt

Mechanical specifications

Input	4 x 7-16 female (long neck)
Connector position	Bottom
Adjustment mechanism	2x, Position bottom continuously adjustable
Weight	22 kg
Wind load	Frontal: 340 N (at 150 km/h) Lateral: 280 N (at 150 km/h) Rearside: 640 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2215 x 302 x 192 mm
Height/width/depth	1916 / 262 / 139 mm

936.3218/b 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
737 975	1 downtilt kit	Downtilt angle: 0° – 11°	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 are DC grounded. The inputs 824–960 MHz are also DC grounded. The inputs 1710–2180 MHz are coupled capacitively.

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.

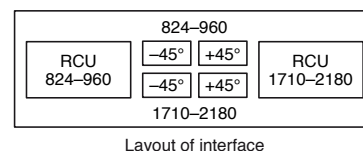
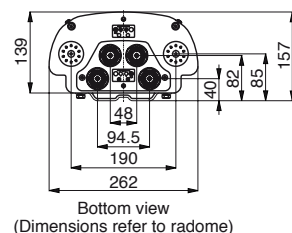
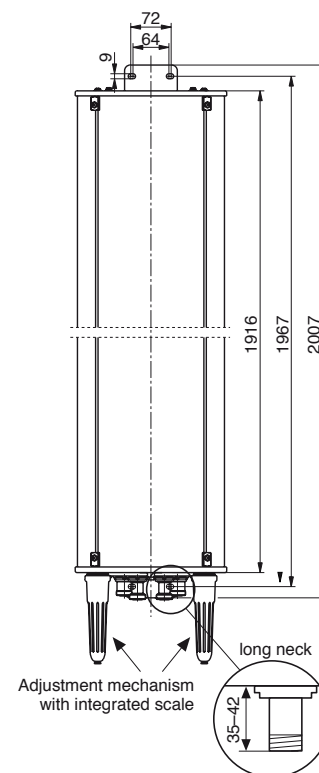
The mechanical design is based on the environmental conditions as stipulated in ETS 300 019-1-4, which includes the static mechanical load imposed on an antenna by wind at maximum velocity. Extraordinary operating conditions, such as heavy icing or exceptional dynamic stress (e.g. strain caused by oscillating 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.



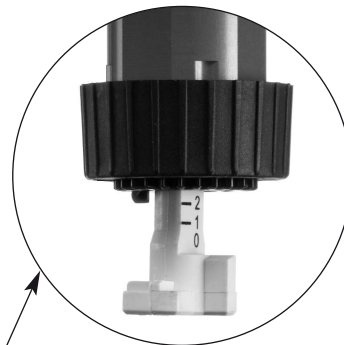
Description of the adjustment mechanism (protective cap removed):



- 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.

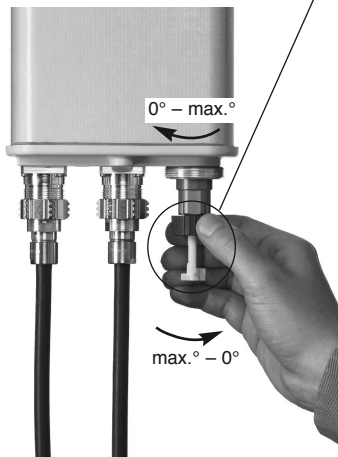


To set the downtilt angle exactly, you must look horizontally at the scale. The lower edge of the gear-wheel must be used for alignment.

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:

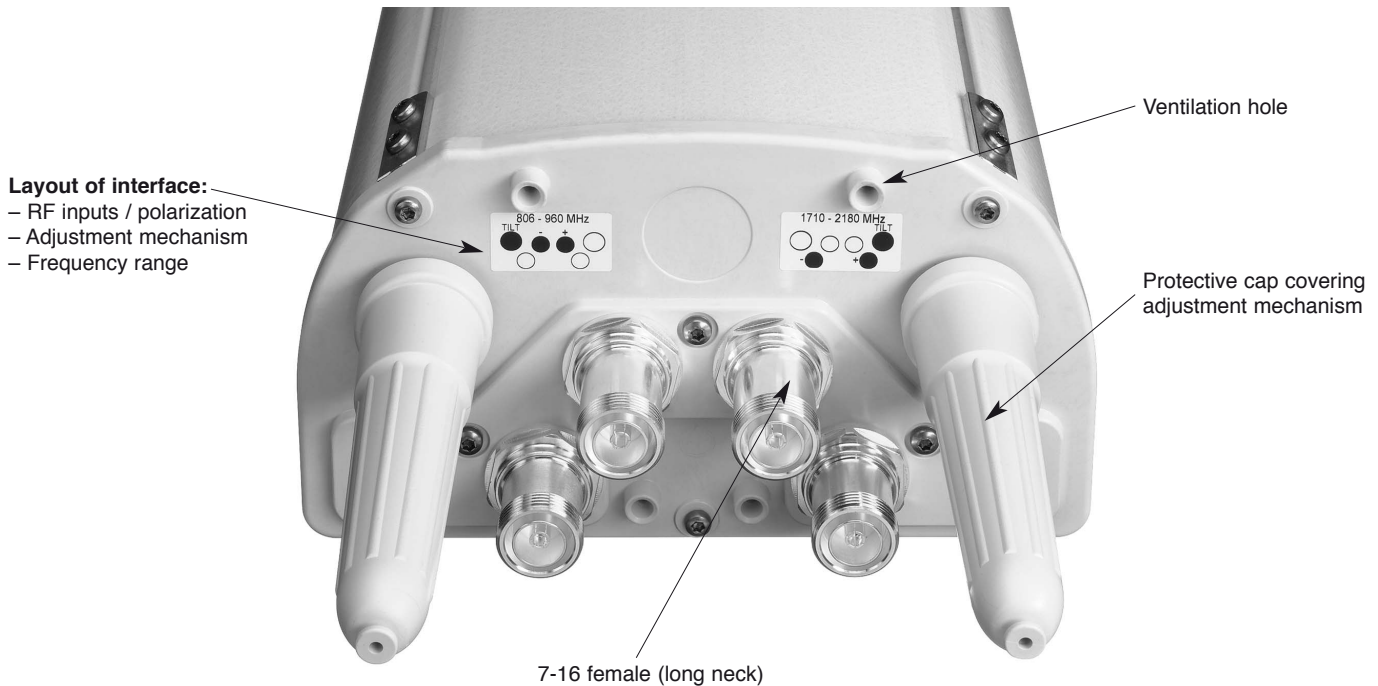
936.3218/b Subject to alteration.



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

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 caps:



Attachment of the feederline connector and RCU (optional):

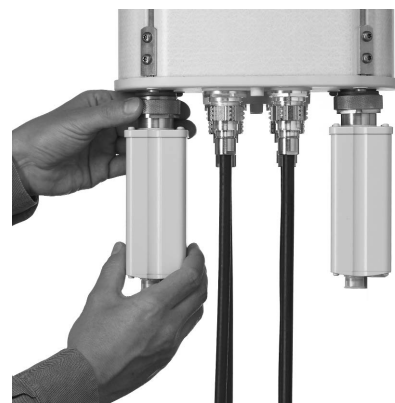
In order to protect the adjustment mechanism the protective caps have to be attached during feederline installation!



Start with the rearside located interfaces. Place the connector carefully and fix the nut using a torque-wrench (according to the manufacturers guidelines).



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



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