

Triple-band Panel

Dual Polarization

Half-power Beam Width

Adjust. Electr. Downtilt

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

806–960 1710–1880 1920–2170

X X X

66° 66° 65°

0°–12° 0°–8° 0°–8°

KATHREIN

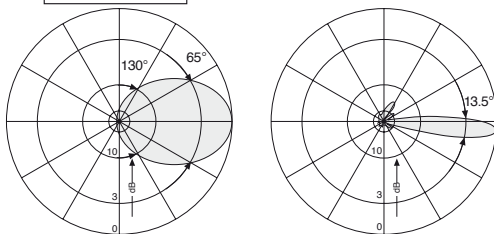
Antennen · Electronic

XXXPol Panel 806–960/1710–1880/1920–2170 66°/66°/65° 15/16.5/17dBi 0°–12°/0°–8°/0°–8°T

Type No.	742 270				
Frequency range	806–960		1710–1880	1920–2170	
	806–866 MHz	824–894 MHz	880–960 MHz	1710–1880 MHz	1920–2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 14.8 dBi	2 x 15 dBi	2 x 15.2 dBi	2 x 16.5 dBi	2 x 17.2 dBi
Horizontal Pattern:					
Half-power beam width	69°	67°	65°	66°	65°
Front-to-back ratio, copolar	> 27 dB	> 27 dB	> 27 dB	> 25 dB	> 25 dB
Cross polar ratio	Typically: 25 dB	Typically: 25 dB	Typically: 25 dB	Typically: 16 dB	Typically: 18 dB
Main direction	0°	0°	0°	0°	0°
Sector	±60°	> 10 dB	> 10 dB	> 10 dB	> 10 dB
Vertical Pattern:					
Half-power beam width	14°	13.6°	13°	6.7°	6.2°
Electrical tilt, contin. adjust.	0.5°–12°			0.5°–8°	0°–8°
Sidelobe suppression for first sidelobe above main beam	0° ... 6° ... 12° T 17 ... 17 ... 14 dB	0° ... 6° ... 12° T 17 ... 17 ... 14 dB	0° ... 6° ... 12° T 18 ... 18 ... 15 dB	0° ... 4° ... 8° T 18 ... 16 ... 14 dB	0° ... 4° ... 8° T 18 ... 16 ... 15 dB
Impedance	50 Ω		50 Ω	50 Ω	
VSWR	< 1.5		< 1.5	< 1.5	
Isolation: Intrasystem	> 30 dB		> 30 dB	> 30 dB	
Isolation: Intersystem	Typically: > 50 dB (806–960 // 1710–1880 MHz) Typically: > 50 dB (806–960 // 1920–2170 MHz) > 30 dB (1710–1880 // 1920–2170 MHz)				
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		< –150 dBc	< –150 dBc	
Max. power per input	250 W		200 W	200 W	
(at 50 °C ambient temperature)					

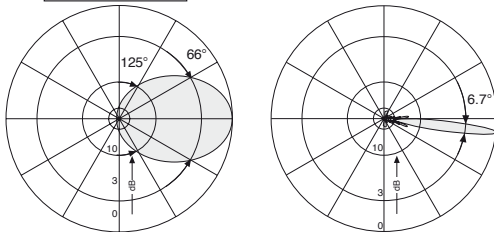


806–960 +45°/–45° Polarization



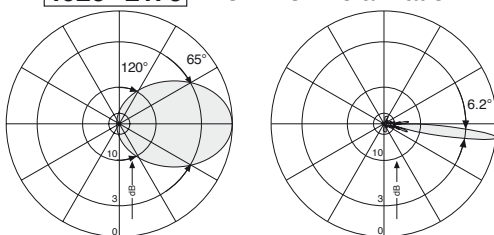
Horizontal Pattern Vertical Pattern
0.5°–12° electrical downtilt

1710–1880 +45°/–45° Polarization

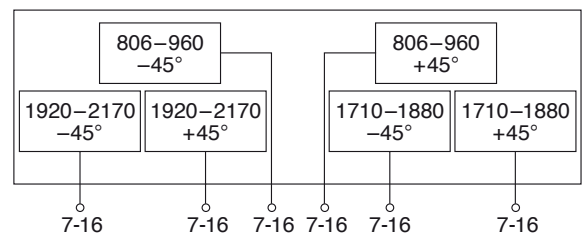


Horizontal Pattern Vertical Pattern
0.5°–8° electrical downtilt

1920–2170 +45°/–45° Polarization



Horizontal Pattern Vertical Pattern
0°–8° electrical downtilt



Mechanical specifications

Input	6 x 7-16 female (long neck)
Connector position	Bottom
Adjustment mechanism	3x, Position bottom continuously adjustable
Weight	22 kg
Wind load	Frontal: 260 N (at 150 km/h) Lateral: 210 N (at 150 km/h) Rearside: 580 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1819 x 304 x 204 mm
Height/width/depth	1498 / 262 / 149 mm

936.3226 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
850 10007	1 downtilt kit	Downtilt angle: 0° – 15°	5.9 kg	1

The downtilt kit can only be used in combination with the clamps type nos. 738 546, 850 10002, 850 10003.

Wall mounting: No additional mounting kit is 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 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 inner conductors 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.

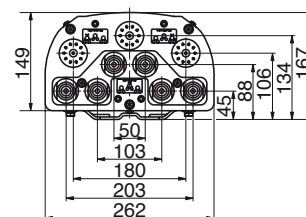
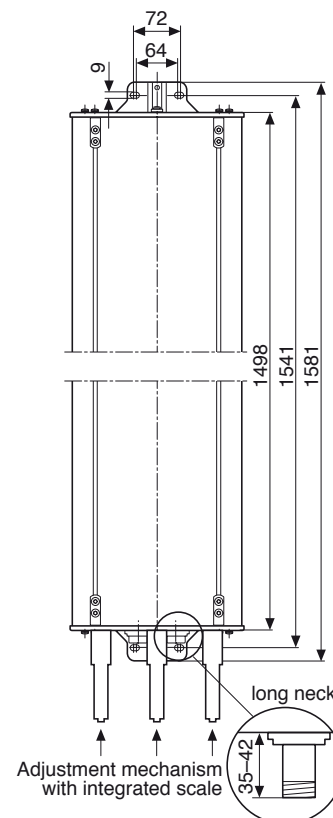
The mechanical design is based on the environmental conditions as stipulated in ETS 300 019-1-4, which includes the static mechanical load imposed on an antenna by wind at maximum velocity. Extraordinary operating conditions, such as heavy icing or exceptional dynamic stress (e.g. strain caused by oscillating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

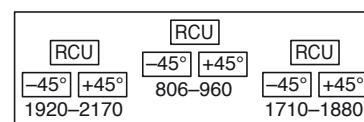
The details given in our data sheets have to be followed carefully when installing the antennas and accessories.

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.



Bottom view
(Dimensions refer to radome)



Layout of interface



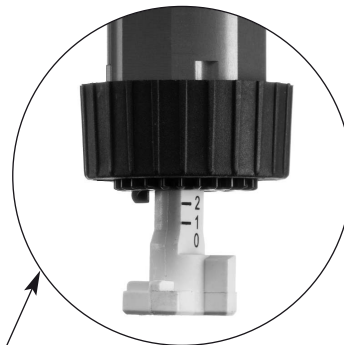
Description of the adjustment mechanism (protective cap removed):



- 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.

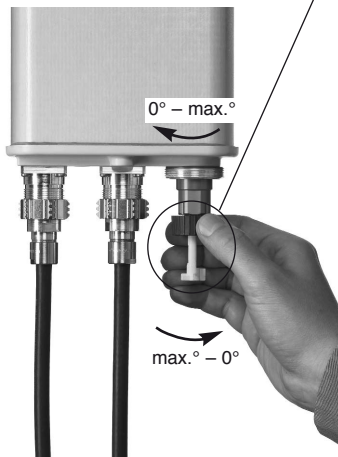


To set the downtilt angle exactly, you must look horizontally at the scale. The lower edge of the gear-wheel must be used for alignment.

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:



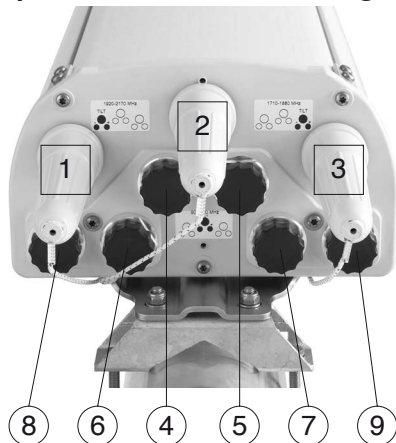
936.3226 Subject to alteration.

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. 850 10005

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:



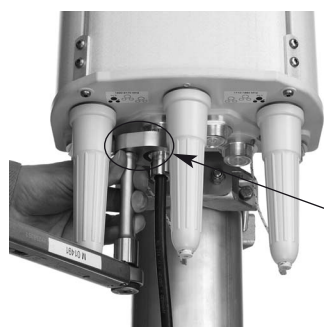
Adjustment mechanisms (1 – 3)

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):

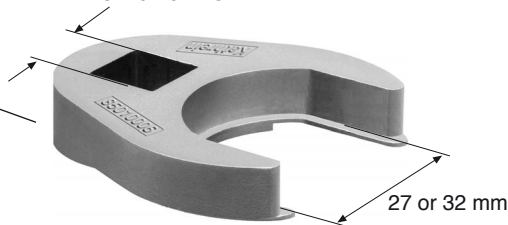
In order to protect the adjustment mechanism the protective caps have to be attached during feederline installation!



Kathrein installation set: Type No. 850 10005 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 mm 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.