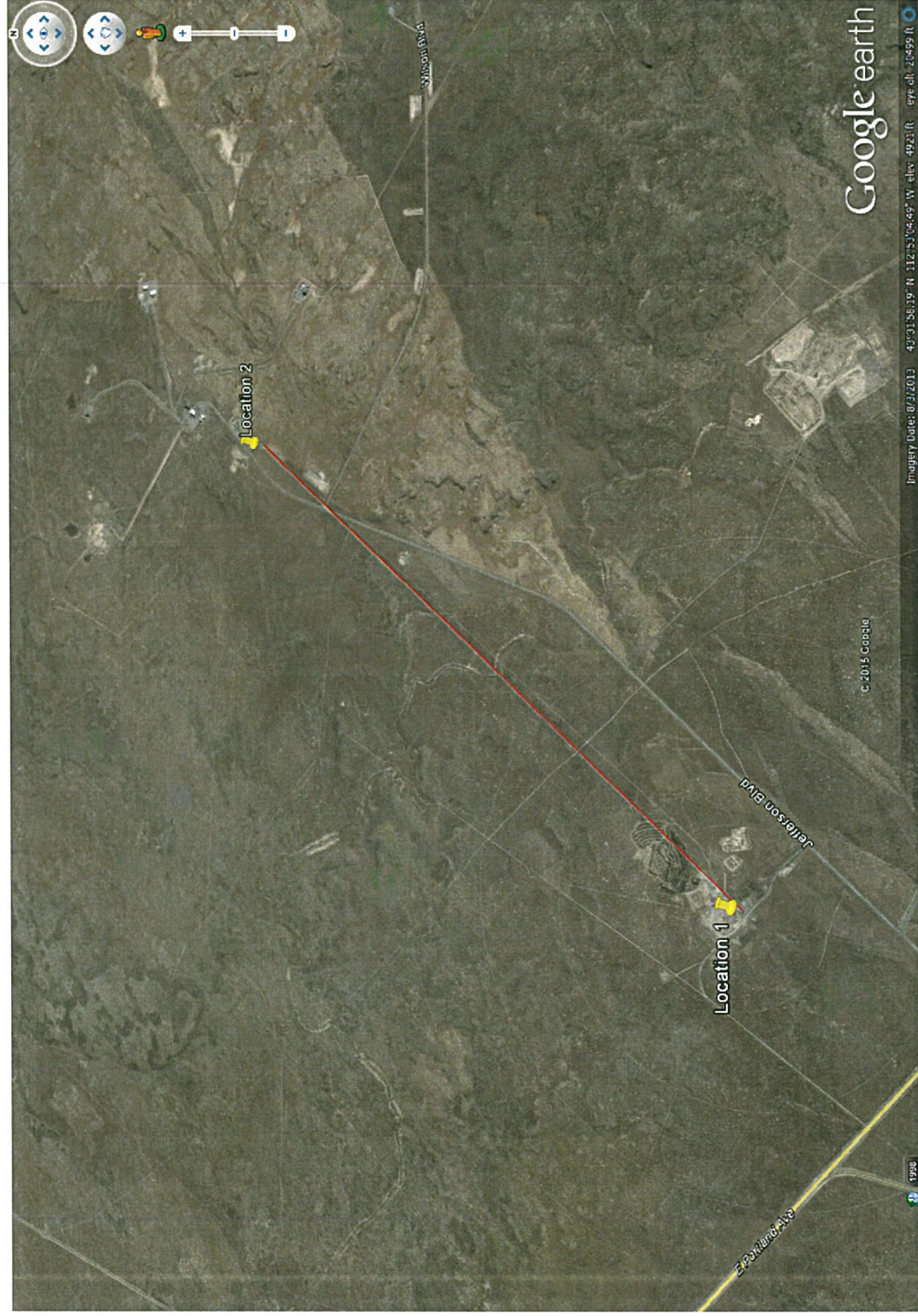


Location1: N 43° 31' 14.84", W 112° 53' 52.51", Heading of 40.94 degrees @ 2.07 miles to Location 2.

Location2: N 43° 32' 36.45", W 112° 52' 15.11", Heading of 220.94 degrees @ 2.07 miles to Location 1.



Kathrein's X-polarized antennas are designed for use in digital polarization diversity systems.

- X-polarized (+45° and -45°).
- UV resistant fiberglass radomes.
- Wideband vector dipole technology.
- DC Grounded metallic parts for impulse suppression.
- RET motor housed inside the radome and field replaceable.

General specifications:

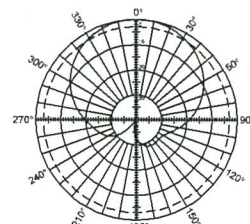
Frequency range	698–894 MHz
VSWR	<1.5:1
Impedance	50 ohms
Intermodulation (2x20w)	IM3: <-150 dBc
Polarization	+45° and -45°
Maximum input power	500 watts per input (at 50°C)
Connector	2 x 7-16 DIN female (long neck) (bottom mounted)
Isolation	>30 dB
Electrical downtilt	0–16 degrees (continuously adjustable)
See reverse for order information.	

Specifications:

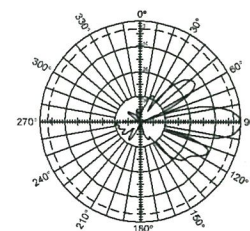
	698–806 MHz	824–894 MHz
Gain	14.2 dBi	14.8 dBi
Front-to-back ratio	>30 dB (co-polar) 32 dB (average)	>30 dB (co-polar) 33 dB (average)
+45° and -45° polarization horizontal beamwidth	68° (half-power)	65° (half-power)
+45° and -45° polarization vertical beamwidth	16° (half-power)	14.8° (half-power)
Min. sidelobe suppression for first sidelobe above main beam average	0° 8° 16° T 16 17 17 dB 16 19 20 dB	0° 8° 16° T 18 17 16 dB 20 20 20 dB
Cross polar ratio		
Main direction 0°	24 dB (typical)	23 dB (typical)
Sector ±60°	>10 dB, Average: 15 dB	>10 dB, Average: 16 dB

IRT specifications:

Logical interface ex factory ¹	3GPP/AISG 2.0
Protocols	AISG 1.1 and 3GPP/AISG 2.0 compliant
Hardware interface ²	2 x 8 pin connector acc. IEC 60130-9; according to AISG: – IRT in (male): Control / Daisy chain in – IRT in (female): Daisy chain out
Power supply	10–30 V
Power consumption	<1 watt (standby) <8.5 watts (motor activated)
Adjustment time (full range)	40 sec.
Adjustment cycles	>50,000
Certification	FCC 15.107 Class B Computing Devices



Horizontal pattern
±45°- polarization

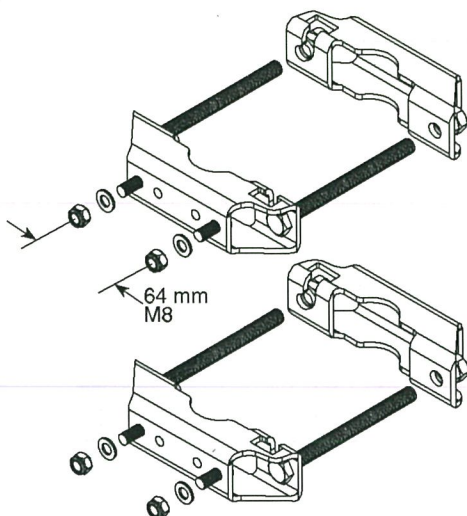


Vertical pattern
±45°- polarization
0°–16° electrical downtilt



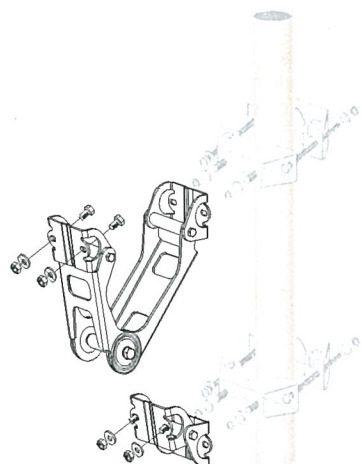
¹ The protocol of the logical interface can be switched from 3GPP/AISG 2.0 to AISG 1.1 and vice versa with a vendor specific command. Start-up operation of the RCU 86010149 is possible in an RET system supporting AISG 1.1 or supporting 3GPP/AISG 2.0 after performing a layer 2 reset before address assignment. The protocol can also be changed as follows: AISG 1.1 to 3GPP: Enter "3GPP" into the additional data field "Installer's ID" and perform a layer 7 reset or a power reset. 3GPP to AISG 1.1: Enter "AISG 1" into the additional datafield "Installer's ID" and perform a layer 2 reset or a power reset. After switching the protocol any other information can be entered into the "Installer's ID" field.

² The tightening torque for fixing the connector must be 0.5 – 1.0 Nm ('hand-tightened'). The connector should be tightened by hand only!



Mounting Brackets

for use with 2-point mount antennas
Mast dia. 2–4.5 inches (50–115 mm)
Weight: 4.4 lb (2 kg)

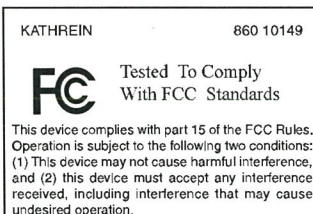
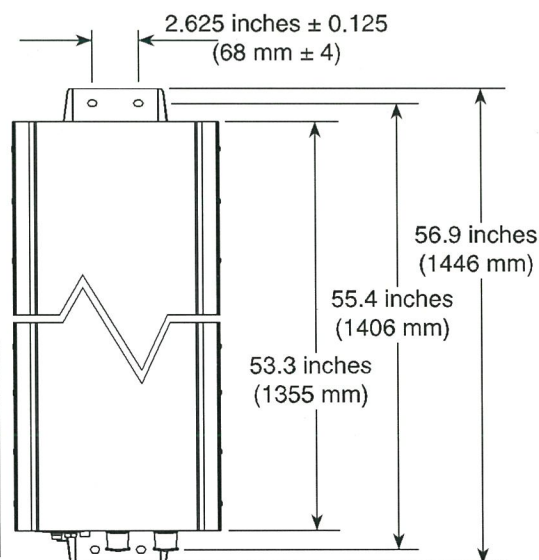


Mechanical Tilt Brackets

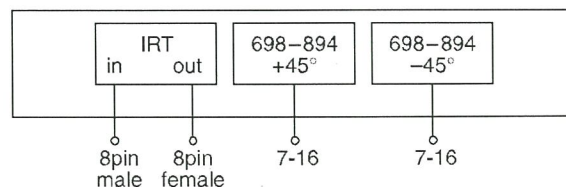
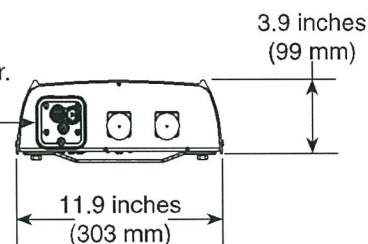
for use with 2-point mount antennas
Weight: 7.4 lb (3.7 kg)
(Model 850 10013)

Mechanical specifications:

Weight	24.3 lb (11 kg)	28.7 lb (13 kg) clamps included
Dimensions	H x W x D	53.3 x 11.9 x 3.9 inches (1355 x 303 x 99 mm)
Wind load	at 93 mph (150kph)	
Front/Side/Rear	140 lbf / 45 lbf / 160 lbf (620 N) / (200 N) / (710 N)	
Mounting category	M (Medium)	
Wind survival rating*	150 mph (240 kph)	
Shipping dimensions	56.3 x 12.4 x 4.5 inches (1430 x 315 x 115 mm)	
Shipping weight	33.1 lb (15 kg)	
Mounting bracket	2-point hot-dip galvanized with stainless steel hardware for 2 to 4.5 inch (50 to 115 mm) OD masts.	



Note: Refer to part number 860 10149 for the specifications of the remote control actuator.



Order Information:

Model	Description
800 10734V01	Antenna with mounting bracket 0°–16° electrical downtilt
800 10734V01K	Antenna with mounting bracket and mechanical tilt bracket 0°–16° electrical downtilt

* Mechanical design is based on environmental conditions as stipulated in TIA-222-G-2 (December 2009) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

Multi-band Panel

Dual Polarization

Half-power Beam Width

Integrated replaceable Remote Control Unit

Adjustable Electrical Downtilt

698–894

X

65°

iRCU

0°–16°

KATHREIN

Antennen · Electronic



XPol Panel iRCU 698–894 65° 15dBi 0°–16°T

Type No.

80010734V01

A) Antenna specifications

	698–894	
Frequency range	698 – 806 MHz	824 – 894 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	12.05 dBd / 14.2 dBi	12.65 dBd / 14.8 dBi
Horizontal Pattern:		
Half-power beam width	68°	65°
Front-to-back ratio	Copolar: > 30 dB Average: 32 dB	Copolar: > 30 dB Average: 33 dB
Cross polar ratio	Typically: > 24 dB	Typically: > 23 dB
Main direction	0°	0°
Sector	±60°	±60°
Vertical Pattern:		
Half-power beam width	16°	14.8°
Electrical tilt	0°–16°, continuously adjustable	
Min. sidelobe suppression for first sidelobe above main beam:	0° ... 8° ... 16° T 16 ... 17 ... 17 dB Average: 16 ... 19 ... 20 dB	0° ... 8° ... 16° T 18 ... 17 ... 16 dB 20 ... 20 ... 20 dB
Impedance	50 Ω	
VSWR	< 1.5	
Isolation, between ports	> 30 dB	
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)	
Max. power per input	500 W (at 50 °C ambient temperature)	



B) iRCU specifications (86010149)*

Field replaceable without dismantling the antenna

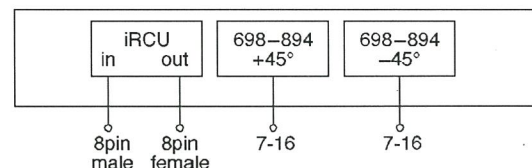
Logical interface ex factory ¹⁾	3GPP/AISG 2.0
Protocols	Compliant to AISG 1.1 and 3GPP/AISG 2.0
Hardware interface ²⁾	2 x 8pin connector acc. IEC 60130-9; according to AISG: – iRCU in (male): Control / Daisy chain in – iRCU out (female): Daisy chain out
Power supply	10 ... 30 V
Power consumption	< 1 W (stand by) < 8.5 W (motor activated)
Adjustment time (full range)	40 sec.
Adjustment cycles	> 50,000
Certification	CE, FC ³⁾

* See mounting instructions and warnings.

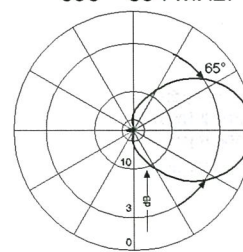
¹⁾ The protocol of the logical interface can be switched from 3GPP/AISG 2.0 to AISG 1.1 and vice versa with a vendor specific command. Start-up operation of the iRCU 86010149 is possible in a RET system supporting AISG 1.1 or supporting 3GPP/AISG 2.0 after performing a layer 2 reset before address assignment. The protocol can also be changed as follows: AISG 1.1 to 3GPP: Enter „3GPP“ into the additional data field „Installer's ID“ and perform a layer 7 reset or a power reset. 3GPP to AISG 1.1: Enter „AISG 1“ into the additional data field „Installer's ID“ and perform a layer 2 reset or a power reset. After switching the protocol any other information can be entered into the „Installer's ID“ field.

²⁾ The tightening torque for fixing the connector must be 0.5 – 1.0 Nm (hand-tightened). The connector should be tightened by hand only!

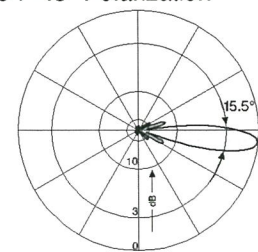
³⁾ Tested to comply with FCC Standards. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



698 – 894 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern

0°–10° electrical downtilt

936.4272 Subject to alteration.

Accessories

General Information

KATHREIN

Antennen · Electronic

C) Mechanical specifications

Input	2 x 7-16 female iRCU in: 1 x 8pin male iRCU out: 1 x 8pin female
Connector position	Bottom
Wind load	Frontal: 620 N (at 150 km/h) 1550 N (at 150 mph) Lateral: 200 N (at 150 km/h) 500 N (at 150 mph) Rearside: 710 N (at 150 km/h) 1770 N (at 150 mph)
Max. wind velocity	241 km/h (150 mph)
Height/width/depth	1355 / 303 / 99 mm (53.3 / 11.9 / 3.9 inches)
Category of mounting hardware	M (Medium)
Weight	11 kg (24 lbs) / 13 kg (27 lbs) (clamps incl.)
Packing size	1430 x 315 x 115 mm (56.3 x 12.4 x 4.5 inches)
Scope of supply	Panel and 2 units of clamps 42 – 115 mm diameter

Material: Reflector screen: Weather-proof aluminum. Radiator: Tin-plated zinc.
iRCU housing: Coated aluminum.
Fiberglass radome: The grey fiberglass radomes of these antennas are very stable and extraordinarily stiff. They are resistant to ultraviolet radiation and can also be painted to match their surroundings.
All screws and nuts: Stainless steel.

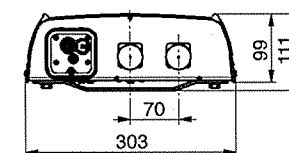
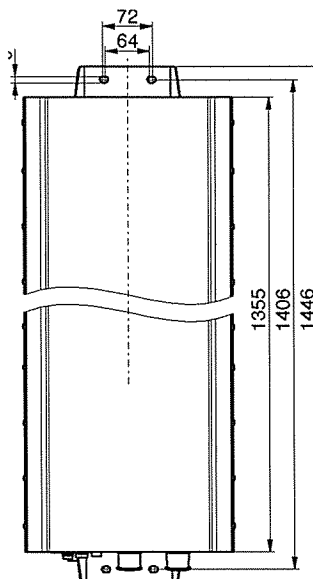
Grounding: The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.

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 fulfil the stated specifications after completion of the environmental tests as defined in ETS 300 019-2-4. The homogenous design of Kathrein's antenna families uses identical modules and materials. Extensive tests have been performed on typical samples and modules.

iRCU additionally fulfil the standards:
EN 60950-1 (Safety), EN 55022 (Emission) and EN 55024 (Immunity)



Bottom view
Dimensions refer to radome.

All dimensions in mm.

Accessories

Type No.	Description	Remarks	Weight approx.		Units per antenna
			kg	lbs	
738546	1 clamp	Mast: 42 – 115 mm diameter	1.1	2.4	2 (included in the scope of supply)
731651	1 clamp	Mast: 28 – 60mm diameter	0.8	1.8	2 (order separately if required)
85010002	1 clamp	Mast: 110 – 220 mm diameter	2.7	6.0	2 (order separately if required)
85010003	1 clamp	Mast: 210 – 380 mm diameter	4.8	10.6	2 (order separately if required)
737978	1 downtilt kit	Downtilt angle: 0° – 15°	2.8	6.2	1 (order separately if required)

Wall mounting: No additional mounting kit needed.

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 and thereby respects the static mechanical load imposed on an antenna by wind at maximum velocity. Wind loads are calculated according to DIN 1055-4. 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.

Commissioning or electrical operation of the antenna without inserted iRCU's is not permitted. 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.
Valid subject to chance.

936.4272 Subject to alteration.

