

6-Port Antenna	R1	Y1	Y2
Frequency Range	698-960	1710-2690	1710-2690
Dual Polarization	X	X	X
HPBW	65°	65°	65°
Adjust. Electr. DT	1.5°-10°	0°-10°	2°-10°

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



6-Port Antenna 698-960/1710-2690/1710-2690 65°/65°/65° 17/17/17dBi 1.5°-10°/0°-10°/2°-10°T

Type No.		80010692v01			
Low band		R1, connector 1-2			
		698-960			
Frequency Range	MHz	698 – 806	790 – 862	824 – 894	880 – 960
Gain at mid Tilt	dBi	16.2	16.7	16.9	17.2
Gain over all Tilts	dBi	16.1 ± 0.5	16.7 ± 0.3	16.8 ± 0.3	17.1 ± 0.4
Horizontal Pattern:					
Azimuth Beamwidth	°	71 ± 2.2	68 ± 1.1	68 ± 0.9	66 ± 1.5
Front-to-Back Ratio, Total Power, ± 30°	dB	> 22	> 25	> 26	> 27
Cross Polar Discrimination at Boresight	dB	> 22	> 23	> 23	> 23
Cross Polar Discrimination over Sector	dB	> 9.0	> 9.5	> 10.0	> 8.0
Vertical Pattern:					
Elevation Beamwidth	°	8.7 ± 0.7	8.0 ± 0.5	7.8 ± 0.4	7.2 ± 0.5
Electrical Downtilt continuously adjustable	°	1.5 – 10.0			
Tilt Accuracy	°	< 0.5	< 0.5	< 0.5	< 0.5
First Upper Side Lobe Suppression	dB	> 17	> 18	> 18	> 16
Cross Polar Isolation	dB	> 30			
Port to Port Isolation	dB	>32 (R1 // Y1 // Y2)			
Max. Effective Power per Port	W	400 (at 50 °C ambient temperature)			

Values based on NGMN-P-BASTA (version 9.6) requirements.



Lower high band		Y1, connector 3-4				
		1710-2690				
Frequency Range	MHz	1710 – 1880	1850 – 1990	1920 – 2170	2300 – 2400	2490 – 2690
Gain at mid Tilt	dBi	16.6	16.7	16.8	16.8	17.1
Gain over all Tilts	dBi	16.5 ± 0.6	16.7 ± 0.3	16.6 ± 0.4	16.6 ± 0.9	16.9 ± 0.6
Horizontal Pattern:						
Azimuth Beamwidth	°	59 ± 3.8	63 ± 5.1	65 ± 3.6	59 ± 7.2	61 ± 2.7
Front-to-Back Ratio, Total Power, ± 30°	dB	> 25	> 26	> 25	> 24	> 23
Cross Polar Discrimination at Boresight	dB	> 16	> 21	> 20	> 17	> 20
Cross Polar Discrimination over Sector	dB	> 8.0	> 10.0	> 9.5	> 8.0	> 10.5
Vertical Pattern:						
Elevation Beamwidth	°	7.6 ± 0.4	7.5 ± 0.3	7.1 ± 0.6	6.1 ± 0.3	6.0 ± 0.2
Electrical Downtilt continuously adjustable	°	0.0 – 10.0				
Tilt Accuracy	°	< 0.4	< 0.3	< 0.4	< 0.6	< 0.3
First Upper Side Lobe Suppression	dB	> 13	> 16	> 17	> 15	> 16
Cross Polar Isolation	dB	> 28				
Port to Port Isolation	dB	>32 (R1 // Y1 // Y2)				
Max. Effective Power per Port	W	200 (at 50 °C ambient temperature)				

Values based on NGMN-P-BASTA (version 9.6) requirements.

Upper high band		Y2, connector 5-6				
		1710-2690				
Frequency Range	MHz	1710 – 1880	1850 – 1990	1920 – 2170	2300 – 2400	2490 – 2690
Gain at mid Tilt	dBi	16.6	16.7	16.6	16.6	17.0
Gain over all Tilts	dBi	16.5 ± 0.5	16.6 ± 0.4	16.5 ± 0.3	16.4 ± 0.9	16.7 ± 0.8
Horizontal Pattern:						
Azimuth Beamwidth	°	61 ± 3.7	64 ± 6.7	65 ± 5.5	63 ± 5.7	65 ± 5.8
Front-to-Back Ratio, Total Power, ± 30°	dB	> 23	> 24	> 25	> 25	> 23
Cross Polar Discrimination at Boresight	dB	> 15	> 20	> 21	> 19	> 14
Cross Polar Discrimination over Sector	dB	> 6.0	> 9.5	> 9.5	> 7.0	> 7.5
Vertical Pattern:						
Elevation Beamwidth	°	6.5 ± 0.4	6.2 ± 0.2	6.0 ± 0.3	5.3 ± 0.3	4.9 ± 0.4
Electrical Downtilt continuously adjustable	°	2.0 – 10.0				
Tilt Accuracy	°	< 0.3	< 0.2	< 0.2	< 0.3	< 0.4
First Upper Side Lobe Suppression	dB	> 14	> 16	> 16	> 20	> 18
Cross Polar Isolation	dB	> 28				
Port to Port Isolation	dB	>32 (R1 // Y1 // Y2)				
Max. Effective Power per Port	W	200 (at 50 °C ambient temperature)				

Values based on NGMN-P-BASTA (version 9.6) requirements.

936.4886/b ngmn 04_19.03.00 Subject to alteration.

Electrical specifications, all systems		
Impedance	Ω	50
VSWR		< 1.5
Return Loss	dB	> 14
Interband Isolation	dB	> 32
Passive Intermodulation	dBc	< -150 (2 x 43 dBm carrier)
Polarization	$^\circ$	+45, -45
Max. Effective Power for the Antenna	W	900 (at 50 °C ambient temperature)

Values based on ngmn-P-BASTA requirements.

Mechanical specifications		
Input		6 x 7-16 female long neck
Connector Position		bottom
Adjustment Mechanism		3x, Position bottom continuously adjustable
Wind load (at Rated Wind Speed: 150 km/h)	N lbf	Frontal: 530 119 Maximal: 845 190
Max. Wind Velocity	km/h mph	200 124
Height / Width / Depth	mm inches	2622 / 300 / 152 103.2 / 11.8 / 6.0
Category of Mounting Hardware		H (Heavy)
Weight	kg lb	31.0 / 33.2 (clamps incl.) 68.3 / 73.2 (clamps incl.)
Packing Size	mm inches	2951 / 322 / 190 116.2 / 12.7 / 7.5
Scope of Supply		Panel, FlexRET and 2 units of clamps for 42-115 mm 1.7-4.5 inches diameter

Accessories (order separately if required)

Type No.	Description	Remarks mm inches	Weight approx. kg lb	Units per antenna
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
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For downtilt mounting use the clamps for an appropriate mast diameter together with the downtilt kit. Wall mounting: No additional mounting kit needed.

Material:

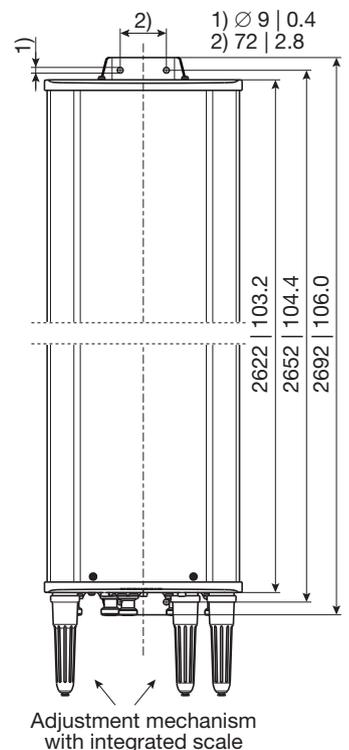
Reflector screen: Aluminum.

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 nuts and bolts: Stainless steel or hot-dip galvanized steel.

Grounding:

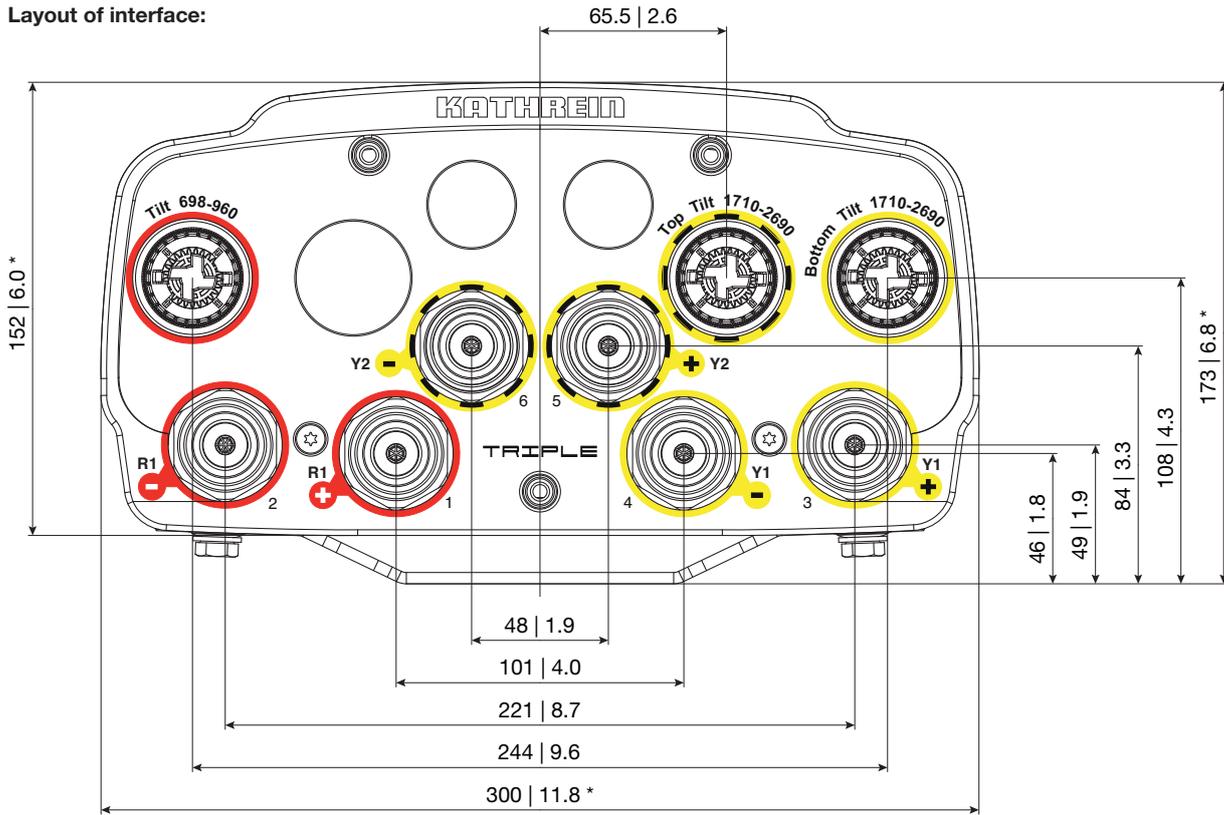
The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.



All dimensions
in mm | inches

936.4886/b ngmn 04_19.03.00 Subject to alteration.

Layout of interface:



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

Correlation Table

Frequency range	Array	Connector
698- 960 MHz	R1	1-2
1710-2690 MHz	Y1	3-4
1710-2690 MHz	Y2	5-6



Any previous data sheet issues have now become invalid.

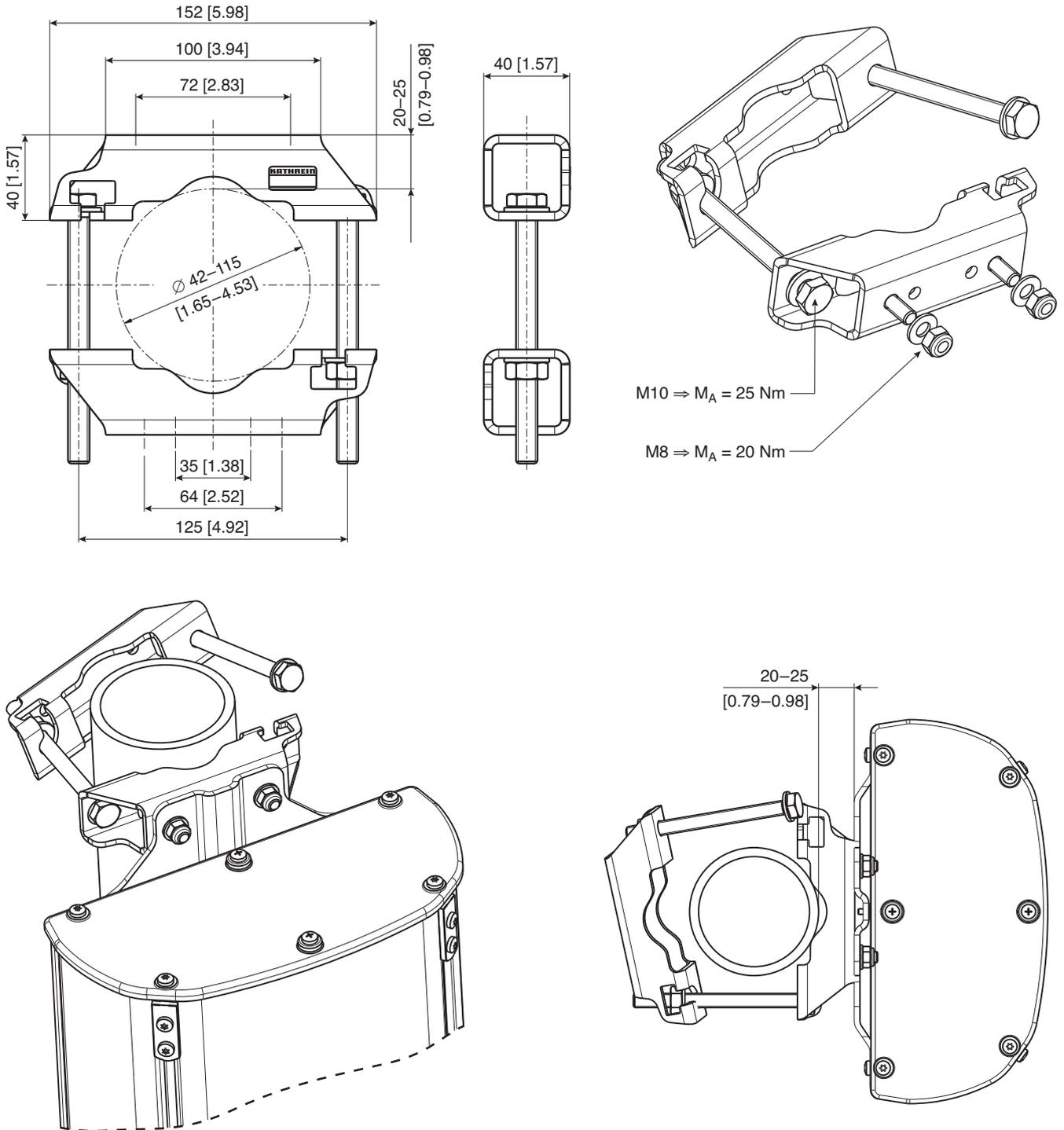
All specifications are subject to change without notice.
 The latest specifications are available at www.kathreinusa.com

Mounting Hardware

Clamp Included in the Scope of Supply

KATHREIN

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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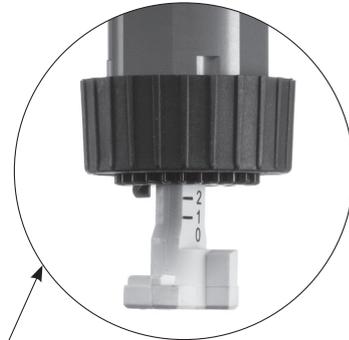
Description of the adjustment mechanism (protective cap removed):



- 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.

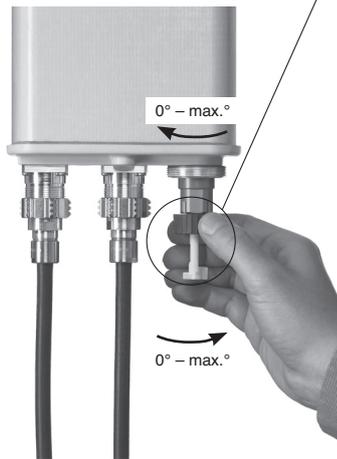


To set the downtilt angle exactly, you must look horizontally at the scale. The lower edge of the gear-wheel must be used for alignment.

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:



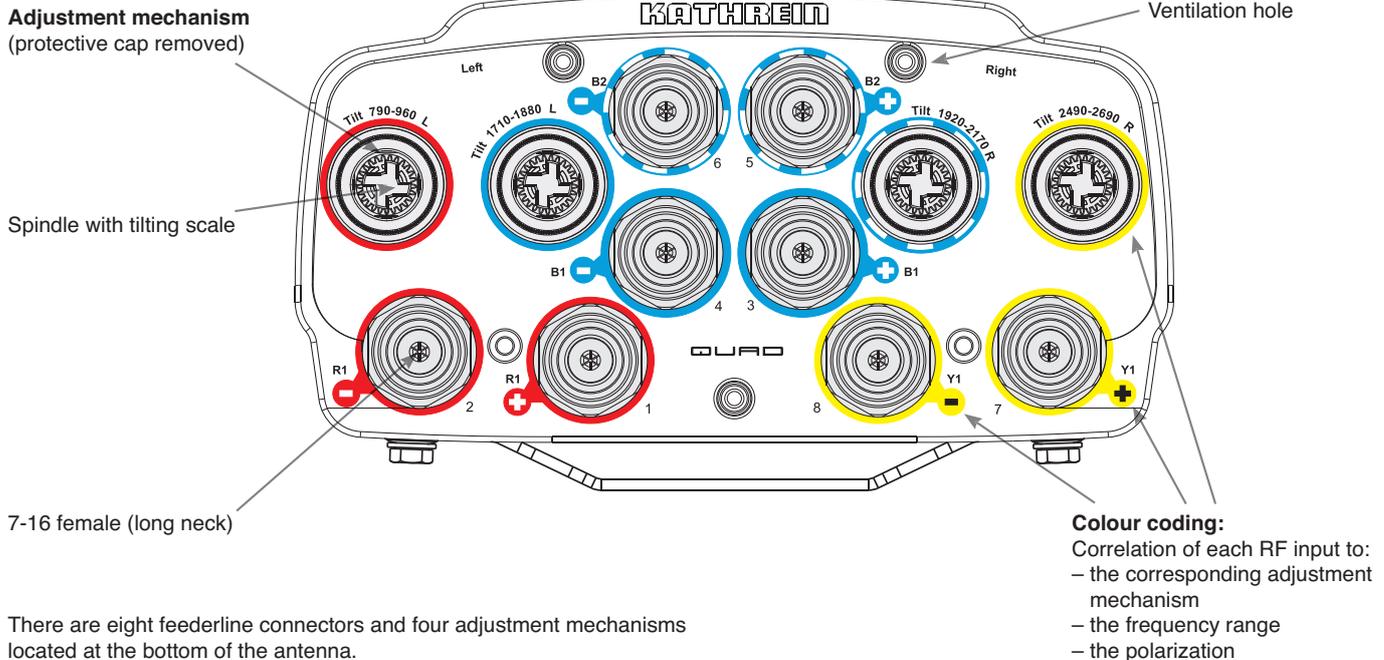
936.4038/a Subject to alteration.

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

General Instructions for Feederline Installation for Triple- and Quad-band Antennas

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 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!



For the feederline installation carefully put the connector in place and hand-screw the nut.
Use a torque-wrench to finish installation.

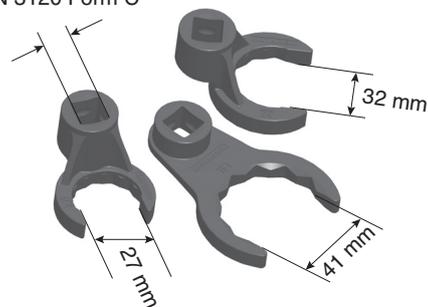
After feederline installation, the optional remote control units (RCU) R1, B1 and Y1 can be mounted if required. For a full description of RCU installation please refer to the respective data sheet.

Kathrein installation set: Type No. 85010077

Set has to be ordered separately!

Set consists of three spanners of 27, 32 and 41 mm width.

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



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

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.