

Dual-Band Combiner

380 (690) - 2180 MHz
 TETRA / LTE 800 / CDMA 850 / GSM 900 / GSM 1800 / UMTS 2100

2400 - 2700 MHz
 WiMAX / LTE 2600

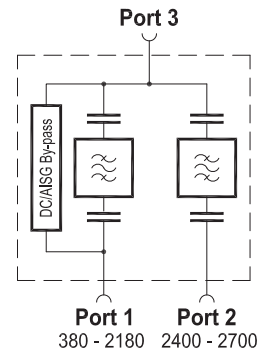
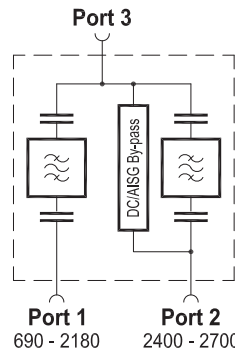
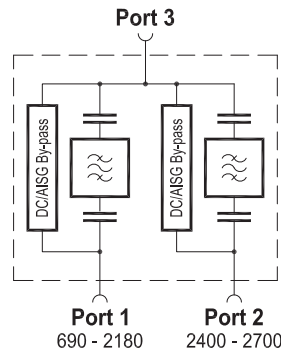
- Designed for co-siting purposes
- Enables feeder sharing
- Can be used as a combiner near the BTS or in a reciprocal function near the antenna
- Suitable for indoor or outdoor applications
- Wall or mast mounting
- Available as a single unit, or for XPol antennas as a double unit
- Built-in lightning protection
- External DC stop available as an accessory
- **Extremely small dimensions and low weight**
- **Very low insertion loss**
- **High input power**



78211180, 78211182, 78211184
 Single Unit



78211181, 78211183, 78211185
 Double Unit



Technical Data

Type No.	78211180 Single Unit	78211182 Single Unit	78211184 Single Unit
	78211181 Double Unit	78211183 Double Unit	78211185 Double Unit
Pass band Band 1 Band 2	690 - 2180 MHz 2400 - 2700 MHz		380 - 2180 MHz 2400 - 2700 MHz
Insertion loss Port 1 ↔ Port 3 Port 2 ↔ Port 3	< 0.2 dB (690 - 2180 MHz) typ. 0.1 dB < 0.15 dB (2400 - 2700 MHz) typ. 0.1 dB		< 0.2 dB (380 - 2180 MHz) typ. 0.1 dB < 0.15 dB (2400 - 2700 MHz) typ. 0.1 dB
Isolation Port 1 ↔ Port 2	> 50 dB (690 - 2180 MHz), > 48 dB (2400 - 2700 MHz)		> 50 dB (380 - 2180 MHz), > 48 dB (2400 - 2700 MHz)
VSWR	< 1.22 (690 - 2180 MHz) < 1.2 (2400 - 2700 MHz)		< 1.22 (1500 - 2180 MHz) / < 1.27 (380 - 1500 MHz) < 1.2 (2400 - 2700 MHz)
Impedance	50 Ω		
Input power Band 1 / Band 2	< 500 W / < 500 W		
Intermodulation products	< -160 dBc (3 rd order; with 2 x 20 W)		
Temperature range	-55 ... +60 °C		
Connectors	7-16 female (long neck)		
Application	Indoor or outdoor (IP 66)		
DC/AISG transparency Port 1 ↔ Port 3 Port 2 ↔ Port 3	By-pass (max. 2500 mA) By-pass (max. 2500 mA)	Stop By-pass (max. 2500 mA)	By-pass (max. 2500 mA) Stop
Lightning protection	3 kA, 10/350 μs pulse		Without lightning protection
Mounting	Wall mounting: With 4 screws (max. 8 mm diameter) / Mast mounting: With additional clamp set		
Weight	Single Unit: 1.5 kg / Double Unit: 2.8 kg		
Packing size	Single Unit: 266 x 196 x 130 mm / Double Unit: 266 x 196 x 180 mm		
Dimensions (w x h x d)	Single Unit: 141 x 119 x 48 mm / Double Unit: 141 x 119 x 98.5 mm (without connectors, without mounting brackets)		

Subject to alteration.

936.4557a

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Accessories (order separately)

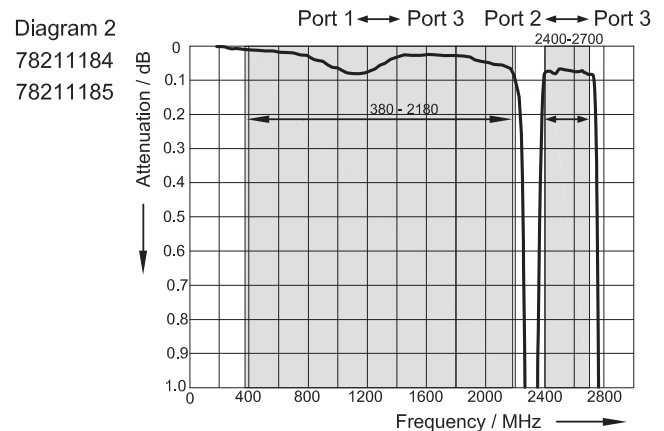
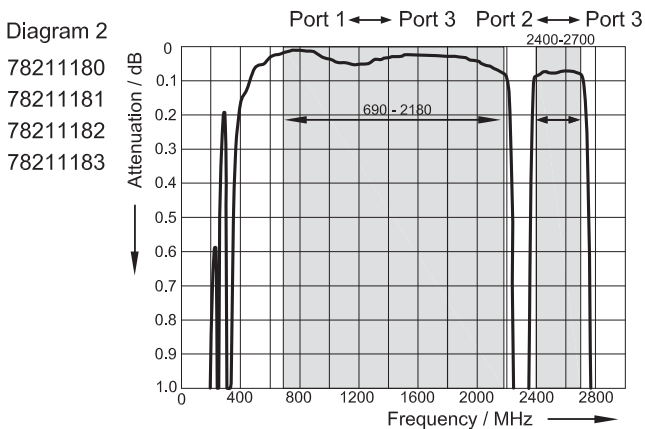
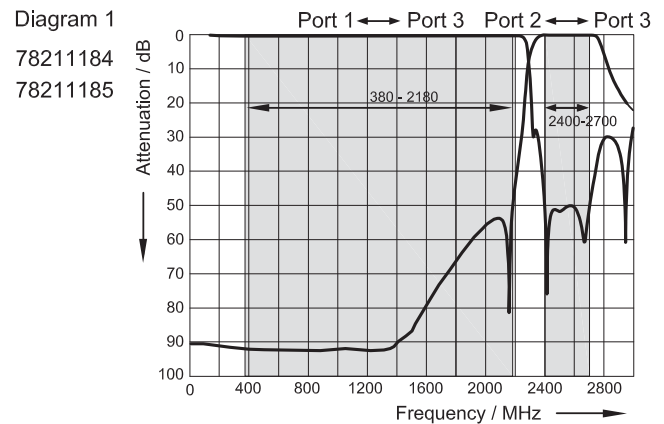
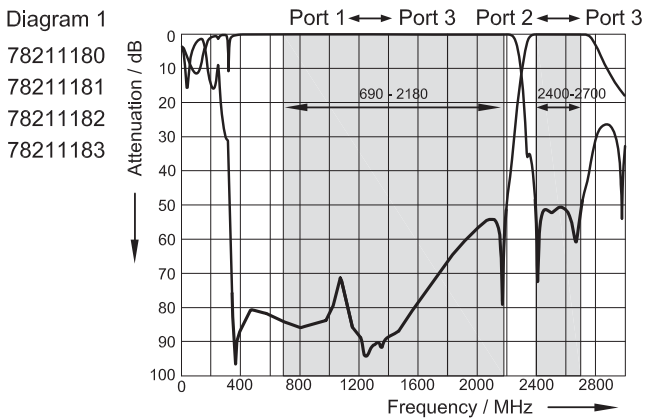
Type No.	Clamp set suitable for mast diameter of
734360	34 - 60 mm
734361	60 - 80 mm
734362	80 - 100 mm
734363	100 - 120 mm
734364	120 - 140 mm
734365	45 - 125 mm
*1311847	50 - 145 mm

* U.S. Customers order 1311847

Type No.	Clamp set suitable for mast diameter of
78210850V01	DC stop
78410367	50-Ohm load



Typical Attenuation Curves



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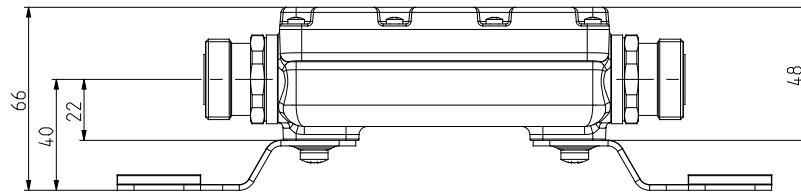
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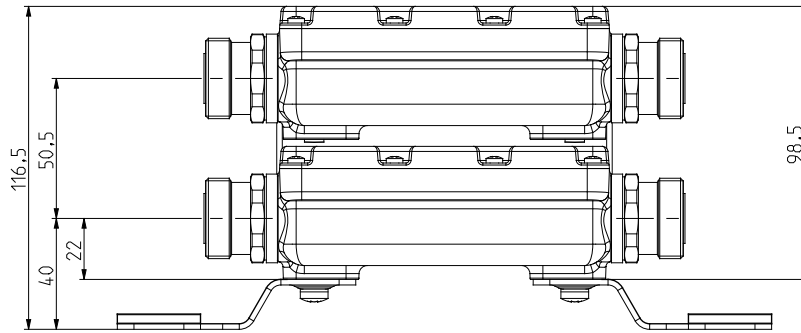
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Dimensions

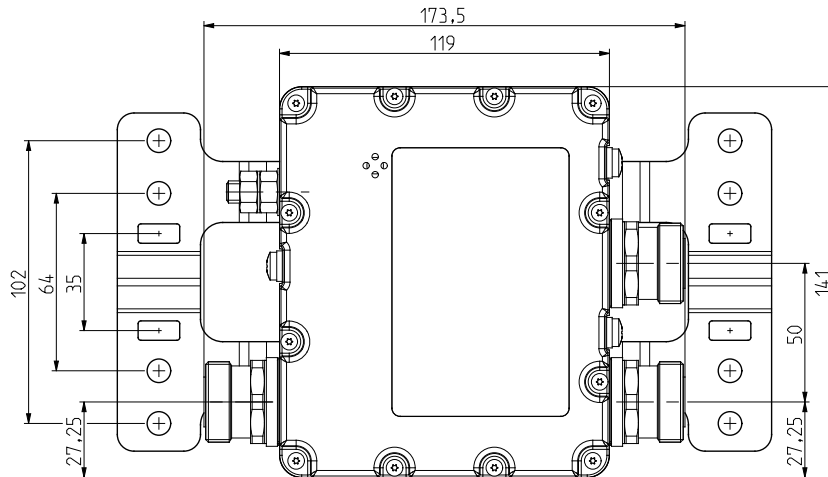
Side view
Single Unit



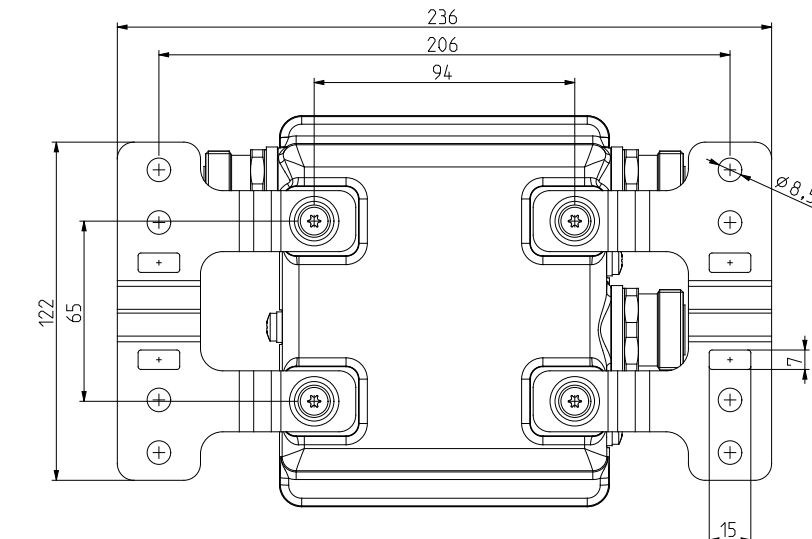
Side view
Double Unit



Top view
Single Unit,
Double Unit



Bottom view
Single Unit,
Double Unit



Subject to alteration.

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

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

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Please Note:

The mounting plates can be removed by loosening the screws  to  (M5 x 12) and replaced with other means of mounting, always provided that the max. drilled depth of 7.5 mm is respected with the choice of replacement screws.

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.

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 a mast mounted device or even cause it to fall to the ground.

These facts must be considered during the site planning process.

The Dual-band Combiners are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1 E and have passed environmental tests as recommended in ETS 300 019-2-4.

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 combiners and accessories.

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

Terminate unused inputs with a suitable 50-Ohm load, e.g. 784 10367.

Any previous datasheet issues have now become invalid.

