Hybrid Combiner System
8 : 4 / 8 : 4 / 12 : 4 / 16 : 4

- **Point of Interface (POI)** for coverage solutions with passive **Distributed Antenna Systems (DAS)**
- Designed for the decoupled combining of 8/12/16 transmitter or receiver signals and distributing these signals evenly onto 4 antenna outputs.
- Suitable for indoor or outdoor applications
- External 50 Ohm loads available as an accessory

### Technical Data

<table>
<thead>
<tr>
<th>Type No.</th>
<th>78211141 8 : 4</th>
<th>78211142 8 : 4</th>
<th>78211143 12 : 4</th>
<th>78211144 16 : 4</th>
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</thead>
</table>
| Frequency range
  Band 1       | 698 - 960 MHz  | 1710 - 1880 MHz| 1710 - 1880 MHz | 698 – 960 MHz   |
  Band 2       | 1710 - 2690 MHz| 1920 - 2170 MHz| 1920 - 2170 MHz | 1710 – 1880 MHz|
  Band 3       |                |                |                 | 1920 - 2170 MHz|
  Band 4       |                |                |                 | 2500 – 2690 MHz|
| Power distribution loss (excluding insertion loss)
  Input 1...8/12/16 ↔ Output 1...4 | 6 ± 0.8 dB | Typically 6.5 dB |
| Insertion loss
  Input 1...8/12/16 ↔ Output 1...4 | < 0.7 dB |                              |
| Isolation between input ports
  Same bands   | > 22 dB *)       |
  Different bands| > 50 dB         |
| VSWR (all ports) | < 1.5         |
| Impedance    | 50 Ω            |
| Input power at each input port | < 75 W      | < 75 W      | < 50 W      | < 50 W      |
| Intermodulation products | < -155 dBc (3rd order; with 2 x 20 W) |
| Temperature range | -40 ... +60 °C |
| Connectors   | 7-16 female     |
| Application  | Indoor or Outdoor (IP 66) |
| Mounting     | Wall mounting: With 4 screws (max. 6 mm diameter) / 19"-drawer |
| Weight       | 12 kg           | 15 kg        | 18.5 kg       | 21.5 kg       |
| Packing size (w x h x d) | 570 x 272 x 584 mm |
| Dimensions   | 19" drawer x 189.5 x 374 mm | 19" drawer x 183 x 374 mm | 19" drawer x 190 x 374 mm | 19" drawer x 187.25 x 374 mm |

* Valid if all ports are terminated with 50-Ohm loads

**Note:**
The use of fewer than 8/12/16 inputs or 4 outputs is possible. Any unused input ports have to be terminated with low-power 50-Ohm loads (e.g. Kathrein type 78410367), unused output ports have to be terminated with high-power 50-Ohm loads (e.g. Kathrein low intermodulation type 78210474).

All specifications are subject to change without notice.
The latest specifications are available at www.kathreinusa.com
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Accessories (order separately)

<table>
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<th>Type No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>78410367</td>
<td>50-Ohm load (1.5 W)</td>
</tr>
<tr>
<td>78210474</td>
<td>50-Ohm load (80 W)</td>
</tr>
</tbody>
</table>

50-Ohm load

50-Ohm load

Application Example

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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.

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 Hybrid Combiner is 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 combiner 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.