

MMU 2/..., MMU 4/...

Cable Splitter/Combiners for Coupling 2 or 4 Antennas together to a Common Feeder

DESCRIPTION

- Using these cable matching harnesses, two or four antennas can be coupled together and fed in phase keeping a low SWR and minimum insertion loss.
- The purpose of coupling antennas in a group may be to achieve either higher gain or to create a special shape of the radiation pattern.
- When the number of antennas in a colinear array is doubled, the gain increases by approx. 3 dB (less cable losses).
- The branches of the harness are impedance transforming sections and must not be shortened.
- Extra jumper cable sections may be necessary to reach each antenna. Such sections must be made with exactly equal length to be sure that the antennas are fed in phase.
- The branches are terminated with type N-male connectors (N-females for MMU 2/900 and MMU 4/900) and the feeder end with type N-female connector. The harnesses are normally fixed to the supporting structure using plastic binders.
- The harnesses are fully waterproof and protected against hostile environments.
- MMU 2/...-MAMO and MMU 4/...-MAMO are supplied with stainless steel "U" bolts.
- MMU 2/...-WAMO and MMU 4/...-WAMO are supplied with a mounting plate, which has holes for binders or screws.



80 MHz / 160 MHz



450 MHz



900 MHz

| ORDERING DESIGNATIONS | | |
|-----------------------|------------------|------------------|
| FREQ. | TYPE | TYPE |
| | 2-divider | 4-divider |
| 66–80 MHz | MMU 2/80 | MMU 4/80/l |
| 74–88 MHz | | MMU 4/80/h |
| 144–175 MHz | MMU 2/160 | MMU 4/160 |
| 380–430 MHz | MMU 2/405 | MMU 4/405 |
| 406–470 MHz | MMU 2/450 | MMU 4/450 |
| 820–900 MHz | MMU 2/900/l-WAMO | MMU 4/900/l-WAMO |
| 820–900 MHz | MMU 2/900/l-MAMO | MMU 4/900/l-MAMO |
| 870–960 MHz | MMU 2/900/h-WAMO | MMU 4/900/h-WAMO |
| 870–960 MHz | MMU 2/900/h-MAMO | MMU 4/900/h-MAMO |

| TYPE NO. | MMU 2/80 | MMU 2/160 | MMU 2/405 | MMU 2/450 |
|---|---|----------------------|----------------------|----------------------|
| NO. OF BRANCHES | 2 | | | |
| ELECTRICAL | | | | |
| FREQUENCY RANGE (MHz) | 66–88 | 144–175 | 380–430 | 406–470 |
| IMPEDANCE | Nom. 50 Ω (All terminals) | | | |
| SWR | ≤ 1.3 within the band (Branches terminated with 50 Ω) | | | |
| FUNDAMENTAL BRANCHING LOSS | 3 dB | | | |
| ADDITIONAL INSERTION LOSS (PER BRANCH) | 0.30dB | 0.25dB | 0.24dB | 0.24dB |
| MAX. POWER ON FEEDER TERMINAL | 200 W | 150 W | 100 W | 100 W |
| MECHANICAL | | | | |
| TEMP. RANGE | -25°C → +60°C | | | |
| CONNECTORS, Antenna term. | N-male | | | |
| CONNECTOR, Feeder term. | N-female | | | |
| DIMENSIONS Distance from feeder terminal to branch terminals (Approx.) | 1.24 m | 0.93 m | 0.90 m | 0.90 m |
| WATERPROOFNESS | All cable junctions hermetically sealed (moulded) | | | |
| WEIGHT | 0.55 kg | 0.50 kg | 0.55 kg | 0.55 kg |
| WIND SURFACE (Approx.) | 0.021 m ² | 0.018 m ² | 0.010 m ² | 0.010 m ² |

| TYPE NO. | MMU 2/900/ I-WAMO | MMU 2/900/ I-MAMO | MMU 2/900/ h-WAMO | MMU 2/900/ h- MAMO |
|---|---|-------------------------|-------------------------|-----------------------------|
| NO. OF BRANCHES | 2 | | | |
| ELECTRICAL | | | | |
| FREQUENCY RANGE (MHz) | 820–900 | 820–900 | 870–960 | 870–960 |
| IMPEDANCE | Nom. 50 Ω (All terminals) | | | |
| SWR | ≤ 1.3 within the band (Branches terminated with 50 Ω) | | | |
| FUNDAMENTAL BRANCHING LOSS | 3 dB | | | |
| ADDITIONAL INSERTION LOSS (PER BRANCH) | 0.23 dB | 0.23 dB | 0.23 dB | 0.23 dB |
| MAX. POWER ON FEEDER TERMINAL | 75 W | 75 W | 75 W | 75 W |
| MECHANICAL | | | | |
| TEMP. RANGE | -25°C → +60°C | | | |
| CONNECTORS, Antenna term. | N-female | | | |
| CONNECTOR, Feeder term. | N-female | | | |
| DIMENSIONS Distance from feeder terminal to branch terminals (Approx.) | 0.04 m | 0.04 m | 0.04 m | 0.04 m |
| WATERPROOFNESS | All cable junctions hermetically sealed (moulded) | | | |
| WEIGHT | 0.55 kg | 0.7 kg | 0.55 kg | 0.7 kg |
| WIND SURFACE (Approx.) | 0.022 m ² | 0.022 m ² | 0.022 m ² | 0.022 m ² |

| TYPE NO. | MMU 4/80/I | MMU 4/80/h | MMU 4/160 | MMU 4/405 | MMU 4/450 |
|---|---|---------------------|---------------------|---------------------|---------------------|
| NO. OF BRANCHES | 4 | | | | |
| ELECTRICAL | | | | | |
| FREQUENCY RANGE (MHz) | 66–80 | 74–88 | 144–175 | 380–430 | 406–470 |
| IMPEDANCE | Nom. 50 Ω (All terminals) | | | | |
| SWR | ≤ 1.3 within the band (Branches terminated with 50 Ω) | | | | |
| FUNDAMENTAL BRANCHING LOSS | 6 dB | | | | |
| ADDITIONAL INSERTION LOSS (PER BRANCH) | 0.60 dB | 0.60 dB | 0.55 dB | 0.50 dB | 6 dB |
| MAX. POWER ON FEEDER TERMINAL | 200 W | 200 W | 150 W | 100 W | 100 W |
| MECHANICAL | | | | | |
| TEMP. RANGE | -25°C → +60°C | | | | |
| CONNECTORS, Antenna term. | N-male | | | | |
| CONNECTOR, Feeder term. | N-female | | | | |
| DIMENSIONS Distance from feeder terminal to branch terminals (Approx.) | 6.7 m | 6.7 m | 2.1 m | 1.45 m | 1.45 m |
| WATERPROOFNESS | All cable junctions hermetically sealed (moulded) | | | | |
| WEIGHT | 4.3 kg | 4.4 kg | 1.6 kg | 1.4 kg | 1.4 kg |
| WIND SURFACE (Approx.) | 0.250m ² | 0.244m ² | 0.120m ² | 0.070m ² | 0.070m ² |

| TYPE NO. | MMU 4/900 /I- WAMO | MMU 4/900 /I-MAMO | MMU 4/900 /h- WAMO | MMU 4/900 /h- MAMO |
|---|---|-------------------------|-----------------------------|-----------------------------|
| NO. OF BRANCHES | 4 | | | |
| ELECTRICAL | | | | |
| FREQUENCY RANGE (MHz) | 820–900 | 820–900 | 870–960 | 870–960 |
| IMPEDANCE | Nom. 50 Ω (All terminals) | | | |
| SWR | ≤ 1.3 within the band (Branches terminated with 50 Ω) | | | |
| FUNDAMENTAL BRANCHING LOSS | 3 dB | | | |
| ADDITIONAL INSERTION LOSS (PER BRANCH) | 0.45 dB | 0.45 dB | 0.45 dB | 0.45 dB |
| MAX. POWER ON FEEDER TERMINAL | 75 W | 75 W | 75 W | 75 W |
| MECHANICAL | | | | |
| TEMP. RANGE | -25°C → +60°C | | | |
| CONNECTORS, Antenna term. | N-female | | | |
| CONNECTOR, Feeder term. | N-female | | | |
| DIMENSIONS Distance from feeder terminal to branch terminals (Approx.) | 0.044 m | 0.044 m | 0.044 m | 0.044 m |
| WATERPROOFNESS | All cable junctions hermetically sealed (moulded) | | | |
| WEIGHT | 0.675kg | 0.825kg | 0.675kg | 0.825kg |
| WIND SURFACE (Approx.) | 0.022m ² | 0.022m ² | 0.022m ² | 0.022m ² |



PROCOM A/S reserve the right to amend specifications without prior notice.

29/10/2010