

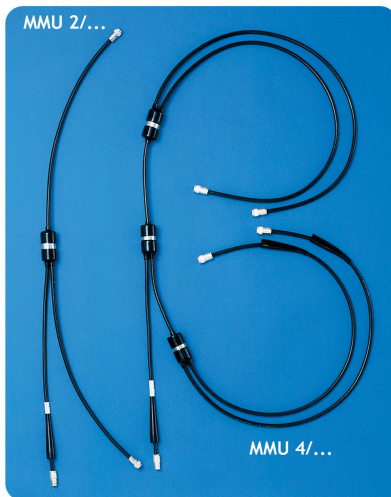
## MMU 2/..., MMU 4/...

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

TYPE	PRODUCT NO.	TYPE	PRODUCT NO.	FREQ.
2-divider		4-divider		
MMU 2/80	120000082	MMU 4/80/l	120000092	66–80 MHz
		MMU 4/80/h	120000083	74–88 MHz
MMU 2/160	120000086	MMU 4/160	120000089	144–175 MHz
MMU 2/405	120000104	MMU 4/405	120000103	380–430 MHz
MMU 2/450	120000087	MMU 4/450	120000090	406–470 MHz
MMU 2/900/l-WAMO	100000316	MMU 4/900/l-WAMO	100000319	820–900 MHz
MMU 2/900/l-MAMO	100000280	MMU 4/900/l-MAMO	100000317	820–900 MHz
MMU 2/900/h-WAMO	100000315	MMU 4/900/h-WAMO	100000320	870–960 MHz
MMU 2/900/h-MAMO	100000284	MMU 4/900/h-MAMO	100000318	870–960 MHz

SPECIFICATIONS

TYPE NO.	MMU 2/80	MMU 2/160	MMU 2/405	MMU 2/450
NO. OF BRANCHES	2			
<b>ELECTRICAL</b>				
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
<b>MECHANICAL</b>				
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 <sup>2</sup>	0.018 m <sup>2</sup>	0.010 m <sup>2</sup>	0.010 m <sup>2</sup>

TYPE NO.	MMU 2/900/ l- WAMO	MMU 2/900/ l- MAMO	MMU 2/900/ h- WAMO	MMU 2/900/ h- MAMO
NO. OF BRANCHES	2			
<b>ELECTRICAL</b>				
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
<b>MECHANICAL</b>				
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 <sup>2</sup>	0.022 m <sup>2</sup>	0.022 m <sup>2</sup>	0.022 m <sup>2</sup>

TYPE NO.	MMU 4/80/L	MMU 4/80/H	MMU 4/160	MMU 4/405
NO. OF BRANCHES	4			
<b>ELECTRICAL</b>				
FREQUENCY RANGE (MHz)	66–80	74–88	144–175	380-430
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
MAX. POWER ON FEEDER TERMINAL	200 W	200 W	150 W	100 W
<b>MECHANICAL</b>				
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
WATERPROOFNESS	All cable junctions hermetically sealed (moulded)			
WEIGHT	4.3 kg	4.4 kg	1.6 kg	1.4 kg
WIND SURFACE (Approx.)	0.250 m <sup>2</sup>	0.244 m <sup>2</sup>	0.120 m <sup>2</sup>	0.070 m <sup>2</sup>

TYPE	MMU 4/450	MMU 4/900 /l- WAMO	MMU 4/900 /l- MAMO	MMU 4/900 /h- WAMO	MMU 4/900 /h- MAMO
NO. OF BRANCHES	4				
<b>ELECTRICAL</b>					
FREQUENCY RANGE (MHz)	406–470	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	6 dB				
ADDITIONAL INSERTION LOSS (PER BRANCH)	0.50 dB	0.45 dB	0.45 dB	0.45 dB	0.45 dB
MAX. POWER ON FEEDER TERMINAL	100 W	75 W	75 W	75 W	75 W
<b>MECHANICAL</b>					
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.)	1.45 m	0.044 m	0.044 m	0.044 m	0.044 m
WATERPROOFNESS	All cable junctions hermetically sealed (moulded)				
WEIGHT	1.4kg	0.675kg	0.825kg	0.675kg	0.825kg
WIND SURFACE (Approx.)	0.070m <sup>2</sup>	0.022m <sup>2</sup>	0.022m <sup>2</sup>	0.022m <sup>2</sup>	0.022m <sup>2</sup>



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

03/09/14