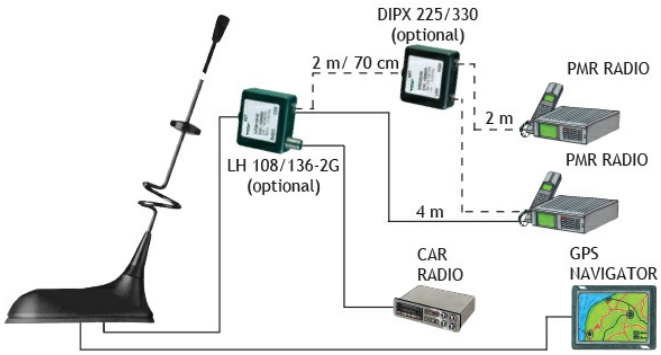
GPS Antenna with WHip for the 160 MHz, 450 MHz and FM Bands



DESCRIPTION

- External antenna whip mounted on the GPS-Combi mount.
  - Black-chromed, conical stainless steel whip.
  - Easily removable whip for cleaning in car-washing machine.
- GPS-antenna for fixed installations.
  - Full hemispherical coverage.
  - Built-in high gain, low noise amplifier.
  - Right-Hand Circularly Polarized antenna (RHCP).
  - 5 V supply voltage (3 V respectively 12 V available on request).
  - DC supply via RF-connector.
  - Unity gain for the 160 MHz band and 3 dB gain for the 450 MHz band.
- When ordering the antenna, please state the centre frequency on each band.

CONNECTION DIAGRAM



SPECIFICATIONS

Electrical	
Model	GPS-C MHU 3/FM
Frequency	160 MHz : F.res. within : 140 - 170 MHz 450 MHz : F.res. within : 400 - 470 MHz FM band : 88 - 108 MHz
Antenna Type	Triple-frequency antenna
Max. Input Power	25 W
Polarisation	Vertical
Impedance	50 Ω
VSWR	< 1.3:1 @ f.res.
Gain (EIA RS-329-1)	160 MHz : 0 dB (acc. to EIA RS-329-1) 450 MHz : 3 dB (acc. to EIA RS-329-1)

Mechanical	
Materials	Black-chromed, concial stainless steel Black-chromed brass
Colour	Black
Max. Roof Thickness	2.5 mm / 0.10 in.
Height	Approx. 450 mm / 17.72 in.
Weight	Approx. 0.06 kg / 0.13 lb.
Mounting	On the GPS-Combi mount

GPS Antenna	
P1dB (GPS Amplifier)	Approx. +7 dBm
Coverage (GPS)	Hemispherical
Gain (GPS)	28 dBic in axial direction (typ.)
Connection(s) (GPS)	FME(m) (male for GPS) + FME(f) (female for mobile antenna)
Mounting (GPS)	ø18.0 mm dia. hole for roof thickness up to 2.0 mm ø18.5 mm dia. hole for roof thickness 2.0 - 2.5 mm Tools for mounting included
Antenna Type (GPS)	Active patch antenna
Noise Figure (GPS Amplifier)	< 1 dB (typ.)
Cross Polar Discrimination (GPS)	> 10 dB (typ.)
Gain (GPS Amplifier)	> 30 dB (typ.)
VSWR (GPS Amplifier)	< 2.0:1
Operating Temperature Range (GPS)	-35 °C to +75 °C
Selectivity (GPS)	> 45 dB down @ ± 45 MHz
Installation Torque (GPS)	4 ± 0.5 Nm
Frequency (GPS)	1575 MHz
Weight (GPS)	Approx. 0.114 kg / 0.25 lb.
Power Supply (GPS)	5 ± 0.5 V DC (3 V resp. 12 V on request)
Current Consumption (GPS Amplifier)	Approx. 25 mA
Dimensions (GPS)	Approx. 30 x 89 mm / 0.9 x 2.9 in.
Max. Roof Thickness (GPS)	2.5 mm / 0.10 in.
Polarisation (GPS)	RHCP
Impedance (GPS)	50 Ω
Materials (GPS)	Cu-nite brass Stainless steel Reinforced thermoplastic

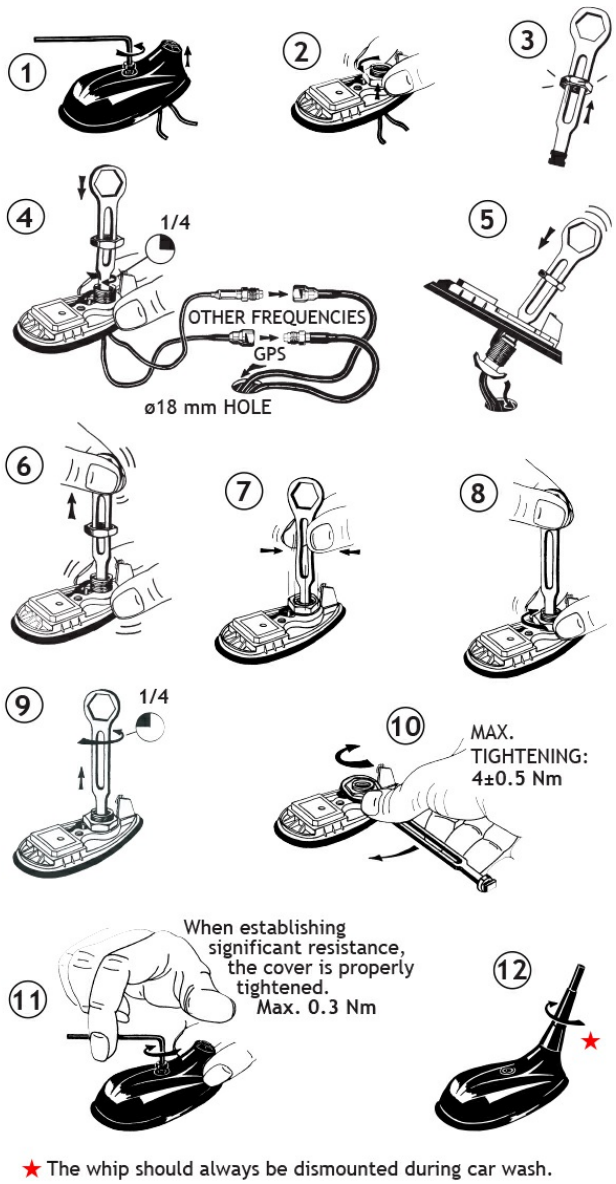
ORDERING

Model	Product No.
GPS-C MHU 3/FM	132000072
Accessories	
LH 108/136-1G (optional)	200000769
LH 108/136-2G (optional)	200000762
DIPX 225/330-FME (optional)	200000670

ORDERING NOTE

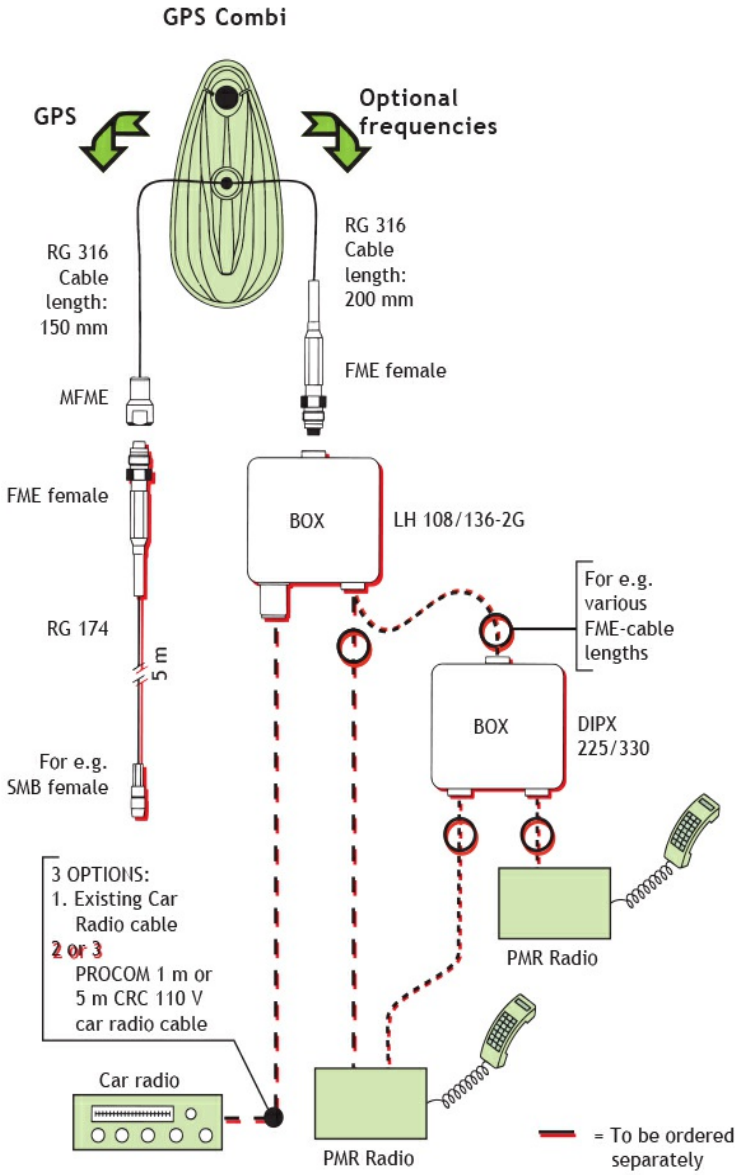
Not every combination of frequency pairs can be delivered. When ordering, please state frequencies between 140 - 170 MHz and 400 - 470 MHz.

MOUNTING INSTRUCTIONS

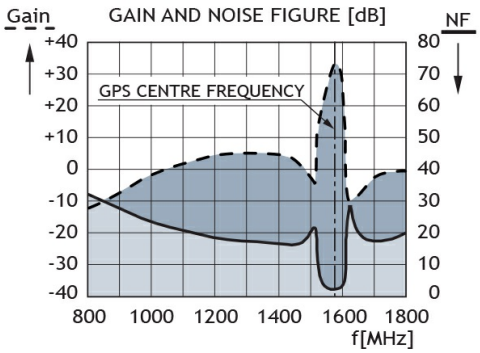


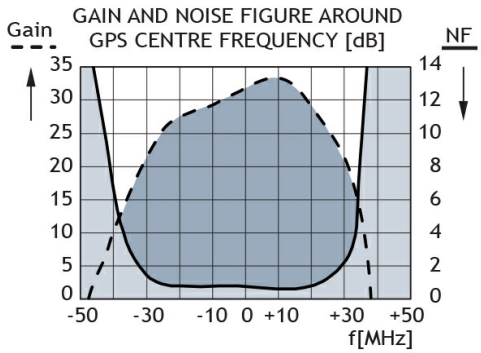
Do not use sealer on rubber gasket or other places.

CABLE MOUNTING

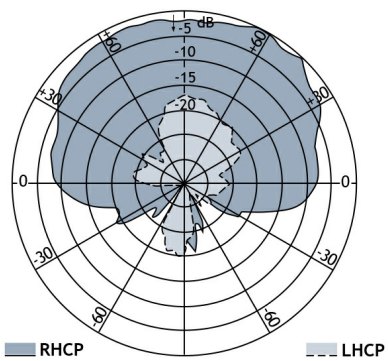


TYPICAL RESPONSE CURVES





VERTICAL RADIATION PATTERN



TUNING INFORMATION

The GPS-C MHU 3/FM cannot be tuned to any pair of frequencies in the two bands. Further, the antenna must be equipped with a different kind of adjustment disc depending on the frequency pair in question.
The antenna can be used without adjustment disc, with a small adjustment disc or with a large adjustment disc. All adjustment disc types are supplied with the antenna.

USE THE DIAGRAMS BELOW AS FOLLOWS

1. Draw a horizontal line through the point on the vertical axis which corresponds to the 2 m-frequency in question.

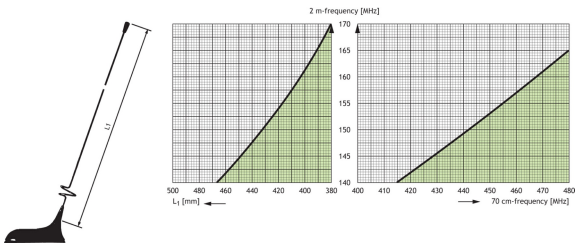
2. The drawn horizontal line intersects the shaded area over a certain band of 70 cm-frequencies.
If the 70 cm-frequency to be covered is not included in the shaded area, try another diagram (another adjustment disc type). If the 70 cm-frequency is not covered in any of the diagrams, coverage of the frequency pair in question is not possible using this type of antenna. Please note, however, that taking into account the inherent bandwidth of the antenna (± 2 MHz in the 2 m-band and ± 12 MHz in the 70 cm-band) the combination area may be increased considerably.

For the relevant diagram

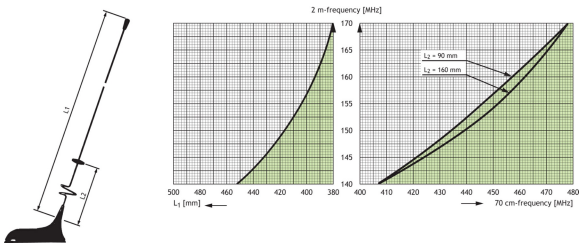
3. Read the total length L1 on the left horizontal axis and cut the whip to this length.

4. Locate the 70 cm-frequency in question on the right horizontal axis and read the corresponding length L2 from the curves in the shaded area.

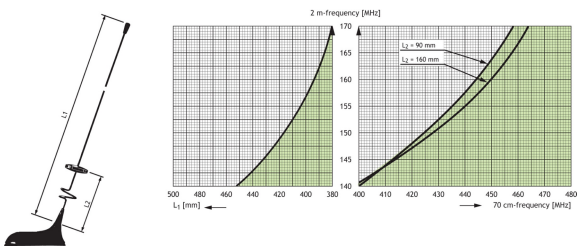
WITH NO ADJUSTMENT DISC



WITH THE SMALL ADJUSTMENT DISC



WITH THE LARGE ADJUSTMENT DISC



Use an VSWR-meter to fine-tune the settings

EU AND UK DECLARATION OF CONFORMITY

Hereby Amphenol Procom declare that the product type GPS-C MHU 3/FM is in compliance with EU Directive 2014/53/EU and the UK Radio Equipment Regulations 2017 (S.I. 2017 No. 1206).
The full text of the Declaration of Conformity is available at:

https://amphenolprocom.com/images/shop/catalog/pdf-for-catalouges/Declaration-of-Conformity-GPS-C-1.pdf