

## 2G & 3G Antennas

Overview Document



Date: 25.5.2011

Filename: D000042113 2G & 3G Antennas Overview Document.docx  
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# Revision History

Version	Date	Comments
a	25.05.2011	First edition

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# 1 General

## 1.1 Purpose of Use

The antennas described below are suitable for the operation with:

- Communication units E65C (CU-Gx and CU-Px for E650 meters)
- E35C GPRS module
- PLC data concentrators AD-.G.
- E450 2G/3G
- Other legacy devices

## 1.2 Antenna Overview

Version	Landis+Gyr Part number	Cable length	Mounting	Technical Data	Remarks	Usage
1	74 507 0031 0	–	–	H 74 507 0031 0	FME connector	2G only
2	74 507 0035 0	3.0 m	Magnetic base	see 2.1	MCX angular connector	2G only
3	74 507 0036 0	10.0 m	Magnetic base	see 2.1	MCX angular connector	2G only
4	P 000 196 540	3.0 m	Magnetic base	see 2.1	SMA connector	2G only
5	P 000 196 550	10.0 m	Magnetic base	see 2.1	SMA connector	2G only
6	74 507 0037 0	–	–	–	–	–
7	74 507 0038 0	–	–	–	–	–
8	74 507 0076 0 For BL residential P000226370	0.2 m	Adhesive bonding	see 2.2	Mounting instruction	2G & 3G
9	74 507 0095 0 For BL residential P000226360	3.0 m	Wall mounting	see 2.3	MCX(m) connector Mounting instruction	2G & 3G
10	74 507 0096 0	10.0 m	Wall mounting	see 2.3	MCX(m) connector Mounting instruction	2G & 3G
11	74 507 0097 0	3.0 m	Wall mounting	see 2.3	SMA (m) for data concentrator AC-RG Mounting instruction	2G & 3G
12	74 507 0098 0	10.0 m	Wall mounting	see 2.3	SMA (m) for data concentrator AC-RG Mounting instruction	2G & 3G
13	For BL residential P000226390	3.0 m	Magnetic base	see 2.4	MCX(m) connector Mounting instruction	2G & 3G
14	P000195390	--	into E450	see 2.5		

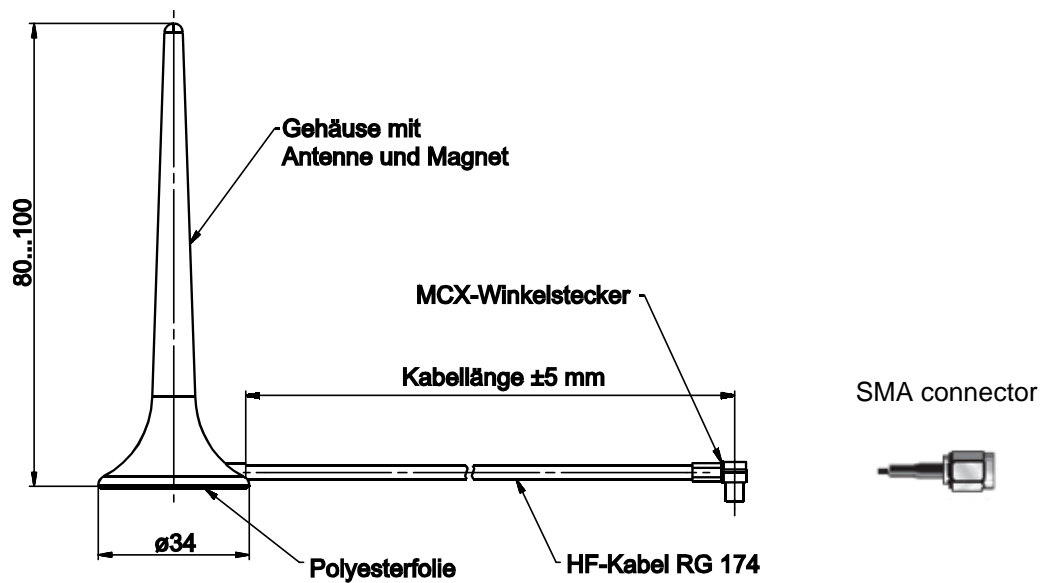
### 1.3 Required Antenna Connector Type:

<b>Device</b>	<b>Required antenna connector type</b>
Communication units E65C (CU-Gx and CU-Px for E650 meters)	MCX connector (M)
E35C GPRS modules	MCX connector (M)
E450 2G/3G	MCX connector (M)
PLC data concentrators AD-.G.	SMA connector (M)

## 2 Technical Data & Data Sheets

### 2.1 Versions 1-7

Frequency range:	880...960 MHz / 1710...1880 MHz (2G only)
Impedance:	50 Ohm
Cable type:	RG 174
Connector type:	MCX connector / SMA (m)
Temperature range:	-25°C ....+85°C



## 2.2 Version 8

Frequency range: 880...960 MHz / 1710...1880 MHz /  
1880...2200 MHz / 2400...2485 MHz (2G & 3G)

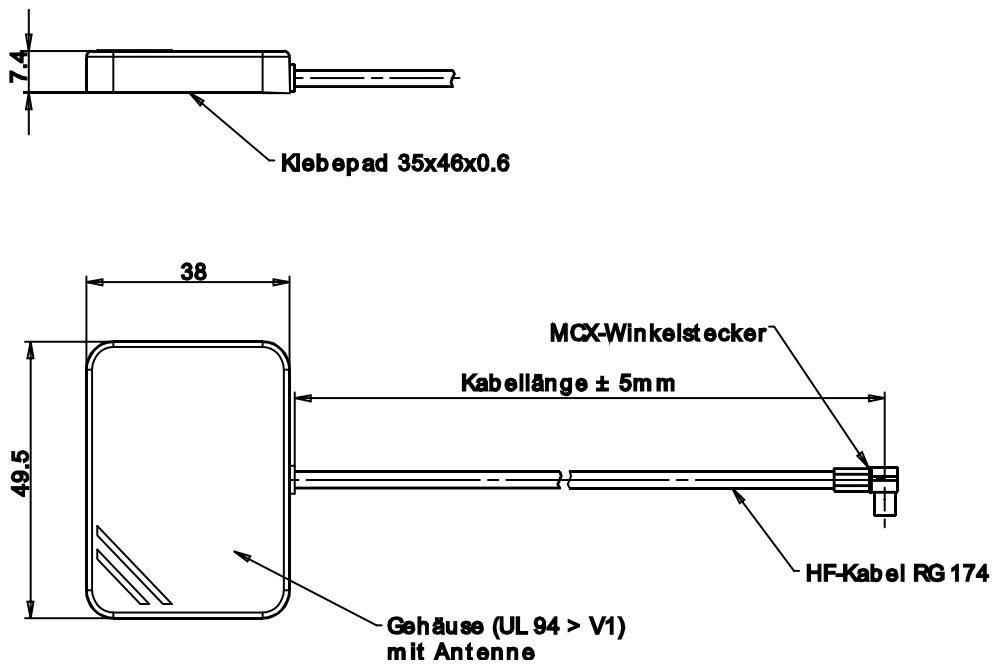
Impedance: 50 Ohm

Cable type: RG 174

Connector type: MCX (m)

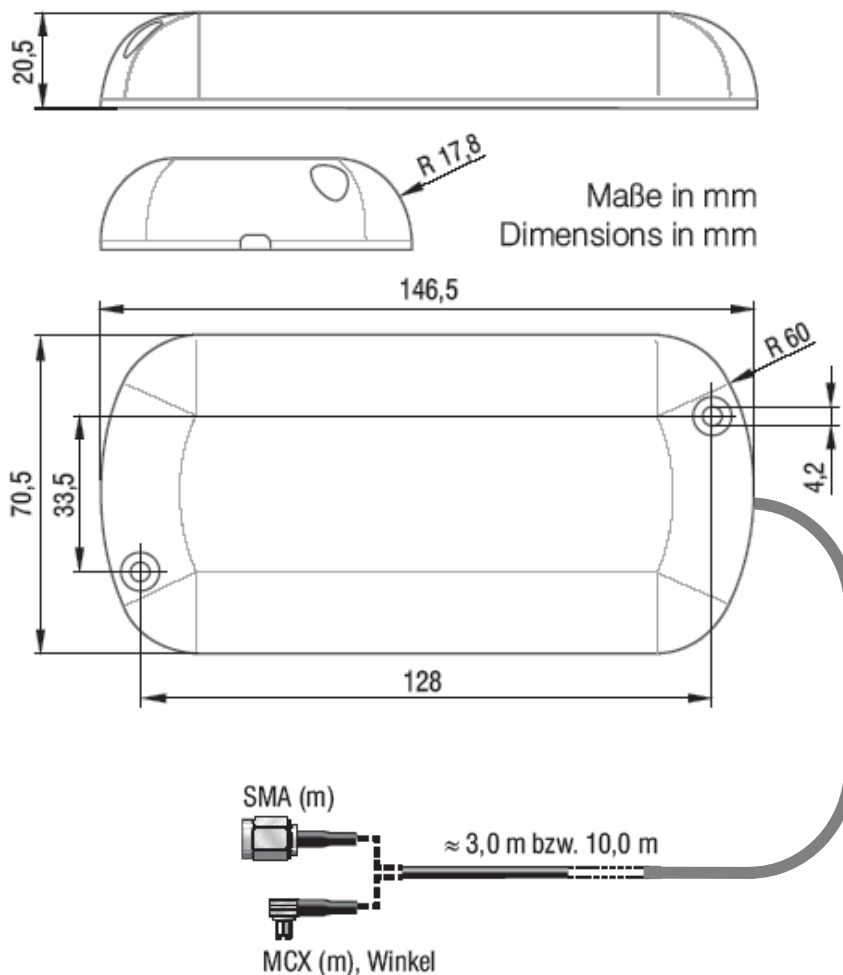
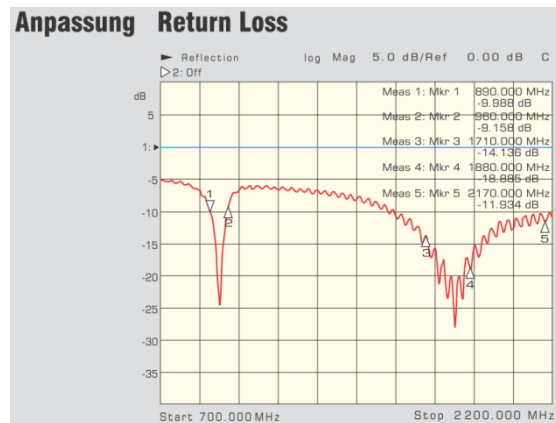
Temperature range: -25°C ....+85°C

Mobilfunknetze	Radio Networks	GSM 900	GSM 1800	DECT	PCS 1900	UMTS, 3G	WLAN
Frequenzbereiche	Frequ. Ranges	890-960 MHz	1710-1880 MHz	1880-1900 MHz	1850-1990 MHz	1900-2200 MHz	2400-2485 MHz
Anpassung	VSWR	≤ 2:1		≤ 1,5:1			
Rückflusdfg.	Return Loss	≈ 10 dB	≈ 14 dB				
Gewinn	Gain	≈ 0 dBi					
Polarisation	Polarization	vertikal (seitlicher Kabelabgang, s. Bild)			vertical (Cable outlet on lateral side, see fig.)		
Impedanz	Impedance	50 Ω					
max. Leistung	Max. Power	10 W					
HF-Kabel (fest angeschlossen)*	RF-Cable (connected fix)*	≈ 0,2 m RG 174					
Steckverbinder*	Connector*	MCX-Winkel (m)					



## 2.3 Versions 9-12

Mounting:	Suitable for outdoor and indoor mounting.
Frequency range:	890...960 MHz / 1710...1990 MHz / 1900...2200 MHz (2G & 3G)
Gain:	0 dBi
Impedance:	50 Ohm
Cable type:	RG 174
Connector type:	MCX connector (m), angular / SMA (m)
Temperature range:	-40°C ....+75°C
Protection class:	IP 64
Combustibility:	UL94 V2







## 2.4 Version 13


Magnetic food Antenna  
as 2G / 3G version

Connector type:  
MCX connector (M)


4405.001

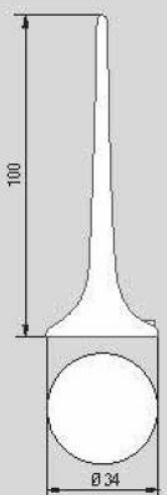


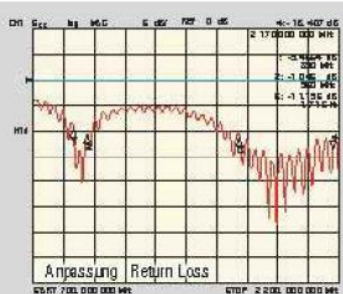




≈ 2,6 m "Spec. Low Loss", 50 Ω  
FME (F)







Anpassung | Return Loss

GSM 900/1800	UMTS
<b>890-960/1710-1880 MHz</b>	<b>1900-2200 MHz</b>
0 dBi / 0 dB*	0 dB*
60 Ω	60 Ω
max. 10 W	max. 10 W
≤ 2:1	≤ 2:1
vertikal vertical	vertikal vertical
≈ 10 dB	≈ 10 dB

Bereich Range
Frequenz Frequency
Gewinn Gain
Verstärkung Amplification
Impedanz Impedance
Leistung Power
Anpassung VSWR
Polarisation Polarisation
Rauschmaß Noise Figure
Rückflussdämpfung Return Loss
Stromversorgung Power Supply
Ersatzteil Spare Part

MULTI BAND

MAGNETIC MOUNT ANTENNA

MAGNETHAFTANTENNE

## 2.5 Version 14

The antenna coupler (P000195390) is used to connect external GSM/UMTS antenna to the E450 2G/3G meter. The coupler is an auxiliary part which is fitted into the meter in the field.

The antenna coupler is a stock spare part on stock at Landis+Gyr in UK.

Relevant documentation:

- Part number of the coupler assembly: P000195390, rev a
- Document number of the coupler assembly: D000038870, rev a
- HV test specification: D000040249, rev a

Picture of the coupler assembly:

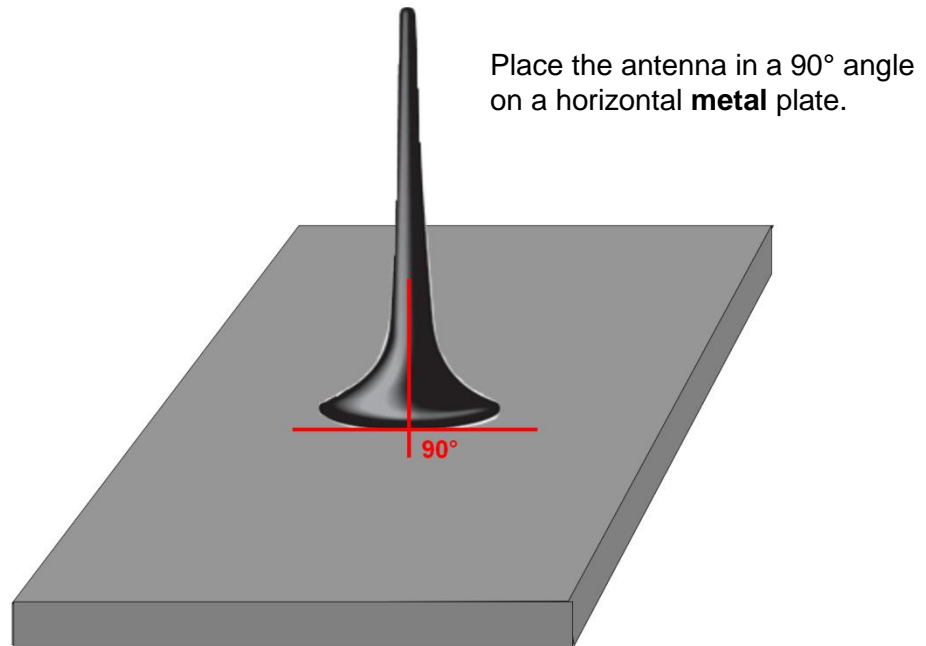


Dimension: 92 x 12 mm

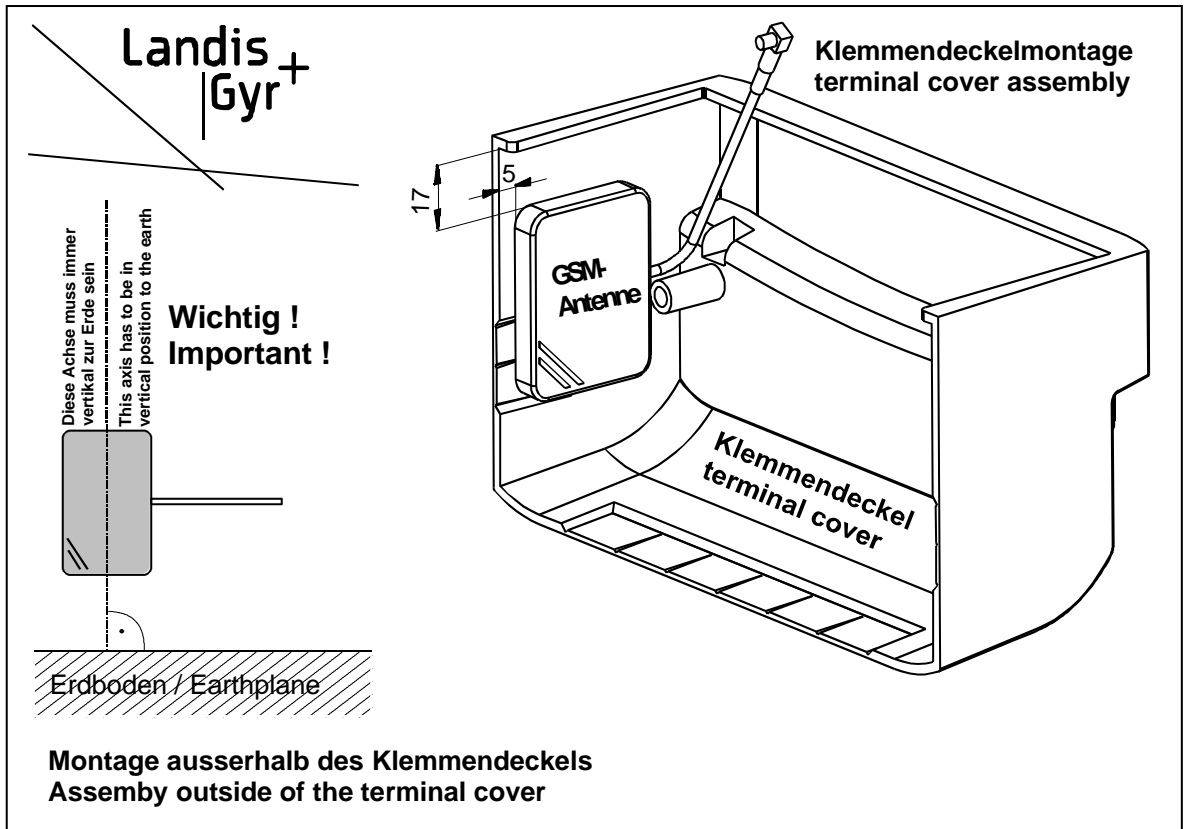
Connector type: MCX connector (F)

### 3 Mounting Instruction

#### Magnetic food antenna



#### Adhesive bonding antenna



## Wall mounted Antenna

### Important mounting instruction:

- it is not allowed to apply mechanical force to the antenna plug
- suitable for in- and outdoor mounting
- antenna requires no ground plate
- fasten to horizontal as well as vertical surfaces
- in case of vertical mounting cable exit

