

# **Annex no. 12**

## **Antenna description**

# Ha-VIS RF-ANT-LR10

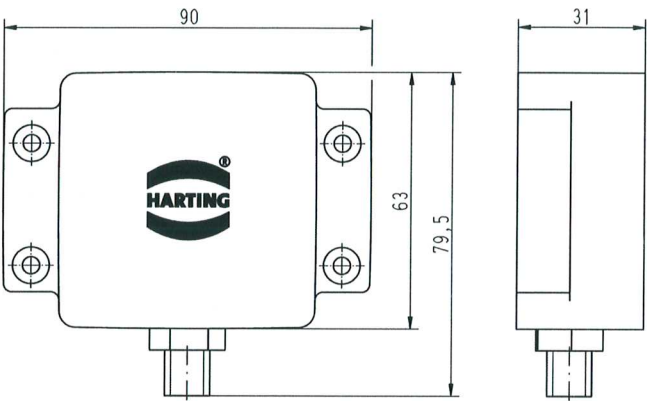


## Ha-VIS RF-ANT-LR10 Planar RFID antenna

Identification	Part number	Drawing	Dimensions in mm
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Ha-VIS RF-ANT-LR10			
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	20 93 201 0303		
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### Recommended accessories

#### Antenna cables

Ha-VIS Coax ...		
... SMA-TNC, RG58	3 m	20 93 204 0101
... SMA-TNC, LL240flex	3 m	20 93 204 0102
... SMA-TNC, LL240flex	10 m	20 93 204 0103

All data represent the current state of development at the time of print and are therefore non-binding.

HARTING reserves the right to modify designs without prior notice.

## Technical characteristics

### Electric properties

Frequency range	865 ... 928 MHz
Gain	-30 dBi
EIFF *	15 dB
VSWR	< 1.2:1
Impedance	50 Ohm
Range of near field tags **	3 cm
Selectivity of near field tags **	3 cm
Range for far field tags **	8 cm
Selectivity for far field tags**	10 cm
Max. input power	1 W (compliant to FCC)
Connection	TNC socket

### Mechanical properties

Dimensions (B x H x T)	90 x 63 x 31 mm
Weight	0.1 kg
Degree of protection	IP 67
Antenna cover	Tough, weather-resistant polymer blend
Colour	RAL 7045 (light grey)
Installation	Four through-holes diameter 4.2 mm for M4 screws
Operating temperature range	-20 °C ... +55 °C
Storage temperature range	-40 °C ... +85 °C

\* ... The Effective Isotropic Field Factor (EIFF) shows the field isolation from far field to near field standardized to an isotropic radiator. The values were determined with 3 cm spacing.

\*\* ...dependent upon transmission power and tag typ



## Technical characteristics

### Electric properties

Frequency range	902 MHz ... 928 MHz (FCC)
Impedanz	50 Ohm
VSWR	< 1.5:1
Polarisation	Circular
Gain	2.5 dBic
Far field half-power beam width	100°
Front to back ratio	> 10 dB
Axial ratio	typ. 2 dB
Max. power (FCC 15.247)	1 W
Connection	TNC socket

### Mechanical properties

Dimensions (B x H x T)	156 x 126 x 25 mm
Weight	0.3 kg
Degree of protection	IP 67
Antenna cover	Tough, weather-resistant polymer blend
Colour	RAL 7045 (light grey)
Installation	Four through-holes diameter 4.2 mm for M4 screws
Operating temperature range	-20 °C ... +55 °C
Storage temperature range	-40 °C ... +85 °C



# Ha-VIS RF-ANT-sMR20



## Ha-VIS RF-ANT-sMR20 Planar RFID antenna

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS RF-ANT-sMR20	20 93 201 0304	<p>Technical drawing showing dimensions for the Ha-VIS RF-ANT-sMR20 antenna. The top view shows a square antenna with a HARTING logo. Dimensions include: overall width 156 mm, mounting hole spacing 138 mm, mounting hole diameter 125 mm, mounting hole diameter 80 mm, mounting hole diameter 126 mm, mounting hole diameter 18 mm, and mounting hole diameter 7/16-24 UNEF. The side view shows a height of 36 mm and a mounting hole diameter of 13 mm.</p>	
Recommended accessories			
Antenna cables			
Ha-VIS Coax ...			
... SMA-TNC, RG58	3 m	20 93 204 0101	
... SMA-TNC, LL240flex	3 m	20 93 204 0102	
... SMA-TNC, LL240flex	10 m	20 93 204 0103	

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## Technical characteristics

### General characteristics

Read range	0.2 ... 1 m
Optimized for	Automation applications Harsh environments Intralogistics Outdoor applications Integration in machines with little space

### Electric properties

Frequency range	865 ... 928 MHz
Impedanz	50 Ohm
VSWR	< 1.4:1
Polarisation	Circular
Gain	-12 dBic @ 866 MHz -10 dBic @ 915 MHz
Far field half-power beam width	100°
Front to back ratio	> 8 dB
Axial ratio	typ. 2 dB
Max. power	
(FCC15.247 / ETSI EN 302 208)	1.0 W ERP
Connection	TNC socket

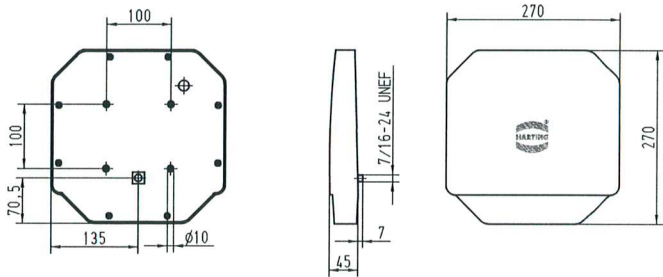
### Mechanical properties

Dimensions (B x H x T)	156 x 126 x 25 mm
Weight	0.3 kg
Degree of protection	IP 67
Antenna cover	Tough, weather-resistant polymer blend
Colour	RAL 7045 (light grey)
Installation	Four through-holes diameter 4.2 mm for M4 screws
Operating temperature range	-20 °C ... +55 °C
Storage temperature range	-40 °C ... +85 °C



## Ha-VIS RF-ANT-WR30-US

### Planar RFID antenna

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS RF-ANT-WR30-US	20 93 201 0103		
<b>Recommended accessories</b>			
<b>Antenna cables</b>			
Ha-VIS Coax ...			
... SMA-TNC, RG58	3 m	20 93 204 0101	
... SMA-TNC, LL240flex	3 m	20 93 204 0102	
... SMA-TNC, LL240flex	10 m	20 93 204 0103	
<b>Antenna mounting kit</b>			
Ha-VIS RF-MOUNT-ANT-C	20 93 102 0105		

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## Technical characteristics

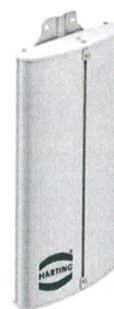
### Electric properties

Frequency range	902 MHz ... 928 MHz
Impedance	50 Ohm
VSWR	< 1.2:1
Polarisation	Circular
Gain	8.3 dBic @ 915 MHz
Far field half-power beam width	69°
Front to back ratio	> 18 dB
Axial ratio	typ. 1 dB
Max. power (FCC 15.247)	4 W EIRP
Connection	TNC socket

### Mechanical properties

Dimensions (B x H x T)	270 x 270 x 45 mm
Weight	1.7 kg
Degree of protection	IP 65
Antenna cover	Tough, weather-resistant polymer blend
Colour	RAL 7045 (light grey)
Chassis	Aluminium
Installation	Four M5 drill holes 100 x 100 mm
Operating temperature range	-20 °C ... +55 °C
Storage temperature range	-40 °C ... +85 °C

# Ha-VIS RF-ANT-WR80-30-US



## Ha-VIS RF-ANT-WR80-30-US Planar RFID antenna

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS RF-ANT-WR80-30-US	20 93 201 0204		
<b>Recommended accessories</b>			
<b>Antenna cables</b>			
Ha-VIS Coax ...			
... SMA-N, LL240flex	3 m	20 93 204 0104	
... SMA-N, LL240flex	10 m	20 93 204 0105	
... TNC-N, RG213	3 m	20 93 204 0106	
... TNC-N, RG213	10 m	20 93 204 0107	
Ha-VIS SMA TNC Adapter (necessary to connect RG213 cable to Ha-VIS RF-R500)		20 93 204 0301	
<b>Antenna mounting kit</b>			
Ha-VIS RF-MOUNT-ANT-B		20 93 102 0104	

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HARTING reserves the right to modify designs without prior notice.

## Technical characteristics

### Electric properties

Frequency range	902 ... 928 MHz
Impedance	50 Ohm
VSWR	< 1.2:1
Polarisation	Circular
Gain	10.5 dBic
Far field half-power beam width	30° vertical, 70° horizontal
Front to back ratio	> 20 dB
Axial ratio	< 2 dB
Max. input power (FCC15.247)	700 mW (28.5 dBm) conducted for a max. radiated power of 4 W EIRP
Connection	N (female)

### Mechanical properties

Dimensions (B x H x T)	557 x 262 x 59 mm (without mounting clamps)
Weight	3.7 kg
Degree of protection	IP 65
Antenna cover	Fiberglass radome (UV resistance)
Colour	Grey
Chassis	Stainless steel
Plate patch	Brass tin-plated
Antenna support	Aluminium
Installation	(see recommend accessories)
Operating temperature range	-20 °C ... +65 °C
Storage temperature range	-40 °C ... +85 °C