

Ha-VIS RFID RF-R500 Reader



Ha-VIS RFID RF-R500-c
Ha-VIS RFID RF-R500-p

Advantages

- High performance
- High flexibility
- Project-specific adaptability
- Robust aluminium housing
- Applicable in rough, metal-containing industrial environments
- High transponder population
- Very long antenna cable possible
- Applications with antenna multiplexer

General Description

The Ha-VIS RF-R500-c and Ha-VIS RF-R500-p RFID readers are two high performance Long Range Readers licensed according to ETSI, FCC und IC.

Characteristics:

- High receiver sensitivity for enlarged and homogeneous tag detection range
- Powerful tag response decoding, e.g. for Dense Reader Mode
- Linux OS (Kernel 3.x.x; 64 MB RAM, 256 MB Flash)
- 5 hardware interface ports: Ethernet, RS 232, RS 485, USB and one USB-Port for WLAN dongle or external memory
- Reader protection against fault conditions like antenna shortcut, antenna mismatching and electrostatic discharge
- RSSI data readout

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS RFID RF-500-c 2 W transmission power			
EU version	20 91 104 1103		
US version	20 91 104 1104		
Ha-VIS RFID RF-500-p with PoE / 4 W transmission power			
EU version	20 91 104 1101		
US version	20 91 104 1102		
Optional accessories			
DIN Rail mounting Kit for RF-R500	20 93 102 0201		
Protection cap Ha-VIS RF-R500	20 93 901 0101		

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

Transponder protocol	EPC Gen2 (ISO 18000-6-c)
UHF RFID antenna interface	
Antenna connection	4 x SMA connector (50 Ohm); Reader internally multiplexed
Transmitting Power	
Ha-VIS RFID RF-R500-c	max. 2 W
Ha-VIS RFID RF-R500-p	max. 4 W
Frequency area	860 ... 960 MHz (depending on specific reader)
Supply voltage on antenna outputs	24 V DC / 200 mA (Ha-VIS RFID RF-R500-p only)
Interfaces	
	<ul style="list-style-type: none">• Ethernet (TCP/IP) 10/100 Mbit/s; Full Spec. 802.3• RS 232 / RS 485• USB / USB-Port for WLAN dongle or external memory
Inputs	5 Optocoupler (max. 24 V DC / 20 mA)
Outputs	<ul style="list-style-type: none">• 2 Optocoupler (24 V DC / 30 mA)• 3 Relays (24 V DC / 1 A)
LED Diagnosis	
8 LEDs (from left to right)	<ul style="list-style-type: none">• Run• Host communication• Warning• Input / output• Antenna 1• Antenna 2• Antenna 3• Antenna 4
Performance	
Bulk-Read capability	
Ha-VIS RFID RF-R500-c	< 150 Transponder/sec
Ha-VIS RFID RF-R500-p	> 150 Transponder/sec
Max. Operating Distance	Up to 16 m, depending on kind of transponder & environmental conditions
Protocol Modi	
	<ul style="list-style-type: none">• Host Mode• Scan Mode• Notification Mode• Buffered Read Mode

Technical characteristics

Power Supply

Power supply	
Ha-VIS RFID RF-R500-c	+24 V DC ($\pm 5\%$)
Ha-VIS RFID RF-R500-p	+24 V DC ($\pm 5\%$) / Power over Ethernet (PoE)
Current consumption	max. 2 A

Design features

Material of housing	Aluminium, powder coated
Dimensions (W x H x D)	260 x 153 x 70 mm
Weight	2000 g
Degree of protection acc. to DIN 60 529	IP 64 (with protection cap) / IP 53 (without protection cap)
Installation on DIN rail	DIN rail mounting kit (optional accessories)

Environmental conditions

Operating temperature	-25 °C ... +50 °C
Storage temperature	-25 °C ... +85 °C
Relative humidity	5 % ... 95 % (non-condensing)
Vibration	EN 60 068-2-6 10 Hz ... 150 Hz: 0.075 mm / 1 g
Shock	EN 60 068-2-27 Acceleration: 30 g

Norms & Safety

Radio license	<ul style="list-style-type: none">• EN 302 208• FCC 47 FCR Part 15• IC RSS-GEN, RSS-210
EMC	EN 301 489
Low voltage	EN 60 950
Human Exposure	EN 50 364
RoHS compliant	

RF diagnosis

- RF Channel monitoring
- Antenna SWR control
- Internal overheating control

Technical characteristics

Operating system

Linux (Kernel 3.x.x)
64 MB RAM, 256 MB Flash

Others

- Anticollision function
- Real time clock
- RSSI

Software

Demo- and configuration software

Ha-VIS RFID config

Minimal hardware requirements

- Personal computer IBM PC Pentium III 1000 MHz or faster recommended
- Windows XP® (32 Bit) with 256 MB RAM or Windows® 7 (32 / 64 Bit)
- Hard disk with minimum free 30 MB memory space
- Windows® compatible mouse
- Windows® compatible super VGA graphic card (800 x 600) (1024x768 recommended)