



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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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 US version	20 91 104 1103 20 91 104 1104		
Ha-VIS RFID RF-500-p with PoE / 4 W transmission power EU version US version	20 91 104 1101 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

<b>Transponder protocol</b>	EPC Gen2 (ISO 18000-6-c)
<b>UHF RFID antenna interface</b>	
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)
<b>Interfaces</b>	<ul style="list-style-type: none"> <li>• Ethernet (TCP/IP) 10/100 Mbit/s; Full Spec. 802.3</li> <li>• RS 232 / RS 485</li> <li>• USB / USB-Port for WLAN dongle or external memory</li> </ul>
Inputs	5 Optocoupler (max. 24 V DC / 20 mA)
Outputs	<ul style="list-style-type: none"> <li>• 2 Optocoupler (24 V DC / 30 mA)</li> <li>• 3 Relays (24 V DC / 1 A)</li> </ul>
<b>LED Diagnosis</b>	
8 LEDs (from left to right)	<ul style="list-style-type: none"> <li>• Run</li> <li>• Host communication</li> <li>• Warning</li> <li>• Input / output</li> <li>• Antenna 1</li> <li>• Antenna 2</li> <li>• Antenna 3</li> <li>• Antenna 4</li> </ul>
<b>Performance</b>	
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
<b>Protocol Modi</b>	<ul style="list-style-type: none"> <li>• Host Mode</li> <li>• Scan Mode</li> <li>• Notification Mode</li> <li>• Buffered Read Mode</li> </ul>

## 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"><li>• EN 302 208</li><li>• FCC 47 FCR Part 15</li><li>• IC RSS-GEN, RSS-210</li></ul>
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)