



Pushing Performance



People | Power | Partnership

## HARTING Ha-VIS RFID System Components

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Real-time information and the close synchronisation of computer data and real processes play a critical role in process management and process optimisation. Only when you are sure that your information agrees with reality can you optimally control your processes and thus reduce costs.

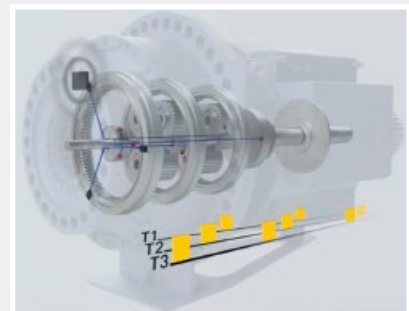
### Tracking of operating resources

In order to use large gearboxes (e.g. for wind turbines or large asynchronous motors) efficiently, the temperature of the bearings and magnets must be monitored.

The challenges presented here are:

- The sensor data must be transmitted wirelessly because of the constant rotation
- The sensor system must function passively (without batteries) to ensure maintenance-free usage over the next years and decades

A combination of passive, maintenance-free Ha-VIS ETB sensor transponders and versatile UHF RFID readers enables completely new solutions to be created – and not only for motors and gearboxes. The same technology can also be used to detect and transmit temperature readings on the bogie of a locomotive.



### Wireless signaling on trains

Using radio frequency identification (RFID), it is simple to improve the safety and precise positioning of trains and trams. The train doors can only be opened after a successful position check has been made on the side facing the platform. RFID is a robust technology that has proven its superiority over mechanical switches and infrared sensors.



### Intra-logistics: RFID on conveyor belts

There are often curves in conveyor belts. There is also very limited space for adding antennae. Ha-VIS LOCFIELD® antennae can be seamlessly installed in conveyor belts. Because the antenna is made of a coax cable, it can easily follow along with the curves and slopes of the conveyor belt.



## HARTING Smart Infrastructure Solutions

Real time information and the close synchronisation of the virtual data world and the real process world play a crucial role in process management and process optimisation.

Information constitutes the basis of decisions. Missing information is detrimental here: information that is present in the company but remains hidden due to incompatible and impermeable infrastructures increases costs without returning the full benefits.



### Customised RFID transponder solutions

- Ha-VIS RFID SL 89 set
- Customised mounting kits
- Mounting the tag in a metallic surface
- Ranges up to 15 m
- Transponder is protected



### Ha-VIS middleware

- RFID readers are easy and quick to connect
- Configurable without programming effort
- Reports cumulative data in standardised formats
- Conforms with the EPCglobal® ALE 1.1 standard



### Versatile data processing and communications

- Ha-VIS RF-R300: LLRP communications for connecting to the HARTING middleware
- Ha-VIS RF-R310: standard-compliant OPC UA interface
- Ha-VIS RF-R350: integrates middleware according to the GS1 standard
- Ha-VIS RF-R320: Modbus TCP for an easy connection to your machine



### Robust UHF RFID antenna Ha-VIS RF-ANT-LR10 with very short read range

- Protection class IP67
- Optimised for near-field applications
- e.g. Detecting tools in machines or ensuring the correct positioning of objects



### Tool management / maintenance Ha-VIS RFID VT series (HT)

- > 4 m read range on metal for the smallest sizes
- Variable mounting options
- Especially resistant to heat and chemicals (e.g. during autoclaving)



### Ha-VIS Application Suite

- Flexible application solutions
- Various end devices can be quickly and easily connected
- Platform-independent applications (Windows CE, Windows, Android, iOS)
- Based on open standards such as HTML 5





#### RFID out-of-the-box solution

- Includes RFID reader, switch, protection against overvoltage, and power supply
- Protection class IP65
- Customised configurations possible
- Robust enclosure



#### Robust smart labels

##### Ha-VIS RFID FT 89 on metal

- > 2 m read range
- Guaranteed functioning on metal
- Flat design



#### Automatic process mapping using RFID reader

##### Ha-VIS RF-R500

- Read range up to 16 m
- 4 antennae can be connected
- Up to IP64 with protection cover
- 5 GPIOs



#### Incoming goods inspection via RFID gate.

##### Ha-VIS ANT-WR24-i robust industrial antenna

- Versatile mounting options
- Reading ranges > 10 meters
- 70° aperture angle
- Ideal energy utilisation thanks to down pitch



#### Maintenance management

- Cyclical maintenance of safety-related equipment can be automated using modern RFID transponders
- The transponder can be placed in a cavity



#### Container management

##### Selective detection of containers with Ha-VIS RFID antennae, especially in harsh industrial environments

- Wide read range
- Flat, compact design
- Protection class IP65/IP67



## HARTING smart infrastructure solutions for the railway market

HARTING connectors are well known for their robustness and longevity. These are being constantly tested and proven in real world usage, e.g. as jumper cables between two railway cars. HARTING's RFID systems are keeping with this tradition. The customer decides whether the transponder is mounted on the train and the reader on the rails, or whether the reader is mounted on the train and the transponder on the rails. Naturally, HARTING systems are tested in accordance with the railway standard EN 50155. The Ha-VIS middleware also enables centralised reader and data management in this environment.



### The RF-R350 RFID reader on the train

- Vibration: EN 61373 Cat 1B
- Shock: EN 61373 Cat 1B
- Isolation: EN 50155
- Cold/heat: EN 50155
- Damp heat (cyclical): EN 50155



### RFID transponder on the railway platform

- Extremely robust and durable
- Maintenance-free



### Train positioning on the platform or train localisation along the route

- Using an RFID antenna on the train
- Extremely robust stainless steel antenna
- IP67, IK08
- No connector on the antenna



### RFID transponder for train localisation on the railway sleeper

- Ha-VIS LT 2.0
- Read range on concrete > 2 m
- Robust and durable
- Maintenance-free





#### Ha-VIS RFID LT 2.0 series

- > 8 meters read range on metal
- Resistant to weathering
- Robust
- Maintenance-free



#### RFID out-of-the-box solution Complete RFID system

- Includes RFID reader, switch, protection against overvoltage, and power supply
- Protection class IP65
- Customised configurations possible
- Robust stainless steel enclosure
- Tested for applications at track side



#### Ha-VIS middleware

- RFID readers are easy and quick to connect
- Configurable without programming effort
- Reports cumulative data in standardised formats
- Conforms with the EPCglobal® ALE 1.1 standard



#### Maintenance and repair using the Ha-VIS RFID VT series (HT)

- > 4 m read range on metal for the smallest sizes
- Variable mounting options
- Resistant to many chemicals
- Extremely robust



#### Ha-VIS RFID SL 89 set

- Read range of 15 m
- Mechanically protected by a stainless steel bracket
- Customised adaptation possible



#### RFID antenna on the platform

- Impact-resistant enclosure
- Read range: > 15 m
- Variable mounting positions: horizontal and vertical

# RFID Products & Accessories

## Ha-VIS UHF long-range RFID reader RF-R500

**Features**

- Suitable for use in harsh industrial and railway environments
- Very wide read range of up to 16 m
- Power over Ethernet capability (PoE) (RF-R500-p)
- 4 antennae can be connected
- Up to 4 W transmission power (RF-R500-p); otherwise 2 W (RF-R500-c)
- 5 GPIOs
- Interfaces (Ethernet, USB, RS 232, RS 485)
- More than 150 transponders can be read quickly
- 860 – 960 MHz
- Tested according to EN 50 155

Identification	Part. No.
RF-R500-c-EU	20 91 104 1103
RF-R500-c-US	20 91 104 1104
RF-R500-p-EU	20 91 104 1101
RF-R500-p-US	20 91 104 1102

**Accessories**

DIN rail mounting adapter kit	20 93 102 0201
- Board and screws for installing the RF-R500 on the DIN rail	
Ha-VIS protection cover RF-R500	20 93 901 0101
- Increased protection class IP64	
- Up to 8 PG lead-throughs	
- Simple and reliable installation on the RF-R500	



## Ha-VIS UHF robust long-range RFID reader RF-R400

**Features**

- Specialised for harsh usage in trains and on the track
- Robust aluminium enclosure
- High transponder population
- Very high multiplexer speed
- Robust M12 (Ethernet) and M8 (VCC, RS 232, IO) connectors
- Tested up to + 70 °C
- Tested according to EN 50 155
- 4 antennae
- 2 W transmission power

Identification	Part No.
Ha-VIS RFID RF-R400 (EU version)	20 91 107 1101
Ha-VIS RFID RF-R400 (US Version)	20 91 107 1102

**Accessories**

DIN rail mounting adapter kit	20 93 102 0201
Protection cover	20 93 901 0101
M8 cable (2 m, for power supply - VCC) *	21 34 810 0489 020
M8 cable (2 m, for RS 232, relay) *	21 34 B20 0821 020
M8 cable (2 m, for IO) *	21 34 730 0821 020
M12 Ethernet cable, D-coding (3 m) *	09 45 700 5025
Han® 3 A RF-R400, M8 adapter (ideal for railway applications)	61 04 204 0036 00

\* Sample length; other lengths available on request





## Ha-VIS UHF robust mid-range reader RF-R300

### Features

- Suitable for harsh industrial environments
- M12 connector sockets
- TNC reverse antenna sockets
- 2 antenna ports (max. 0.5 W)
- Power over Ethernet enabled (PoE)
- 8 configurable digital inputs and outputs
- IP67

### Identification

Identification	Part. No.
RF-R300, LLRP interface, EU/FCC	20 91 105 1101
Ha-VIS RFID RF-R310 EU / FCC (OPC UA)	20 91 105 1211
Ha-VIS RFID RF-R320 EU / FCC (ModbusTCP)	20 91 105 1311
Ha-VIS RFID RF-R350 EU/FCC (ALE 1.1 middleware, tested according to railway standards)	20 91 105 1111
Software update ALE 1.1 for RF-R3x0 (embedded middleware)	26 99 400 0000 02

### Accessories

DIN rail mounting adapter kit	20 95 200 0004
Wall mounting kit	20 95 300 0007
M12 Ethernet cable, X-coding (2 m) **	09 47 841 1002
M12 A-coded cable assembly (2 m) ** (IOs / ext. power supply)	21 34 840 0C79 020
Ha-VIS Coax TNC / TNC-RP H155 PVC, 3 m **	20 93 204 0121
Ha-VIS eCon 3060BT-A-P	24 03 006 0020

\*\* Sample length; additional lengths available on request



## Ha-VIS UHF mid-range reader RF-R200

### Features

- External antenna (max. range up to 2 m)
- Internal antenna (max. range up to 20 cm)
- 500 mW transmission power
- Power over Ethernet
- SMA connector
- Automatic reporting of transponders that were read

### Identification

Identification	Part No.
Ha-VIS RF-R200 PoE (3xSMA)	20 91 106 1101
Ha-VIS RF-R200 module (3x SMA)	20 91 106 1103

### Accessories

DIN rail mount adapter RF-R200	20 93 102 0202
Mounting kit RF-R200	20 93 102 0203
Desktop power supply for RF-R200 (EU)	20 93 310 0203
Desktop power supply for RF-R200 (GB)	20 93 310 0204
Desktop power supply for RF-R200 (US)	20 93 310 0205





Ha-VIS RFID Box

Features

- Completely installed RFID system in electrical cabinet
- Tested and ready for connection
- Modular construction
- Customised configurations possible
- 2 mm VA steel electrical cabinet
- Railway standards
- Protection class IP65

Identification	Part. No.
Ha-VIS RFID Box (RF-R500-p-EU, eCon 2050-A)	20 91 421 1001
Ha-VIS RFID Box (RF-R500-c-EU, eCon 2050-A)	20 91 411 1001



Further reader and/or MICA combinations with and without cooling system are available on request

Ha-VIS UHF mobile reader Nordic ID Merlin

Features

- Mobile RFID handheld
- Extremely long read ranges of up to 5 m
- Robust
- Fully compatible with the Ha-VIS Application Suite

Identification	Part. No.
Merlin Cross Dipole	
UHF RFID 500 mW. EU	20 91 243 0121
UHF RFID 500 mW US	20 91 243 0122
UHF RFID 500 mW, laser scanner, EU	20 91 243 1121
UHF RFID 500 mW, laser scanner, US	20 91 243 1122
UHF RFID 500 mW, 2D imager, EU	20 91 243 3121
UHF RFID 500 mW, 2D imager, US	20 91 243 3122

Mobile reading devices with wider read ranges available on request

Accessories

Merlin docking station desktop incl. power supply, EU	20 93 306 0101
Merlin docking station desktop incl. power supply, US	20 93 306 0103
Merlin docking station desktop with Ethernet incl. power supply, EU/UK	20 93 306 0102
Merlin docking station desktop with Ethernet incl. power supply, US	20 93 306 0104
Merlin main battery, 2600 mAh, 7.4 V	20 93 405 0104
Merlin stylus pen	20 93 405 0109



Other Nordic ID products available on request



## Ha-VIS RFID UHF wide-range antenna

### Features

- Compact design
- Wide read range
- Suitable for industrial environment
- Optimised for portal applications
- 69° aperture angle
- Antenna gain: 8.5 dBic
- High IP65 protection
- Suitable for outdoor applications
- TNC socket
- 865 – 870 MHz (EU) or 902 – 928 MHz (US)

### Identification

RF-ANT-WR30-EU  
RF-ANT-WR30-US

### Part. No.

20 93 201 0102  
20 93 201 0103

### Accessories

RF-MOUNT-ANT-A  
RF-MOUNT-ANT-C

20 93 102 0103  
20 93 102 0101



## Ha-VIS RFID UHF robust wide-range antenna, 30° aperture angle

### Features

- Different aperture angles for azimuth and elevation planes (30° / 70°)
- Robust enclosure
- Compact design
- Wide read range
- Antenna gain: 11 dBic
- Suitable for industrial environment
- Optimised for portal applications
- High IP65 protection
- Suitable for outdoor applications
- N socket
- 865 – 870 MHz (EU) or 902 – 928 MHz (US)

### Identification

RF-ANT-WR80-30-EU  
RF-ANT-WR80-30-US

### Part. No.

20 93 201 0203  
20 93 201 0204

### Accessories

RF-MOUNT-ANT-B

20 93 102 0104





Ha-VIS RFID UHF mid-range antenna

- Features**
- Very compact design
  - Average read range (0.2 m – 2 m)
  - Suitable for industrial environments with near- and far-field applications
  - 100° aperture angle
  - Antenna gain: 2.5 dBic
  - High IP67 protection
  - Suitable for outdoor areas
  - TNC socket
  - 865 – 870 MHz (EU) or 902 – 928 MHz (US)

Identification	Part. No.
RF-ANT-MR20-EU	20 93 201 0301
RF-ANT-MR20-US	20 93 201 0302



Ha-VIS RFID UHF low-range antenna

- Features**
- Minimal size
  - Extremely high spatial selectivity
  - Suitable for industrial environments
  - Optimised for near-field applications (< 5 cm)
  - High IP67 protection
  - Suitable for outdoor areas
  - TNC socket
  - Can be used worldwide (860 – 930 MHz)

Identification	Part. No.
RF-ANT-LR10	20 93 201 0303



## Ha-VIS RFID UHF ultra low-range antenna

### Features

- Minimal size
- Extremely high spatial selectivity
- Suitable for industrial environments
- Optimised for muRata MAGICSTRAP®
- High IP67 protection
- TNC socket

### Identification

RF-ANT-μLR10-EU  
RF-ANT-μLR10-US

### Part. No.

20 93 201 0305  
20 93 201 0306



## Ha-VIS RFID UHF wide-range antenna

### Features

- Suitable for harsh environments
- Circular UHF antenna
- Wide range
- High-temperature version available
- Robust version for under train (stainless steel)
- Antenna gain: 8 dBic (WR24-r, WR24-t) or 9 dBic (WR24-i)

### Identification

Ha-VIS RF-ANT-WR24-i-EU\* (for harsh industrial applications)  
Ha-VIS RF-ANT-WR24-r-EU (for use under trains)  
Ha-VIS RF-ANT-WR24-t-EU (for high-temperature usage in industrial and railway applications)  
Ha-VIS RF-ANT-WR24-i-US\*  
Ha-VIS RF-ANT-WR24-r-US  
Ha-VIS RF-ANT-WR24-t-US

### Part. No.

20 93 201 0501  
20 93 201 0502  
20 93 201 0503  
20 93 201 0504  
20 93 201 0505  
20 93 201 0506



\* Available in Q1 2018



## Ha-VIS RFID LOCFIELD®

## Features

- Creating customised read zones
- Read range up to 2 m (with RF-R500-p)
- No reflections
- 865 – 870 MHz (EU) or 902 – 928 MHz (FCC)
- SMA (male) connector (TNC on request)

Identification	Part. No.
2 m (active length), total length 2.5 m, diameter 3 mm, SMA (m), EU	20 93 610 1100 10
2 m (active length), total length 2.5 m, diameter 3 mm, RP-TNC (m), EU	20 93 620 1100 10
2 m (active length), total length 2.5 m, diameter 3 mm, TNC female jack, EU	20 93 630 1100 10
2 m (active length), total length 3 m, low loss coax, diameter 5 mm, SMA (m), EU	20 93 610 2100 10
2 m (active length), total length 3 m, diameter 5 mm, RP-TNC (m), EU	20 93 620 2100 10
2 m (active length), total length 3 m, diameter 5 mm, TNC female jack, EU	20 93 630 2100 10
1 m (active length), total length 1.5 m, diameter 3 mm, SMA (m), EU	20 93 610 1100 20
1 m (active length), total length 1.5 m, diameter 3 mm, RP-TNC (m), EU	20 93 620 1100 20
1 m (active length), total length 1.5 m, diameter 3 mm, TNC female jack, EU	20 93 630 1100 20
0.3 m (active length), total length 0.6 m, diameter 3 mm, SMA (m), EU	20 93 610 1100 30
0.3 m (active length), total length 0.6 m, diameter 3 mm, RP-TNC (m), EU	20 93 620 1100 30
0.3 m (active length), total length 0.6 m, diameter 3 mm, TNC female jack, EU	20 93 630 1100 30
2 m (active length), total length 2.5 m, diameter 3 mm, SMA (m), FCC	20 93 610 1200 10
2 m (active length), total length 2.5 m, diameter 3 mm, RP-TNC (m), FCC	20 93 620 1200 10
2 m (active length), total length 2.5 m, diameter 3 mm, TNC female jack, FCC	20 93 630 1200 10
2 m (active length), total length 3 m, low loss coax, diameter 5 mm, SMA (m), FCC	20 93 610 2200 10
2 m (active length), total length 3 m, diameter 5 mm, RP-TNC (m), EU	20 93 620 2200 10
2 m (active length), total length 3 m, diameter 5 mm, TNC female jack, EU	20 93 630 2200 10



Identification	Part. No.
1 m (active length), total length 1.5 m, diameter 3 mm, SMA (m), FCC	20 93 610 1200 20
1 m (active length), total length 1.5 m, diameter 3 mm, RP-TNC (m), EU	20 93 620 1200 20
1 m (active length), total length 1.5 m, diameter 3 mm, TNC female jack, EU	20 93 630 1200 20
0.3 m (active length), total length 0.6 m, diameter 3 mm, SMA (m), FCC	20 93 610 1200 30
0.3 m (active length), total length 0.6 m, diameter 3 mm, RP-TNC (m), EU	20 93 620 1200 30
0.3 m (active length), total length 0.6 m, diameter 3 mm, TNC female jack, EU	20 93 630 1200 30
<b>Accessories</b>	
Coax extension cables	
Extension cable, SMA male – SMA female, 1 m	20 93 204 0112
Extension cable, SMA male – SMA female, 3 m	20 93 204 0113
Extension cable, SMA male – SMA female, 5 m	20 93 204 0114
TNC adapter TNC reverse-male – SMA female	20 93 204 0302
Adapter SMA female – N female	20 93 204 0303
<i>*Other lengths available on request</i>	

### Ha-VIS RFID standard antenna cable

#### Features

- 3 m standard cable
- SMA-TNC
- Attenuation: 68 dB/100 m (@800 MHz)

#### Identification

Ha-VIS Coax SMA-TNC, RG58, 3 m

#### Part. No.

20 93 204 0101



### Ha-VIS RFID low-loss antenna cable

#### Features

- 3 m and 10 m low-loss cable
- Attenuation: 26.5 dB / 100 m (@800 MHz)
- Outer diameter: 5.4 mm

#### Identification

Ha-VIS Coax SMA-TNC, H155 PVC, 3 m  
Ha-VIS Coax SMA-TNC, H155 PVC, 10 m  
Ha-VIS Coax SMA-N, H155 PVC, 3 m  
Ha-VIS Coax SMA-N, H155 PVC, 10 m  
Ha-VIS Coax TNC/TNC-RP, H155 PVC, 3 m  
Ha-VIS Coax TNC/TNC-RP, H155 PVC, 10 m  
Ha-VIS Coax N/TNC-RP, H155 PVC, 3 m  
Ha-VIS Coax N/TNC-RP, H155 PVC, 10 m

#### Part. No.

20 93 204 0102  
20 93 204 0103  
20 93 204 0104  
20 93 204 0105  
20 93 204 0121  
20 93 204 0122  
20 93 204 0131  
20 93 204 0132



### Ha-VIS RFID heavy-duty low-loss antenna cable

#### Features

- 3 m and 10 m low-loss cable
- Suitable for harsh environments
- Attenuation: 22 dB / 100 m (@800 MHz)
- Outer diameter: 10.3 mm
- TNC-N

#### Identification

Ha-VIS Coax TNC-N, RG 213, 3 m  
Ha-VIS Coax TNC-N, RG 213, 10 m

#### Part. No.

20 93 204 0106  
20 93 204 0107

#### Accessories

Adapter TNC-SMA

20 93 204 0301





Ha-VIS RFID railway antenna cable

Features

- For the harsh railway environment
- Complies with railway standards: DIN 5510-2, EN 45545-2, NF F 16-101
- Attenuation: 26 dB / 100 (at 1 GHz)
- Rigid inner conductor

Identification

Identification	Part. No.
Ha-VIS Coax SMA / TNC, SPU240FR, LSFH, 10 metres*	20 93 204 0123
Ha-VIS Coax SMA / TNC, SPU240FR, LSFH, 4.5 metres	20 93 204 0139
Ha-VIS Coax SMA / TNC, SPU240FR, LSFH, 2 metres	20 93 204 0138
Ha-VIS Coax TNC / TNC-R, SPU240FR, LSFH, EN 45545-2, 10 m	20 93 204 0133

\*Additional lengths and connector variants available on request



Ha-VIS RFID heavy-duty low-loss antenna cable ECOFLEX 10

Features

- 25 m and 35 m low-loss cable
- Suitable for harsh environments
- Attenuation: 12.5 dB/100 m (@800 MHz)
- Outer diameter: 10.2 mm

Identification

Identification	Part. No.
Ha-VIS Coax SMA-N, ECOFLEX 10, 25 m	20 93 204 0108
Ha-VIS Coax SMA-TNC, ECOFLEX, 25 m	20 93 204 0110
Ha-VIS Coax SMA-TNC, ECOFLEX, 35 m	20 93 204 0111



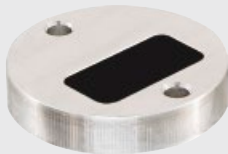
Ha-VIS RFID Steel ID series

Features

- Very robust and durable RFID transponders for maintenance applications in extremely harsh environments, where outstanding mechanical protection is required
- Different variants for EU and US/Asia frequencies
- Customised stainless steel enclosures available
- EPC Class 1 Gen 2 compatible
- The read range can be adjusted to small distances for better identification and localisation of objects
- Excellent mechanical shock resistance: up to IK 10

Identification

Identification	Part. No.
Ha-VIS RFID Steel ID 86 S Coin - BSR, 10 pieces	20 92 611 1101
Ha-VIS RFID Steel ID - customised for your requirements	On request



## Ha-VIS RFID VT series (HT)

### Features

- Functions on metal
- Robust, chemical-resistant enclosure
- EPC Class 1 Gen 2 compatible
- Protection class IP69K
- Expanded memory
- Versatile mounting options
- Version available for medical applications
- Customised solutions for mounting plates possible

### Identification

Identification	Part. No.
Ha-VIS RFID VT 89 S (HT) - 512 Bit - global, 10 pieces	20 92 641 0201
Ha-VIS RFID VT 89 S (HT) - 512 Bit - global, 50 pieces	20 92 641 0202
Ha-VIS RFID VT 86 S (HT) - 512 Bit - EU, 10 pieces	20 92 611 0201
Ha-VIS RFID VT 86 S (HT) - 512 Bit - EU, 50 pieces	20 92 611 0202
Ha-VIS RFID VT 92 S (HT) - 512 Bit - US/Asia, 10 pieces	20 92 621 0201
Ha-VIS RFID VT 92 S (HT) - 512 Bit - US/Asia, 50 pieces	20 92 621 0202
Ha-VIS RFID VT 89 L (HT) - 3.3 kBit - global, 10 pieces	20 92 642 0201
Ha-VIS RFID VT 89 L (HT) - 3.3 kBit - global, 50 pieces	20 92 642 0202
Ha-VIS RFID VT 86 L (HT) - 3.3 kBit - EU, 10 pieces	20 92 612 0201
Ha-VIS RFID VT 86 L (HT) - 3.3 kBit - EU, 50 pieces	20 92 612 0202
Ha-VIS RFID VT 92 L (HT) - 3.3 kBit - US/Asia, 10 pieces	20 92 622 0201
Ha-VIS RFID VT 92 L (HT) - 3.3 kBit - US/Asia, 50 pieces	20 92 622 0202
Ha-VIS RFID VT - medical version	On request
Ha-VIS RFID VT set - customised mounting holder	On request



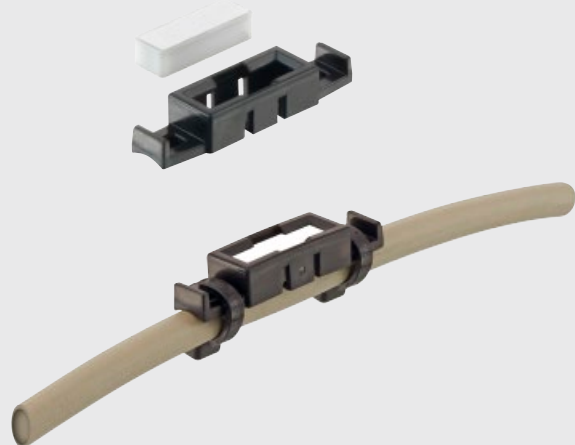
## Ha-VIS RFID IT series (NT)

### Features

- Very small and robust transponder, with wide read ranges on metal
- Different variants for EU and US/Asia frequencies
- User memory: 512 Bit
- EPC Class 1 Gen 2 compatible
- Read range on metal up to 3 m
- Good mechanical shock resistance
- Can be used for tool identification

### Identification

Identification	Part. No.
Ha-VIS RFID IT 86 S (NT) - 512 Bit - EU, 10 pieces	20 92 611 0901
Ha-VIS RFID IT 86 S (NT) - 512 Bit - EU, 50 pieces	20 92 611 0902
Ha-VIS RFID IT 92 S (NT) - 512 Bit - US/Asia, 10 pieces	20 92 621 0901
Ha-VIS RFID IT 92 S (NT) - 512 Bit - US/Asia, 50 pieces	20 92 621 0902





Ha-VIS RFID FT series (NT)

Features

- High quality RFID label
- Scratch- and smudge-resistant surface
- Washable, resistant to chemicals
- Variants with extremely high protection
- Variants for lower protection requirements
- Versatile printing options (custom logo, barcode, QR code, etc.)
- Versatile mounting on different surfaces
- Mounting with adhesive pad
- Variants for metallic / non-metallic surfaces
- Can be used worldwide
- EPC Class 1 Gen 2 compatible

Identification	Part. No.
Ha-VIS RFID FT 89 (NT), 500 pieces	20 92 641 0703
Ha-VIS RFID FT 86 on metal, 50 pieces	20 92 641 3786
Ha-VIS RFID FT 92 on metal, 50 pieces	20 92 641 3792
Ha-VIS RFID FT 89 on small (NT), 500 pieces	20 92 641 0803
Ha-VIS RFID FT 89 light (NT), 500 pieces	20 92 641 0713
Ha-VIS RFID FT 89 paper (NT), 500 pieces	20 92 641 0723
Label with customised printing (for orders over 10000 pieces)	On request

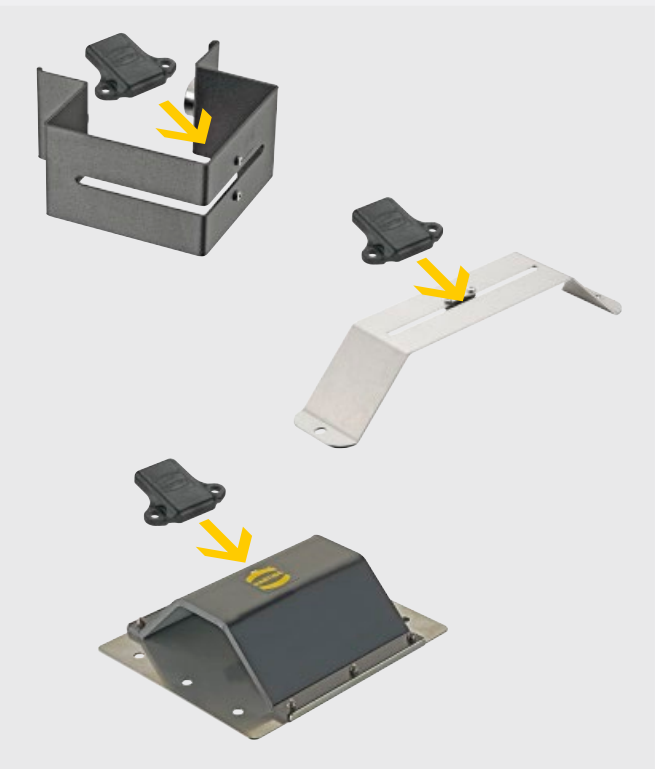


Ha-VIS RFID SL series (MT)

Features

- RFID transponder strategy for customised solutions
- Outstanding mechanical protection
- Protection class IP69K
- EPC Class 1 Gen 2 compatible
- Expanded memory
- Custom-shaped metal pieces for individual customer requests
- Wide read ranges possible > 15 m
- 512 bit user memory

Identification	Part. No.
Ha-VIS RFID SL 89 set – customised solution	On request
Ha-VIS RFID SL 89 set antenna bracket	20 92 641 1600
Ha-VIS RFID SL 89 set high speed	20 92 641 2600



## Ha-VIS RFID Control ETB series

### Features

- Intelligent RFID transponder: for operating with sensors and actuators, also in passive mode
- Can be used for monitoring (switching) conditions on rotating objects
- UHF RFID transponder with sensor functionality
- Monitoring function, e.g. for monitoring the status of a switch
- Requires no maintenance in passive mode, since no battery replacement is necessary
- Connection of sensors / actuators using a cable of up to 8 metre length
- EPC Class 1 Gen 2 compatible
- Functional read range (in passive mode) of up to 3 m
- Robust chemical-resistant enclosure – optimised for industrial use

### Identification

Ha-VIS RFID Control ETB 86v1 - EU Version, 1 piece  
 Ha-VIS RFID Control ETB 92v1 - US Version, 1 piece  
 Ha-VIS RFID Control ETB 86v2 - EU Version, 1 piece  
 Ha-VIS RFID Control ETB 92v2 - US/Asia Version, 1 piece

### Part. No.

20 92 614 7055  
 20 92 624 7055  
 20 92 615 7055  
 20 92 625 7055

Ha-VIS RFID Control ETB with sensors / actuators –  
 customised solution

On request



## Ha-VIS RFID LT 2.0 series (MT)

### Features

- Different variants for EU and US/Asia frequencies
- Large user memory: 3.3 kBit
- EPC Class 1 Gen 2 compatible
- Optimised for metallic surfaces
- Robust chemical-resistant enclosure – optimised for industrial use

### Identification

Ha-VIS RFID LT 2.0 86 L - EU Version, 1 piece  
 Ha-VIS RFID LT 2.0 92 L - US/Asia Version, 1 piece

### Part. No.

20 92 612 7155  
 20 92 622 7155





Ha-VIS middleware, certified software

Features

- Easy integration of UHF RFID for every project
- No programming effort required
- Reliable standardised solution
- Reading and writing of tag information
- Easy installation because it is delivered as a virtual appliance
- Various filter and aggregation options
- Possible to configure customised solutions
- Supports digital IO port cycle
- Reader monitoring
- Fast data processing
- Modular and scalable

Identification	Part. No.
Ha-VIS middleware app appliance	26 99 210 1110 10



Ha-VIS Application Suite

Features

- Versatile application solutions
- Compatible with the Ha-VIS middleware
- The software for integrating mobile recording devices
- Platform-independent application (Windows CE, Windows, Android, iOS)
- Based on open standards such as HTML 5

Identification	
<p>When purchasing a mobile recording device, ask for our powerful Ha-VIS Application Suite client: the efficient tool for the software developer and system integrator. Many of the standard applications (such as recording transponders, GS1®-compliant interpretation of data according to the GS1® tag data standard, or access to the different memory banks) can be used without any programming.</p> <p>Auto-ID@HARTING.com</p>	



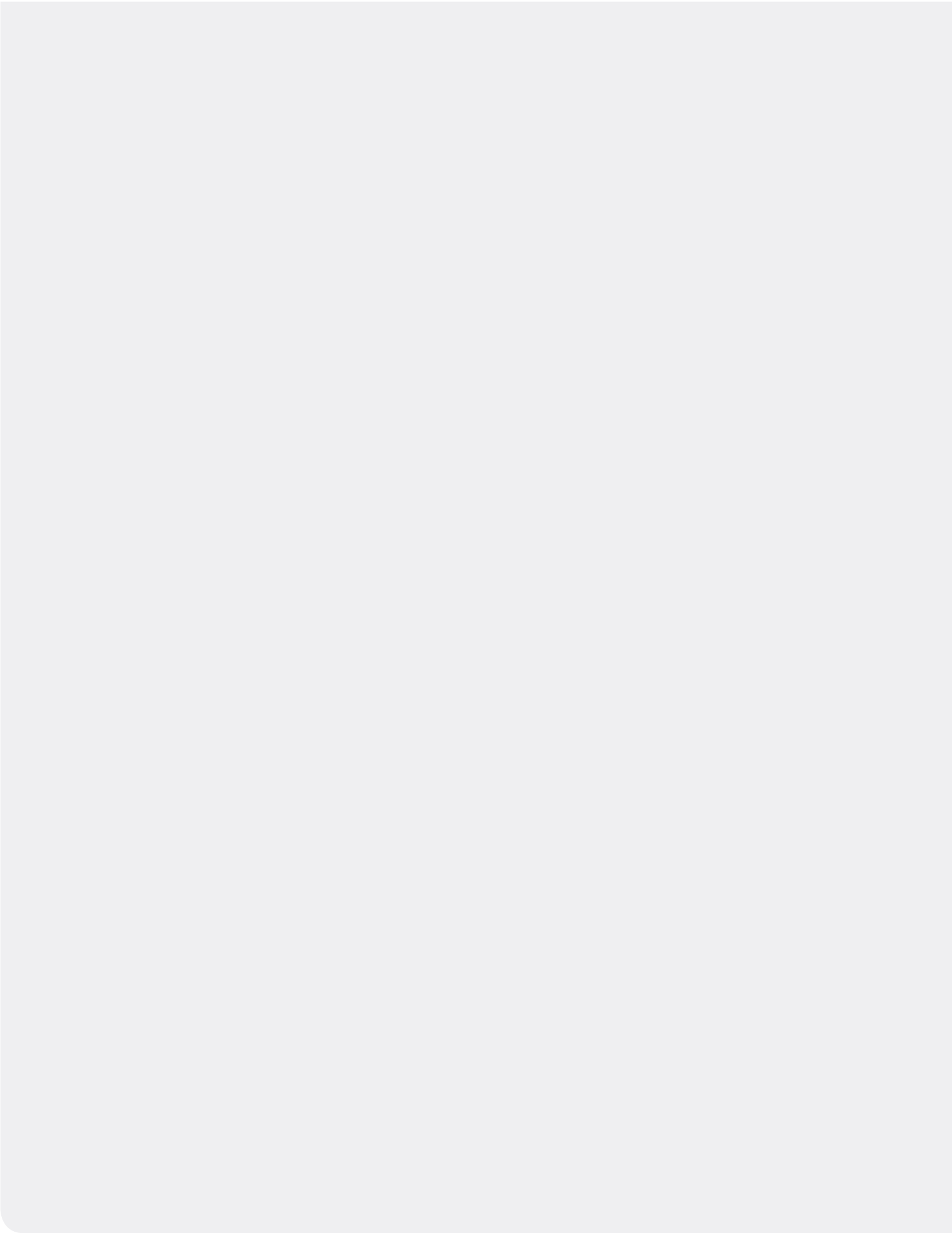
## Service

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- RFID proof-of-concept at customer's site or in the RFID laboratory
- Configuration service for the Ha-VIS RFID reader and middleware
- Consulting for RFID systems
- Training
- Phone support
- E-mail support
- If you are interested, please contact us or send us an email:  
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