Ha-VIS RFID RF-R400 Reader

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Advantages

- Applicable in rough, metal-containing industrial environments
- Robust aluminium housing
- High transponder population
- Very fast multiplexing speed
- Robust M12 and M8 connectors

General description

The Ha-VIS RF-R400 is a powerful 4 port UHF RFID reader. With the robust M12 (Ethernet) and M8 (power, IO and serial) connectors the reader is designed for the harsh industrial and railway environment. Even in time critical applications multiple antennas could be used due to its internal high speed multiplexer.

Technical characteristics

Transponder protocol	EPC Class 1 Gen 2 (ISO 18 000-6-c on request) EPC Class 1 Gen V2
UHF RFID antenna interface	
Antenna connection	4 x SMA connector (50 Ohm); Reader internally multiplexed
Output power	max. 2 W (configurable)
Frequency area	860 MHz … 928 MHz (depending on specific reader)
Interfaces	• Ethernet (TCP/IP) 10/100 Mbit/s; Full Spec. 802.3 • RS 232 • USB
Inputs	• 2 optocoupler (max. 24 V DC / 20 mA)
Outputs	• 2 optocoupler (24 V DC / 20 mA) • 2 relays (24 V DC / 1 A)
LED Diagnosis	
8 LEDs (from left to right)	• Run • Host communication • Warning • Input / output • Antenna 1 • Antenna 2 • Antenna 3 • Antenna 4
Performance	
Bulk-reading capability	< 150 Transponder / s
Max. reading distance	up to 16 meters, depending on kind of transponder & environmental conditions
Protocol modi	• Host Mode • Scan Mode • Notification Mode • Buffered Read Mode
Power supply	
Power supply	+ 24 V DC (± 5 %)
Current consumption	max. 2 A
Design features	
Material of housing	Aluminium, powder coated
Dimensions (W x H x D)	261.3 x 157.3 x 68 mm
Weight	2000 g
Degree of protection acc. to DIN 60 529	IP 64 (with protection cap) IP 53 (without protection cap, with rubber plug)
Installation on DIN rail	DIN rail mounting kit (optional accessories)

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Environmental conditions

Operating temperature	-25 °C … +55 °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	• 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	

Technical characteristics

Others	• RSSI • Action on EPC • Configuration cloning

Software

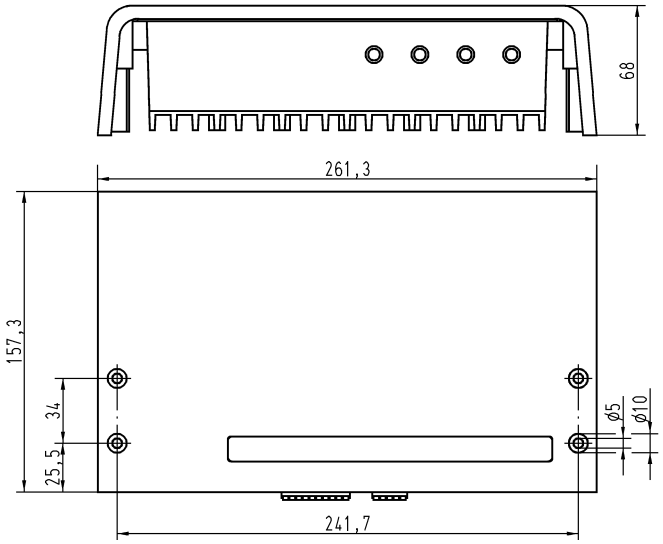
Demo- and configuration software	Ha-VIS RFID config
	• Windows® 7 (32 / 64 Bit) or Windows® 10
	• Hard disk with minimum free 30 MB memory space
	Ha-VIS Middleware

Railway (rolling stock) – available end of Q2/2017

Isolation	EN 50155
EMC	EN 50121-3-2
EMC	EN 50121-4
Vibration	EN 61373 Cat 1B
Shock	EN 61373 Cat 1B
Wet heat (cyclic)	EN 50155 / EN 60 068-2-30
Fire protection	EN 45545

Identification	Part number
Ha-VIS RFID RF-R400	
EU version	20 91 107 1101
US version	20 91 107 1102
Optional accessories	
DIN rail mounting kit	20 93 102 0201
Protection cap	20 93 901 0101
M8 cable assembly (2 m, for power supply - VCC)*	21 34 810 0489 020
M8 cable assembly (2 m, for RS 232, relay)*	21 34 B20 0821 020
M8 cable assembly (2 m, for IO)*	21 34 730 0821 020
M12 D-coded Ethernet cable (3 m)*	09 45 700 5025

Drawing — Dimensions in mm



** length just an example, another lengths on request*

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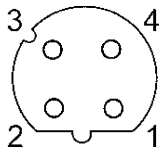
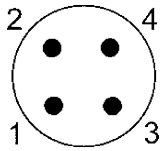
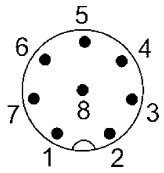
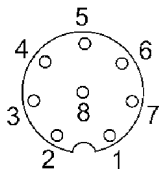
Technical characteristics

Connectors / Pin assignment

LAN (D-coded)		
1	TX+	
2	TX-	
3	RX+	
4	RX-	
VCC		
1	24 V-in	
2	24 V-in	
3	GND-in	
4	GND-in	
RS232 / RELAY		
1	RS232-RxD	
2	RS232-TxD	
3	GND	
4	+24 VDC	
5	RELAIS1-NO	
6	RELAIS1-COM	
7	RELAIS2-NO	
8	RELAIS2-COM	
IO		
1	OPTO-OUT1-E	
2	OPTO-OUT1-C	
3	OPTO-OUT2-E	
4	OPTO-OUT2-C	
5	OPTO-IN1-	
6	OPTO-IN1+	
7	OPTO-IN2-	
8	OPTO-IN2+	