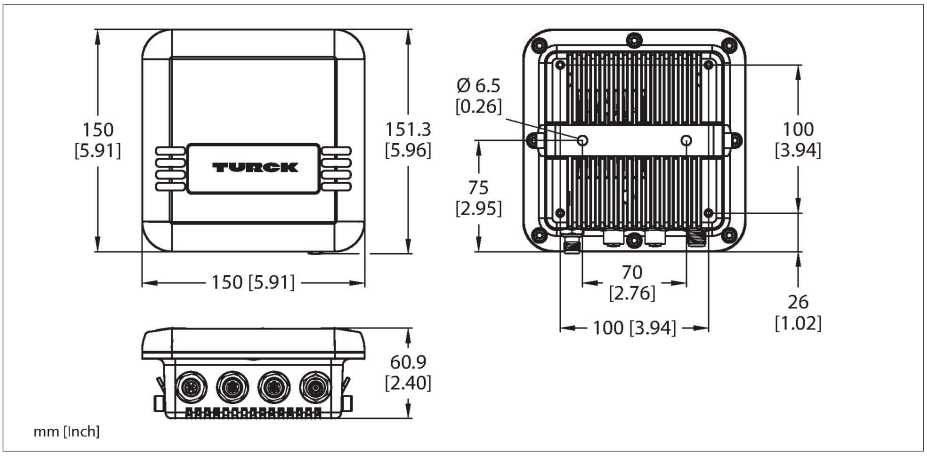
TN-UHF-Q150-NA-EN
UHF Reader



Technical data

Type	TN-UHF-Q150-NA-EN
ID	100018055
Approvals	UL FCC IC IFT
Electrical data	
Operating voltage U_B	12…30 VDC
DC rated operating current I_e	≤ 1200 mA
Data transfer	Alternating electromagnetic field
Technology	UHF RFID
Region (UHF)	USA, Canada, Mexico (902…928 MHz)
Radio communication and protocol standards	ISO 18000-63 EPCglobal Gen 2
Channel spacing	500 kHz
Output power	≤ 0.5 W (ERP), adjustable
Antenna polarization	RHCP/LHCP, adjustable
Antenna HPBW	90°
Output function	Read/Write
Mechanical data	
Mounting conditions	Non-flush
Ambient temperature	-30…+50 °C
Design	Rectangular
Dimensions	150 x 150 x 61.7 mm
Housing material	Aluminium, AL, Silver
Active area material	Glass fiber-reinforced polyamide, PA6-GF30, black

Features

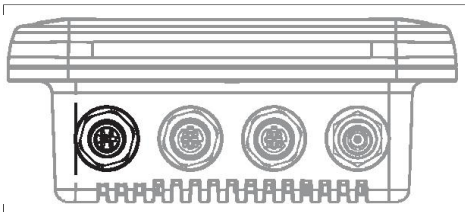
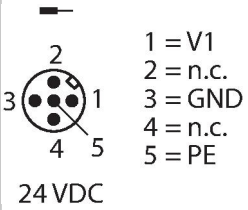
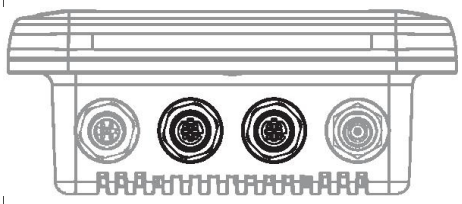
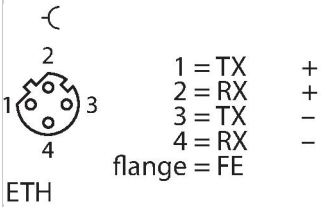
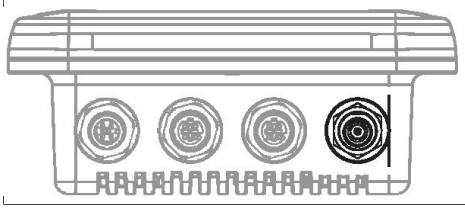
- Integrated web server with reader parameterization
- PROFINET device, EtherNet/IP device or Modbus TCP slave
- PROFINET S2 system redundancy
- Integrated Ethernet switch
- Web-based UHF RFID test tool for easy air interface evaluation
- Active face in front, UV resistance
- 1 connection for passive UHF RFID antennas
- "U" data interface for convenient use of the RFID functionality
- Close-to-control integration in PLC systems without the use of a special function module
- LEDs and diagnostics
- Device only suitable for operation in North America (NA) at 902…928 MHz (USA, Canada, Mexico)

Functional principle

The UHF readers form a transmission zone, the size of which may vary depending on the combination of reader and tag used.
The achievable distances may be different due to component tolerances, mounting location in the application, ambient conditions and the effect of materials (particularly metal).
Testing of the application under real operating conditions is therefore essential, especially with on-the-fly reading and writing!

Technical data

Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
Electrical connection	RP-TNC
Input impedance	50 Ohm
MTTF	49 years acc. to SN 29500 (Ed. 99) 20 °C
Fieldbus Protocol	PROFINET EtherNet/IP Modbus TCP
RFID data interface	UHF
Transmission rate Ethernet	10/100 Mbps
Connection technology Ethernet	2 x M12, 4-pin, D-coded
Web server	Default: 192.168.1.254
Modbus TCP	
Addressing	Static IP, BOOTP, DHCP
Supported function codes	FC1, FC2, FC3, FC4, FC5, FC6, FC15, FC16, FC23
Number of TCP connections	8
Ethernet/IP	
Addressing	acc. to EtherNet/IP specification
Device Level Ring (DLR)	supported
Input Assembly Instance	103
Input Data Size	248
Output Assembly Instance	104
Output Data Size	248
Class 1 connections (CIP)	10
Class 3 connections (TCP)	3
Configuration Assembly Instance	106
PROFINET	
Addressing	DCP
MinCycleTime	4 ms
Diagnostics	acc. to PROFINET alarm handling
Automatic addressing	supported
Media Redundancy Protocol (MRP)	supported
Input Data Size	max. 512
Output Data Size	max. 512
Packaging unit	1

	Accessories Power supply cable (example): RK 4.5T-2-RS 4.5T Ident no. U2187-1	M12 × 1 power supply 
	Accessories Ethernet cable (example): RSSD RSSD 441-2M Ident no. U-02482	M12 × 1 Ethernet 
	Accessories Coaxial cable (example): TN-UHF-CBL-HF240-RPTNC-2-SMA	RP-TNC (male)