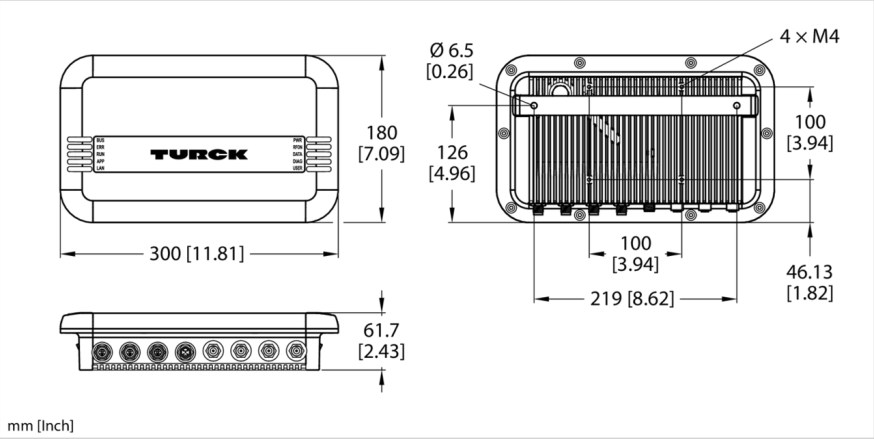
TN-UHF-Q180L300-KOR-CDS

UHF reader



Type designation	TN-UHF-Q180L300-KOR-CDS
Ident-No.	100000942

Technical data

Power supply	
Operating voltage U_B	18...30 VDC
Electrical data	
Output function	Read/Write
Channel spacing	200 kHz
Data transfer	Alternating electromagnetic field
DC rated operational current	≤ 3500 mA
Output power	Conducted power: ≤ 30 dBm, adjustable
Region (UHF)	Korea (917...920.8 MHz)
Technology	UHF RFID
Controller	
Processor	ARM Cortex A8, 32 Bit, 800 MHz
Memory	256 MB Flash
RAM memory	512 MB DDR3
PLC data	
Programming	CODESYS V3
Released for CODESYS version	V 3.5.11.20
Programming languages	IEC 61131-3 (IL, LD, FBD, SFC, ST)
Application tasks	10

Features

- Integrated web server with reader parameterization
- Web-based UHF RFID test tool for easy air interface evaluation
- Resistant to UV radiation
- 4 connections for passive UHF RFID antennas
- 4 configurable digital channels as PNP inputs and/or outputs with 0.5 A per channel
- Programmable according to IEC 61131-3 with CODESYS V3
- CODESYS V3 PLC runtime
- CODESYS OPC-UA server
- PROFINET device, EtherNet/IP device or Modbus TCP client/server
- "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 Korea (KOR) at 917…920 MHz

Functional principle

The UHF readers form a transmission zone, the size of which may vary depending on the combination of reader and tag used.

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Technical data

Number of POUs	1024
Programming interface	Ethernet
Cycle time	< 1 ms for 1000 IL commands (without I/O cycle)
Input data	8 kByte
Output data	8 kByte
Power over Ethernet	
PoE standard	IEEE 802.3at (PoE+)
System data	
Transmission rate Ethernet	10/100 Mbps
Connection technology Ethernet	1 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
Input Data Size	max. 2014 Register
Output Data Size	max. 1024 Register
EtherNet/IP	
Addressing	acc. to EtherNet/IP specification
Device Level Ring (DLR)	supported
Class 3 connections (TCP)	3
Class 1 connections (CIP)	10
Input Assembly Instance	103
Input Data Size	248 INT
Output Assembly Instance	104
Output Data Size	248 INT
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 BYTE
Output Data Size	max.512 BYTE
RFID	

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!

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Technical data

RFID data interface	UHF
Digital inputs	
Number of channels	4
Connectivity inputs	M12, 5-pin
Input type	PNP
Type of input diagnostics	Channel diagnostics
Switching threshold	EN 61131-2 Type 3, PNP
Low-level signal voltage	< 5 V
High level signal voltage	> 11 V
Low level signal current	< 1.5 mA
High level signal current	> 2 mA
Digital outputs	
Number of channels	4
Connectivity outputs	M12, 5-pin
Output type	PNP
Type of output diagnostics	Channel diagnostics
Mechanical data	
Design	Rectangular
Construction type designation	Q180L300
Dimensions	300 mm x 180 mm x 61,7 mm
Housing material	Aluminium, AL, Silver
Active area material	Glass fiber-reinforced polyamide, PA6-GF30, black
Electrical connection	RP-TNC
Input impedance	50 Ohm
Mounting conditions	Non-flush
Ambient conditions	
Ambient temperature	-20...+50 °C
Shock test	acc. to EN 60068-2-27
Shock resistance	30 g (11 ms)
Vibration resistance	55 Hz (1 mm)
Vibration test	Acc. to EN 60068-2-6, acceleration up to 20 g
Protection class	IP67
Tests/approvals	
Approvals	KCC
MTTF	49 Years acc. to SN 29500 (Ed. 99) 20 °C

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Technical data

Comments	
Packaging unit	1

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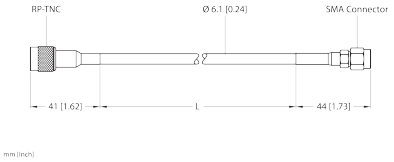
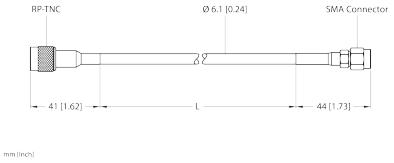
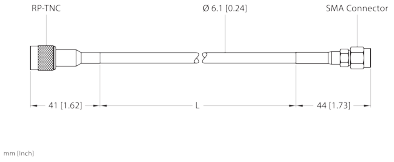
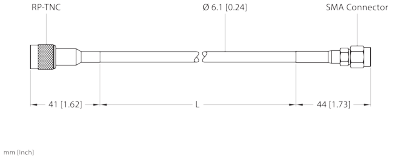
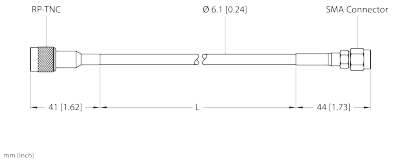
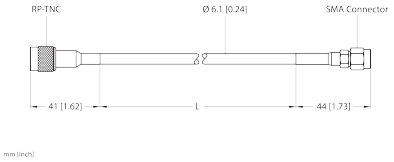
Connection accessories

TN-UHF-CBL-HF240-RPTNC-1-SMA	**100028191**
	HF240 coaxial cable, length 1 m
TN-UHF-CBL-HF240-RPTNC-2-SMA	**100028192**
	HF240 coaxial cable, length 2 m
TN-UHF-CBL-HF240-RPTNC-4-SMA	**100028193**
	HF240 coaxial cable, length 4 m
TN-UHF-CBL-HF240-RPTNC-6-SMA	**100028194**
	HF240 coaxial cable, length 6 m
TN-UHF-CBL-HF240-RPTNC-8-SMA	**100028195**
	HF240 coaxial cable, length 8 m
TN-UHF-CBL-HF240-RPTNC-10-SMA	**100028196**
	HF240 coaxial cable, length 10 m
TN-UHF-CBL-HF240-RPTNC-12-SMA	**100028197**

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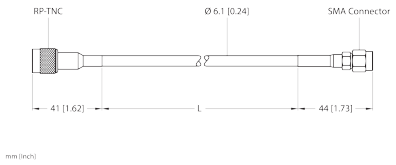
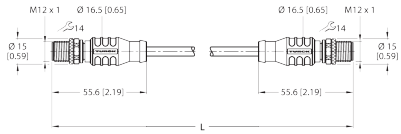
Connection accessories



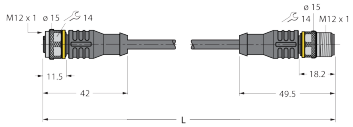
HF240 coaxial cable, length 12 m

RSSD-RSSD-4422-2M	6635150



Cable for Industrial Ethernet, M12 male connector, D-coded, straight to M12 male connector, D-coded, straight, cable length: 2 m, jacket material: PUR, green

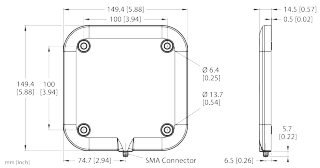
RKC5T-2-RSC5T/TXL	6625616



Extension cable, M12 female connector to M12 male connector, straight, 4-pin + PE, cable length: 2 m, jacket material: PUR, black; cULus approval

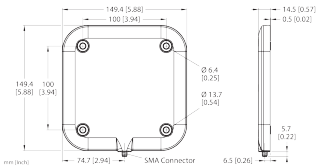
Functional accessories

TN-UHF-ANT-Q150-FCC	100028596



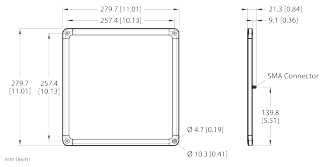
Passive UHF RFID antenna, dimensions 150 × 150 mm

TN-UHF-ANT-NF-Q150-ETSI-FCC	100028594



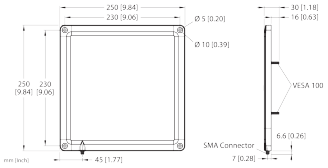
Passive UHF RFID near-field antenna, dimensions 150 × 150 mm

TN-UHF-ANT-Q280-FCC	100028602



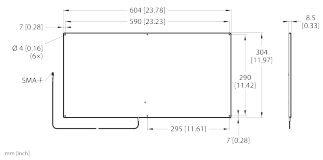
Passive UHF RFID antenna with integrated VESA100 pins, dimensions 280 × 280 mm

TN-UHF-ANT-Q250-FCC	100028600

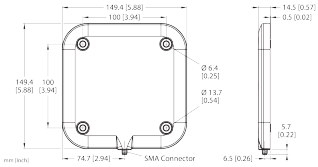


Passive UHF RFID antenna, dimensions 250 × 250 mm

TN-UHF-ANT-Q300L600-FCC	100047593



TN-UHF-ANT-Q150-MR-FCC	100047589



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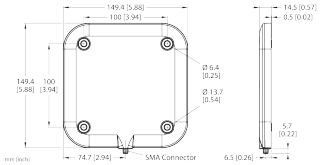
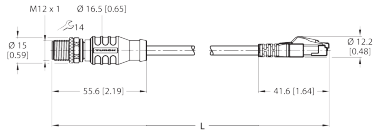
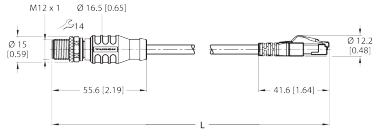
Functional accessories

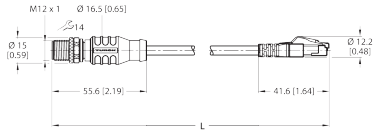
TN-UHF-ANT-Q150-LX-FCC	100047591



Connection accessories - network

RSSD-RJ45S-4422-2M	6635170
	Cable for Industrial Ethernet, M12 male connector, D-coded, straight to RJ45 male connector, straight, cable length: 2 m, jacket material: PUR, green

RSSD-RJ45S-4422-7M	6635579
	Cable for Industrial Ethernet, M12 male connector, D-coded, straight to RJ45 male connector, straight, cable length: 2 m, jacket material: PUR, green

RSSD-RJ45S-4422-8M	6635538
	Cable for Industrial Ethernet, M12 male connector, D-coded, straight to RJ45 male connector, straight, cable length: 2 m, jacket material: PUR, green

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