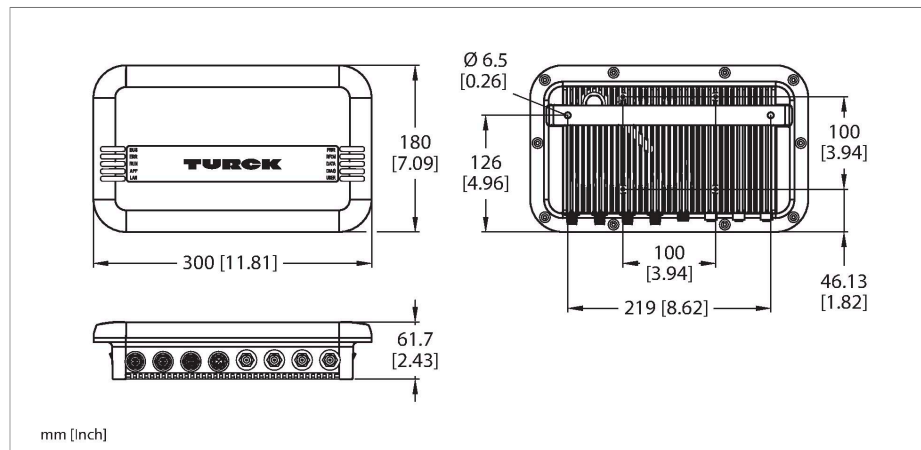


TN-UHF-Q180L300-NA-CDS

UHF Reader



Technical data

Type	TN-UHF-Q180L300-NA-CDS
ID	100000934
Approvals	UL FCC IC IFETEL
Electrical data	
Operating voltage	18...30 VDC
DC rated operational current	≤ 3500 mA
PoE standard	IEEE 802.3at (PoE+)
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	Conducted power: ≤ 30 dBm, adjustable
Output function	Read/Write
Mechanical data	
Mounting conditions	Non-flush
Ambient temperature	-20...+50 °C
Design	Rectangular
Dimensions	300 x 180 x 61.7 mm
Housing material	Aluminium, AL, Silver
Active area material	Glass fiber-reinforced polyamide, PA6-GF30, black
Vibration resistance	55 Hz (1 mm)

Features

- Integrated web server with reader parameterization
- Web-based UHF RFID test tool for easy air interface evaluation
- Active face in front, UV resistance
- 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 master/slave
- "U" data interface for convenient use of the RFID functionality
- Close-to-control integration in PLC systems without the use of a special function block
- LEDs and diagnostics
- Device only suitable for operation in North America (NA) at 902...928 MHz (USA, Canada, Mexico)

Functional principle

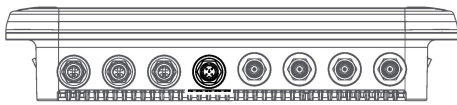
The UHF readers form a transmission zone, the size of which may vary depending on the combination of reader and tag used. The achievable distances may be different due to component tolerances, mounting location in the application, ambient conditions and the effect of materials (particularly metal). Testing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

Technical data

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
System description	
Processor	ARM Cortex A8, 32 Bit, 800 MHz
Memory	256 MB Flash
RAM memory	512 MB DDR3
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
Number of POUs	1024
Programming interface	Ethernet
Cycle time	< 1 ms for 1000 IL commands (without I/O cycle)
Input data	8
Output data	8
RFID data interface	UHF
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
Output Data Size	max. 1024
Input Data Size	max. 2014
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

Technical data

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
Digital inputs	
Number of channels	4
Connectivity inputs	M12, 5-pin
Input type	PNP
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
Type of input diagnostics	Channel diagnostics
Digital outputs	
Number of channels	4
Connectivity outputs	M12, 5-pin
Output type	PNP
Type of output diagnostics	Channel diagnostics
General Information	
Packaging unit	1

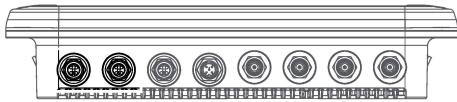
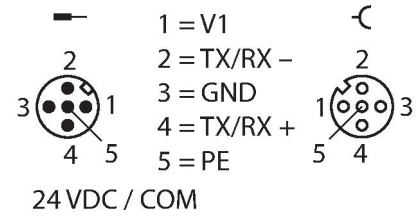


Accessories

Power supply cordset (example):
EKRT-ESRT-A4.220-GC0K-2
Ident no. 100040033

Power supply + BL ident communication
cordset (example):
RK 4.5T-2-RS 4.5T/S2501
Ident no. U3-01243

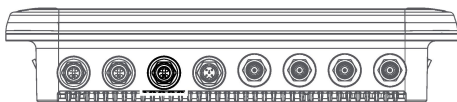
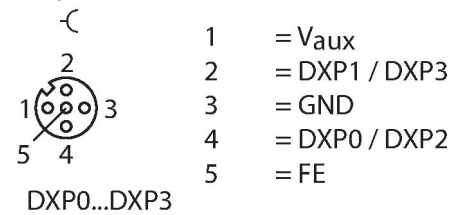
M12 × 1 Power Supply



Accessories

Accessories:
Connection cable , 2-channel (example):
RK 4.4T-2-RS 4.4T
Ident no. U2445
Splitter, 1-channel (example):
YB2-FSM 4.5-2FKM 4.5
Ident no. U0875-78

I/O port M12 × 1



Accessories

Ethernet cable (example):
RSSD RSSD 441-2M
Ident no. U-02482

M12 × 1 Ethernet

