OptiXstar T823E-T Datasheet 04

Case-shaped Industrial ONU Date: 2024-02-08

Product Overview

Huawei OptiXstar T823E-T is an industrial-grade edge computing IoT gateway ONU used in the Huawei Industry OptiX solution. On the network side, it provides 2 XGS-PON upstream ports. On the user side, it provides 8 GE ports with the PoE++ function, 2 RS232/RS485 serial ports, and 2 DI/DO ports. The product supports high-performance forwarding, edge computing, IoT access, and 1588v2 time synchronization with nanosecond-level transmission precision, providing an ideal network solution integrating IoT and edge computing for the electric power industry.

Product Highlights

- Industrial-grade design, high reliability, and high protection level
  - Dual XGS-PON upstream transmission
  - Type C hand-in-hand service protection
  - Surge protection capability of 6 kV in common mode for the Ethernet port
- Precise time synchronization
  - Supports the IEEE 1588v2 function, provides nanosecond-level transmission precision, and provides high-precision timing for various devices
  - Timestamps are added to hardware with a deviation lower than 10 µs. Fault demarcation is supported for access devices connected to different ports
- Intelligent development
  - Open software and hardware resources enable unified access and visualized management of sensors from multiple vendors on multiple networks
  - Supports container management and on-demand app deployment

- Supports the IEC 61850 protocol in the northbound direction and can connect to various IoT platforms

- Easy deployment and O&M
  - Placed on an indoor desktop, installed in a 19 inch cabinet or network box
  - 8-port PoE++ power supply
  - Centralized management on eSight

- Multi-network convergence, supporting ONU port-level hard-isolated. Different ports of an ONU can be securely connected to multiple networks through the hard-isolated technology.

Technical Specifications

Dimensions (W*D*H. Unit: mm)	250 * 180 * 43.6 (without mounting ears) 482.6 * 180 * 43.6 (with 19-inch mounting ears)	**System power supply**	PoE power supply scenario: DC 54 V to 57 V Non-PoE power supply scenario: DC 12 V to 60 V **NOTE** The external power supply system needs to be purchased separately. Huawei 240 W PoE AC power module PAC240S56-CN is recommended for the external power supply system.
Weight	About 1.8 kg	**Rated voltage and current**	DC 56V, 4.5A
NNI	1*XGS-PON SFP+ + 1*XGS-PON BOB	**Surge protection specifications**	Ethernet port: common mode 6 kV; differential mode 1.5 kV DC power port: common mode 4 kV; differential mode 2 kV
UNI	8*GE(PoE++) + 2*RS485/RS232 + 1*DI + 1*DO	**EMC**	Class A
Static power consumption	11 W (PoE port without PD)	**Heat dissipation mode**	No fans, natural heat dissipation
Maximum Power Consumption	239 W (PoE ports connected with PDs)	**Operating temperature**	-40°C to +70°C
Maximum PoE output power consumption	220 W (for total power consumption) 60 W (for every GE port power consumption)	**Operating humidity**	5%RH to 95%RH (non-condensing)
Protection Level	IP40	**Clock synchronization**	Supports 1588v2 time synchronization with a synchronization precision of 50ns. Edge computing

Edge computing

CPU	ARM, Dual Core@1 GHz, providing 1 computing power for edge computing
Container	Maximum open storage capacity: 256 MB; Maximum open memory: 1.5 GB Installing, uninstalling, starting, and stopping apps

	Installing and uninstalling containers Upgrading apps in overwriting and incremental modes IEC61850 and time service with a precision of 10 µs over third-party container software

Port Parameters

NNI - XGS-PON Port (1*SFP+ + 1*BOB)

- Port type: SC/UPC
- Complying with ITU-T G.9807.1, Class N1/N2
- Transmission rate: RX 9.953 Gbit/s, TX 9.953 Gbit/s
- Maximum transmission distance: 20 km
- Optical receiver sensitivity: –28 dBm
- Overload optical power: –8 dBm

NOTICE

If the optical power is higher than the overload optical power, the equipment may be reset or damaged. In this case, please connect an optical attenuator.

UNI - GE Electrical Port

- Port type: RJ-45
- PoE++, complying with IEEE 802.3af, IEEE 802.3at, IEEE 802.3bt
- Auto ports speed(10/100/1000 Mbit/s)

UNI - RS485/RS232 Port

- Port type: RJ-45
- RS485: complying with TIA/EIA-485, ITU-T V.24, ITU-T V.28
- RS232: complying with TIA/EIA-232, ITU-T V.24, ITU-T V.28

UNI - DI/DO

- The DI is connected to devices such as the door status sensor, infrared sensor or other devices
- The DO is connected to the external alarm device or other devices
- DI/DO port type: RJ-45

PWR Port - DC

- Port type: 2-pin Phoenix terminal

Function List

Automatic Service Provisioning

- Authentication exemption
- XML/OMCI

Network Protection

- Type B Protection
- Type C Protection
- Ring network detection

Layer 3 Features

- Default/Static/Policy/Service Route
- VLAN binding
- ALG/UPnP/ARP
- DDNS/DMZ/DNS/NAPT
- PPPoE/Static IP/DHCP
- Port mapping/Port trigger
- IPv6

Security

- Filtering based on MAC/IP/URL
- DoS/ARP anti-attacks
- Web session number restriction
- Device access control
- 802.1x authentication modes: EAP-MD5, TLS, TTLS, and PEAP
- Static MAC address binding
- IPv6/IPv4 firewall
- ONU Port-Level Hard-Isolated

Multicast

- IGMP v2/v3 snooping
- Dynamic controllable multicast
- IGMP Proxy
- MLDv1/MLDv2 snooping

QoS

- Ethernet port rate

Smart O&M

- XML/Web UI
- Centralized management on eSight
- Rogue ONT detection and self-regulation
- PPPoE/DHCP simulation testing
- Serial port data collection and transmission
- Transparent transmission of serial port

Layer 2 Management

- DHCP Option82
- PITP
- BPDU transparent transmission
- LLDP/LLDP-MED

limitation • 802.1p priority • SP/WRR/SP+WRR	data • High temperature alarm and shutdown	

240 W AC PoE Power Module Specifications

Item	Specification
Appearance	
Input and Output	One power input: • 77 V to 300 V DC (Industrial terminal) • 90 V to 290 V AC (Industrial terminal) Four power outputs: • 56 V DC (Industrial terminal)
power consumption	240 W
Weight	1.47 Kg
Dimensions (W*D*H)	65 mm * 133 mm * 150 mm
Storage temperature	–40°C to +85°C
Installation mode	DIN guide rail mounting mode
Operating temperature	–40°C to +70°C
Operating humidity	5%RH to 95%RH (non-condensing)

Auxiliary list (delivered with the power module)

Item	Quantity	Description
AC power cable	1pc	• Rated voltage: 250 V AC

Item	Quantity	Description
		• Rated current: 10 A • Cable length: 1.0 m
Single-wire cord end terminal	3pcs	• Cable diameter: 1.5 mm^2 • Insertion depth: 8 mm

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