taara

Wireless Optical Communication

Taara Lightbridge
Datasheet

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Overview

Taara uses Wireless Optical Communication (WOC), a line-of-sight technology, to transmit video, voice and data at high speeds of up to 20 Gbps. A single link can cover distances up to 20 km. The effective range may be increased by relaying links.

Taara's wireless links can be used to provide fiber backhaul, rapidly extend existing architecture, and create local area networks. Key advantages include:

01

Quick deployment

- Can be installed and uninstalled in less than a day
- Easy to transport and require limited support equipment
- May be mounted on poles, towers, or rooftops

02

Connectivity across difficult terrain

- Sites located around water bodies
- Forested regions
- Railway tracks and dense urban areas

03

No right of way permits

- No right of way permits or spectrum licenses
- Data is transmitted wirelessly with Class 1M eye-safe lasers in the unlicensed infrared band (193 THz)

04

Cost competitive & easy to integrate

- Significantly favorable economics on a cost per GB/km compared to traditional alternatives
- Based on open standards to work with existing infrastructure

If you require further information, please contact info@taaraconnect.com.
For media inquiries, please contact press@taaraconnect.com.

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Terminal specifications

PARAMETER	VALUE
Throughput	20 Gbps full-duplex
Range	400 m to 20 km
Latency	Minimum latency (processing delay) < 160 µs Mean latency < 5 ms Maximum latency < 100 ms
Dimensions	220 mm x 240 mm x 750 mm
Weight	13 kg
Regulatory compliance	IEC 62368-1, 60950-22, FCC 15.b, EN 300 386

Power specifications

PARAMETER	VALUE
Power consumption	40 W typical; 60 W maximum
Power connections	± 38 to ± 58 V ± 48 V DC (nominal) or PoE++ (UPoE)
Maximum current drawn	1.25 A

Environmental specifications

PARAMETER	VALUE	
Operating temperature range (ambient)	-20 to 55°C	Can operate at up to 65° solar loading
Storage temperature range (ambient)	-40 to 85°C	
Relative humidity	5 – 100 %	
Enclosure rating	IP 65	

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Line-of-sight specifications

| PARAMETER	VALUE
Allowable tower twist/sway	± 3 degrees
Alignment	Automated search and acquisition
Mounting bracket weight	3.7 kg
Mounting bracket dimensions	0.25 m x 0.2 m x 0.18 m
Mounting pole diameter	63.5 mm - 101.6 mm

Laser specifications

PARAMETER	VALUE
Classification	Class 1M (eye safe)
Maximum output power	25 dBm 30 dBm for 0.5.1 or higher version software
Wavelength range	1535 – 1565 nm
Regulatory compliance	IEC 60825-1, 60825-12, 21CFR Part 1040

Interface specifications

PARAMETER	VALUE	
Network connections	Two 10 GbE optical SFP+ ports (data) One 1G RJ-45 Ethernet port (management)	
Supported SFP+ types	10 GBASE-SR, 10 GBASE-SRL, 10 GBASE-LR, 10 GBASE-LRM, 10 GBASE-ER, 10 GBASE-ZR	
Equipment management system	SNMP v3 IETF RFC 3413 customized management information base compatible with commercial SNMP software	
Supported data protocol	IEEE 802.3 10 GbE	Including jumbo ethernet frames
Performance monitoring	1 Hz telemetry including: • Transmit and received power • System reset/alarm flags • Throughput (bps) • Latency • Pointing system statistics	
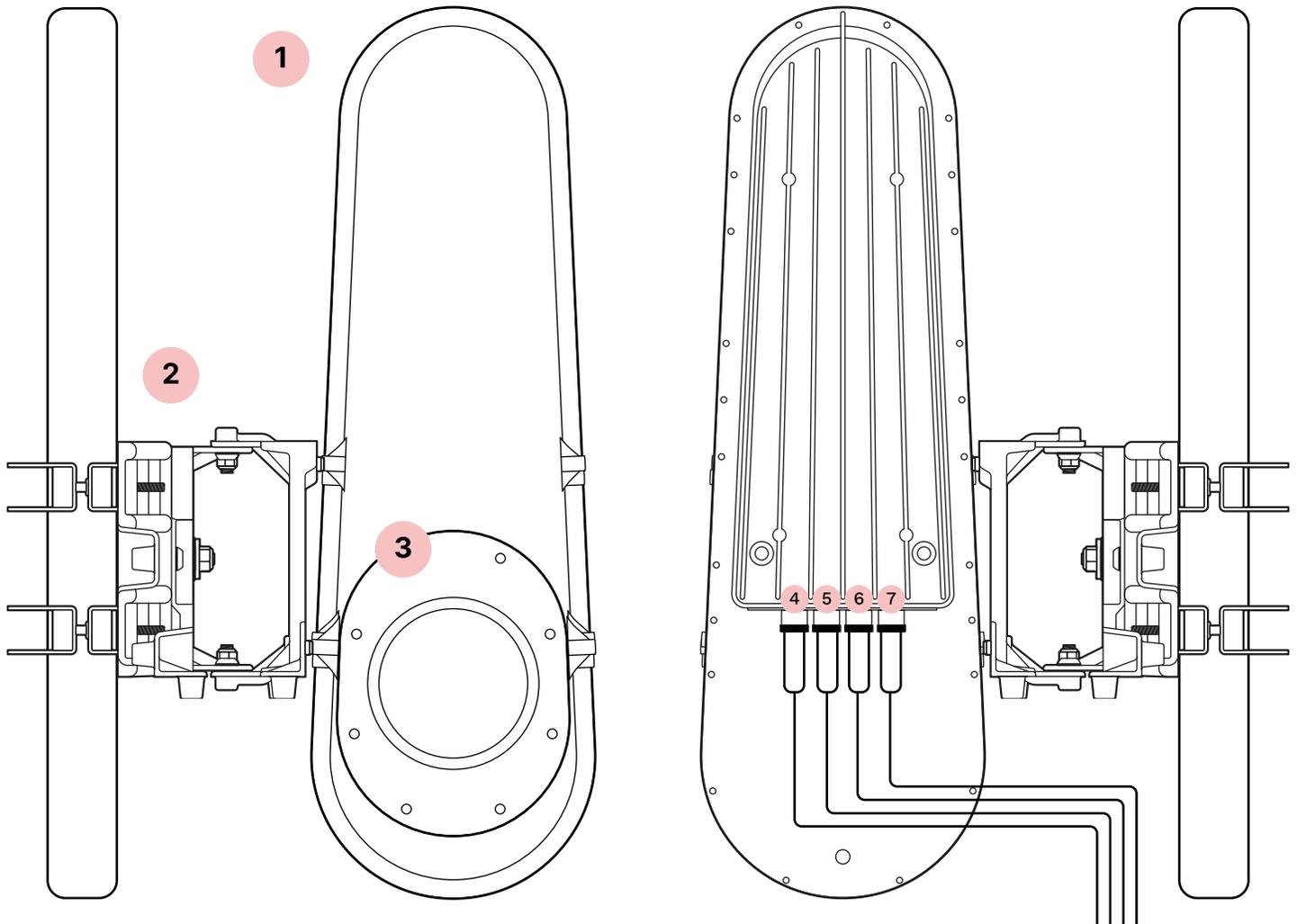
1 Chassis	**3** Window	**5** Octis SFP connector (Channel 1)	**7** Octis DC connector
2 Mounting bracket	**4** Octis SFP connector (Channel 2)	**6** Octis RJ45 connector	