



GEM Atmospheric laser communication system

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OVERVIEW

Wireless laser communication refers to the laser wave as the carrier, the atmosphere as the transmission medium optical communication. Compared with microwave communication, laser communication with information capacity, frequency bandwidth, anti-electromagnetic interference ability, good confidentiality and so on. Compared with wired and optical fiber communication, it has the advantages of flexibility, less impact on municipal construction, low running cost and easy promotion. Laser communication does not take up radio spectrum resources, do not need to apply for frequency license, there is no laying the road to dig the road, set up a flexible, you can complete the ground, ground to air, air to air and other optical fiber communication can not complete the communication task

FEATURES

- Full-duplex: This product uses visible light, infrared light dual-band transmission, while visible light can also be used as a beacon light, greatly improving the transmission speed and stability.
- high bandwidth: $\geq 300\text{Mbps}$.
- high rate: the same rate of transmission with the same speed.
- external optical interface or USB interface.
- bit error rate: better than $10\text{E-}6$;
- confidential communication: the working wavelength of the product are in the order of microns, and divergence angle than microwave communication at least three to four orders of magnitude, to capture such a narrow beam is very difficult, and it has good electromagnetic compatibility, Electromagnetic interference ability, greatly improving the confidentiality of military communications.

SPECIFICATIONS

Project	Atmospheric laser communication system
Power supply	+12V DC
Communication distance	0.2~3km
Source light	Fiber laser
Wavelength	1.54μm
Output laser power	800mW
Laser power adjustment range	100~800mW
Beam divergence angle	1mrad
Spot diameter	3m (at 3km)

Applications

- military facilities or other vital departments need to strictly confidential occasions, such as nuclear power plants, prisons, finance, law, public security, armed police, border, government and other confidential departments. 2, should not be used or restricted the use of radio communications, such as around the airport.
- technically or economically unfit to lay the cable area, such as the oil field between the wells, rivers, rivers, lakes, straits, ravines and other complex landscape, the city buildings and other buildings.
- the emergency situation when the emergency communications needs, such as earthquakes, fires, floods and other post-disaster communications contingency plans, emergency communications and other anti-terrorism attacks.
- the temporary communication needs of specific users, such as large-scale rally activities, exhibitions, live events and high-definition image signal transmission and other needs of the fast opening business occasions.
- wireless laser communication for telecom operators to provide a wide range of communications services, such as metropolitan area network construction and the last mile access business, mobile communication base station interconnection business, wireless base station data backhaul business, optical fiber communication and microwave Communication redundancy link backup services.