



## LFGB Series

Genius to Optical Fiber Converter(for ring networks)

- Support Geniusbus
- IP30 protection, 35mm DIN-Rail
- Fault intelligent cut function
- Two power supply redundancy
- Industrial design, no fan, low power consumption,
- Strong anti magnetic interference, anti radiation
- Support ring networks topology



### Introduction

The LFGB Series is industrial optical fiber communication product designed specially for genius remote transmission. By converting genius cable communication to optical fiber communication, to realize signal Photoelectric isolation and isolate completely electrical interference, at the same time, extend the transmission distance, increase the number of nodes and change the genius network topology.

The LFGB1 series contains one fiber optic transceiver and one electrical interface, and is suitable for point to point topology networks. The LFGB2 series contains two fiber optic transceiver and one electrical interface, and is suitable for daisy chain, star and redundant ring topology networks. The LFGB1 and LFGB2 can form more complex network topology structure. The products have fault intelligent cut function, when one section of genius network has failure, other section can not be affected.

This series of products are made by our original proprietary technology, data transparent transmission, switch the direction of data automatically, without any of the settings. Support all genius speeds, rate adaptation. Solves the problem of the high rate and long distance transmission. The products with multimode fiber can transmit 2KM, with single-mode fiber is capable of transmitting 20KM. The products can complete genius data transmission reliably, and inherit and keep all the advantages of the genius, achieve a high-rate and long distance transmission, electric and ground isolation and reduce interference. The products solve the problem of electromagnetic interference, ground loop interference and lightning damage. At the same time, the products have the following advantages: industrial design, low power consumption, isolation protection, fault intelligent cut, relay alarm output, IP30 protection, aluminum case, 35mm DIN-rail installation, wide power supply (DC10-36V) input, dual redundancy power supply etc.

1. Support genius all rates, DIP switch setting, Protocol type transmission, low signal delay
2. Multimode fiber/Single-mode fiber(optional), multimode transmission: 2KM, single-mode transmission: 20KM, ST/SC/FC(optional)
3. Support various optical fiber network topologies: point to point, star type, chain type, redundant ring, which can be combined into more complex network topology structure



4. Electrical interface supplied by independent power supply module, completely isolated wire loop between genius and the equipment; at the same time adopt photoelectric isolated technology, separate internal communication and data signal interference, effectively protect communication equipment from power ground loop and surge
5. Electric interface provides 1500W anti lightning surge protection of every line, 15KV electrostatic protection, prevention of total interference, and self-recovery over-current protection function
6. Has the fault intelligent cut function, intelligent monitoring, optical fiber link state power monitoring, automatic alarm function
7. Rich LED status indicator, all-round display Fieldbus and fiber running state
8. Two independent power supply redundancy, wide power supply(DC10-36V), DC1500V power supply isolation, with 1A reverse connection protection function
9. Industrial design, no fan, low power consumption, strong anti magnetic field, anti radiation and anti interference function
10. Corrugated metal case with high strength,IP30 protection,35mm DIN-Rail

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### Specification

#### **Electrical interface**

Interface type: DB9 Fe-male or 5 pin terminal(Optional)

Data rate: 1Mbit/s,DIP switch setting

Signal delay(electrical port):<11bit

Offer 1500W anti lightning surge protection, 15KV electrostatic protection, prevention of total interference, and self-recovery over-current protection function

Wire Terminal Resistance: None

#### **Optical interface**

Fiber type: Multimode 50/125 um、 62.5/125 um、 100/140um/ Single-mode 8.3/125 um、 9/125um、 10/125um, one port/two port(Optional)

Fiber interface: ST/SC/FC(OPTIONAL),ST(standard)

Wave length: Multimode 1310nm; Single-mode 1310nm

Transmission distance:Multimode 0-2KM; Single-mode 0-20Km, more distance is optional

Error rate:<10<sup>-9</sup>

#### **Power and Protection**

Input Voltage:DC24V(DC10V-36V)

Input Current:100mA@24V

Voltage protection: offer L1+/M/L2+ reverse connect protection

Current protection: 1A(short-circuit protection)

Relay alarm output: electrical port fault and fiber link fault alarm output

Contact rating:DC30V@1A, AC120V@1A

#### **Environmental**

Operating Temperature: -10 to 70℃ (-40℃ to85℃ optional)

Ambient Relative Humidity: ≤ 95% (non-condensing)

Storage Temperature: -45℃ to 85℃

#### **Mechanical**



Dimensions:136mm×52mm×105mm (H×W×D)

Casing: IP30 protection, Aluminum metal case with high strength

Installation: 35mm DIN-Rail

Weight :800g

### Industrial standard

EMI: EN55022 1998, Class A

EMS:

EN61000-4-2 (ESD), Criteria B, Level 4

EN61000-4-3 (RS), Criteria A, Level 2

EN61000-4-4 (EFT), Criteria B, Level 4

EN61000-4-5 (Surge), Criteria B, Level 2

EN61000-4-6 (CS), Criteria B, Level 2

En61000-4-8 (PFMF), Criteria A, Level 3

Freefall: IEC 60068-2-32

### Topology structure

This series of products support various optical fiber network topologies: point to point network, daisy chain network, star network and ring network topology

### Applications

Electric power, transportation, energy, monitoring and industrial control and so on.

## Order Information

| Model   | Specifications   | unit |
|---------|--|------|
| LFGB1-S | Industrial genius to optical fiber converter, (support point to point),one electrical port, one optical fiber port, single-mode fiber(0-20KM),more distance is optional),ST/SC/FC optional   | pcs  |
| LFGB1-M | Industrial genius to optical fiber converter, (support point to point),one electrical port, one optical fiber port, Multimode fiber(0-2KM),ST/SC/FC optional   | pcs  |
| LFGB2-S | Industrial genius to optical fiber converter (support point to point,daisy chain, star and ring network topology),one electrical port, two optical fiber ports, single-mode fiber(0-20KM),more distance is optional),ST/SC/FC optional | pcs  |
| LFGB2-M | Industrial genius to optical fiber converter, (support point to point,daisy chain, star and ring network topology),one electrical port, two optical fiber ports, multimode fiber(0-2KM),ST/SC/FC optional                              | pcs  |