DIN-Rail CAN Ring Fiber Converter

Model: FCP-1300-C1-RI

1 CAN channel · 2 fiber ports

20 km standard · Up to 120 km custom

Dual-channel redundant DC 9–70 V · IP40



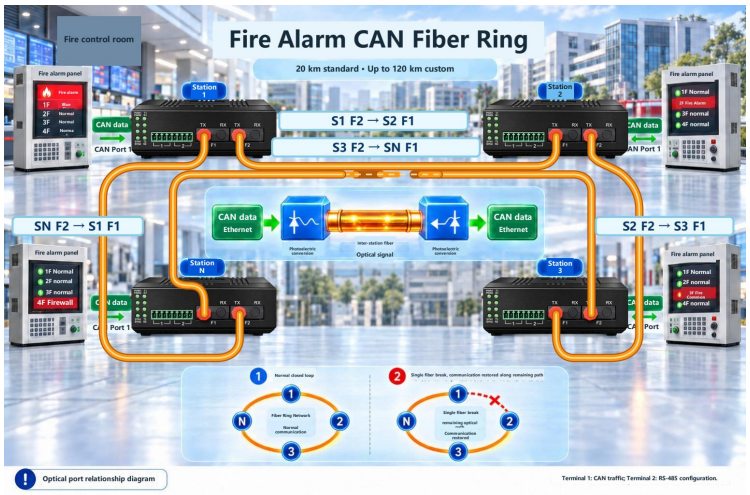
Product Overview

- Connect CAN devices such as fire control panels to the fiber optic network to connect dispersed sites.
- Two fiber ports can be configured as chain or ring networks according to on-site wiring; when the closed loop has a single broken section, communication can be automatically restored through the remaining optical path.
- CAN rate configured via RS-485 interface and software settings.
- Dual-channel redundant power supply, industrial aluminum alloy casing, suitable for on-site installation.

Key Features

- **Ring Redundancy** Automatic link fault recovery
- **Fiber Reach** Default: 20 km; Customized: up to 120 km
- **CAN Setup** 10 kbit/s–1 Mbit/s via software setting
- **Interface protection** CAN Port Surge and Static Protection
- **Redundant Power** Dual-channel DC 9–70 V redundancy
- **Mounting** IP40 enclosure, 35 mm rail mounting
- **Easy commissioning** RS-485 software configuration port

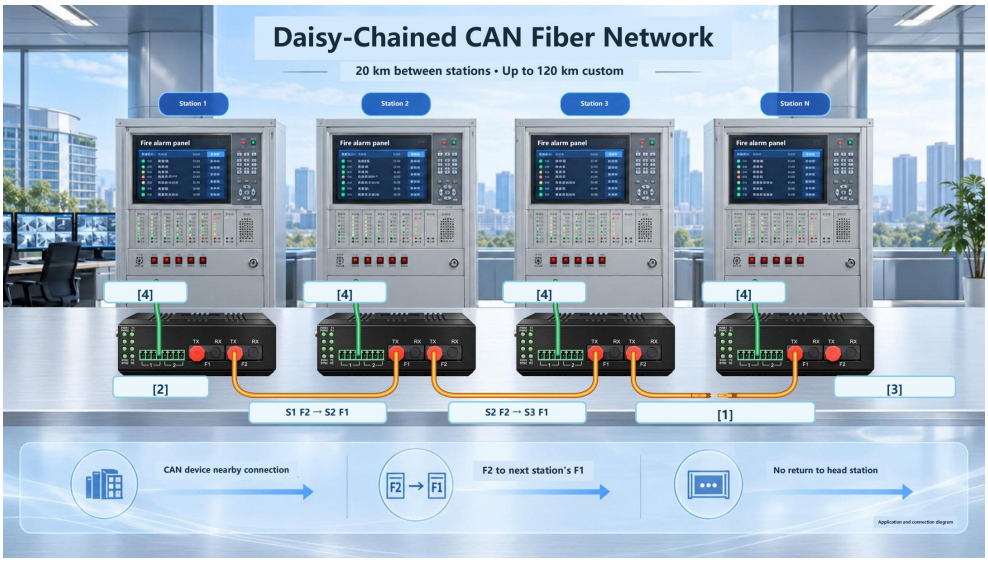
Typical application: Fire alarm controller CAN optical fiber ring network.



Relationship diagram of applications and ports: F2 connects to the next station F1, and F2 at the last station connects back to station F1; the dotted line indicates omitted intermediate stations. CAN device protocol and communication parameters must be compatible.

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Daisy-chain topology application; distributed fire control controller CAN networking



Stations 3–N: F2 to F1 (intermediate stations omitted). Head-station F1 and end-station F2 remain unconnected. CAN connects to terminal 1.

F2 connects sequentially to the next station F1, without backlinking to the starting station; dashed lines indicate omitted intermediate stations; CAN device protocol and rate must be compatible.

20 km/120 km is the single-link optical link distance between adjacent stations. Chain connection lacks a closed-loop backup path; ring network is used when redundancy is required.

Technical Specifications

Item	Specification
Model	FCP-1300-C1-RI
CAN Interface	1 CAN bus, CAN-H / CAN-L / signal ground; built-in 120 Ω resistor.
CAN speed	10 kbit/s–1 Mbit/s; set via the RS-485 configuration port and software.
Configuration Interfaces	1 RS-485 channel for device parameter configuration
Optical interface	2-channel fiber interface F1/F2; FC/SC/ST/LC optional
Fiber Type	Single fiber / dual fiber optional; must match the counterpart
Optical fiber transmission distance	Default singlemode: 20 km; maximum 120 km can be customized. Multimode 2 km version is optional based on needs

Item	Specification
Network Mode	Point-to-point, chain, star, and ring networks; closed-loop networking supports automatic communication restoration after single link failure
Power	Dual-channel redundant DC 9–70 V
Structure and Protection	Black aluminum alloy anodized casing; IP40; no fan
Dimensions and Installation	110 × 82 × 40 mm; mounted on 35 mm rail
Operating Temperature	−40 ℃ to +85 ℃

Power supply wiring: connect according to markings V1− / V1+, V2− / V2+; protective grounding is connected according to site specifications.

Fiber optic connection: dual-fiber TX / RX cross connection; single-fiber wavelengths must be matched pair-wise, and the optical interface as well as single/multi-mode must be consistent with the counterpart.

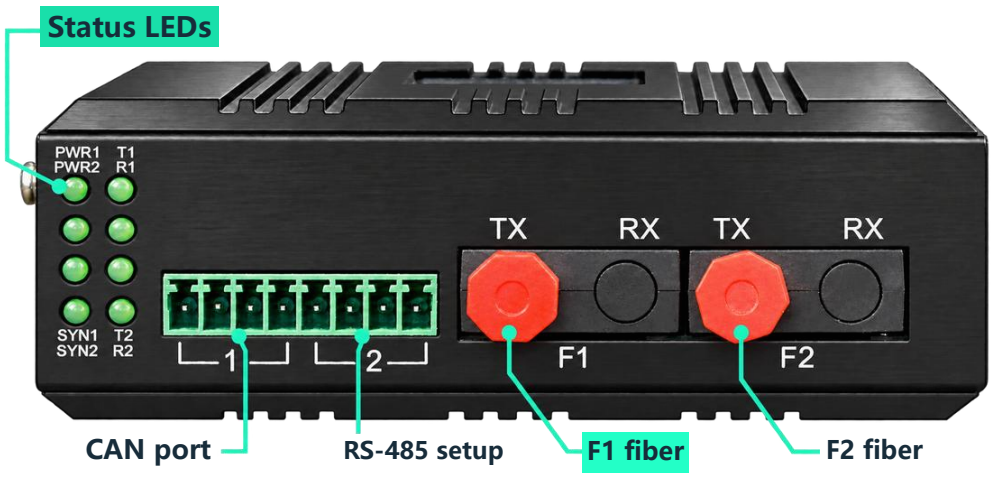
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Parameter configuration: parameters such as CAN speed are set via the RS-485 configuration port and supporting software.

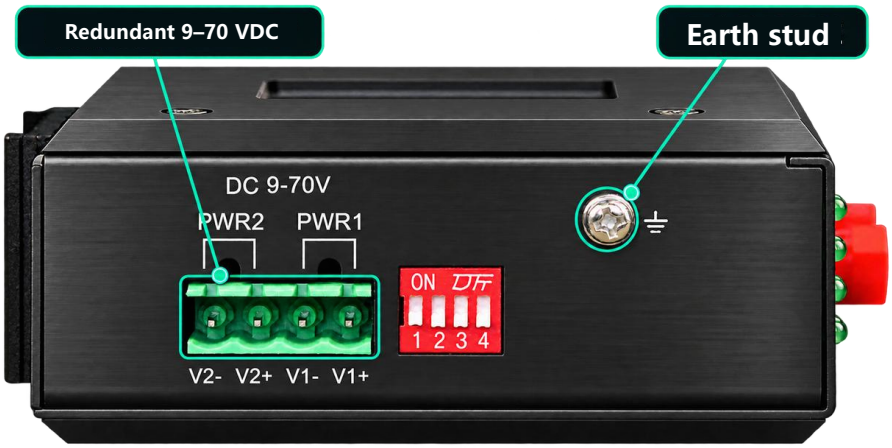
CAN Port Surge Protection

Interface or test item	Rating / Test Conditions	Protection Notes
CAN Service Interface	Open-circuit peak voltage = 6 kV (open-circuit peak voltage)	Reduces lightning-induced surges and switch operation surges via CAN signal lines
CAN Additional Protection	600 W surge per line; ±15 kV static electricity	CAN interface with self-restoring overcurrent protection
Test Standards for Surge Protection:GB/T 17626.5 (IEC 61000-4-5) surge immunity test;**Open-circuit voltage waveform:**10/700 μs; **Test source impedance:**40 Ω		

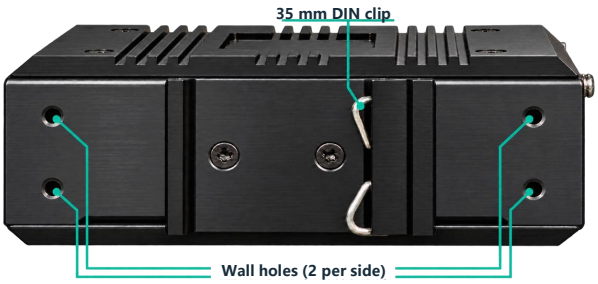
Interfaces and Installation



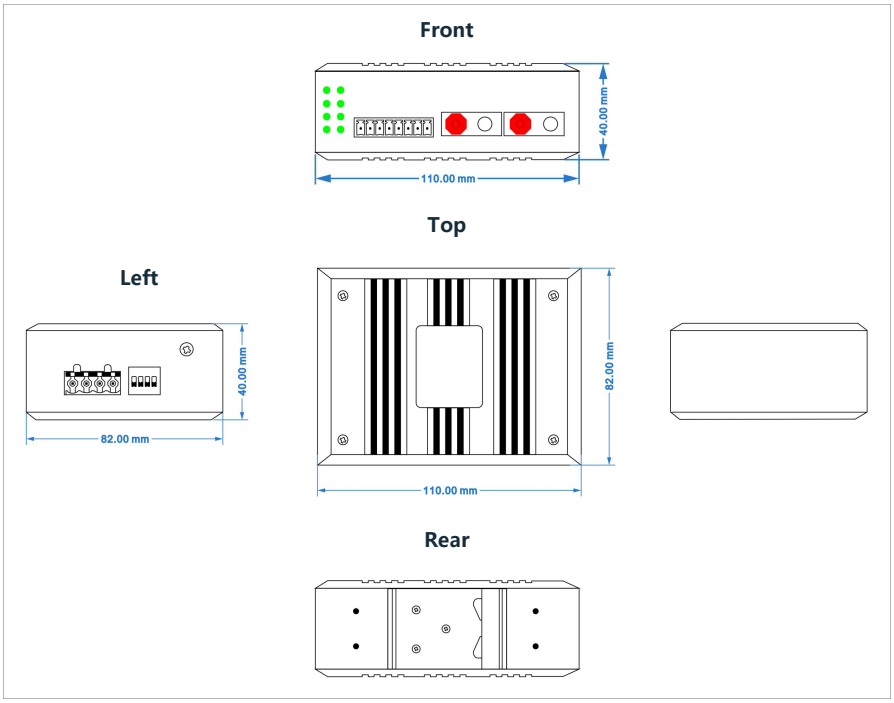
Front side: 1 group is CAN interface; 2 groups are RS-485 configuration ports; F1, F2 are two fiber ports.



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Dimensions and Mounting



Dimensions in mm. Overall size 110 × 82 × 40 mm; shown as FC fiber port version; other interface dimensions subject to product specification.

Ordering Codes and Configuration

Model composition	Meaning
FCP-1300	Product Series
C1	1 Channel CAN Interface
RI	Model suffix
Ordering Code	**Configuration**
FCP-1300-C1-RI	1 CAN channel, 2 fiber ports, default 20 km range; RS-485 configuration port; dual DC 9–70 V inputs. 120 km range is for custom configuration.

Confirmation During Ordering

- Optical interface: FC / SC / ST / LC; single-fiber or dual-fiber.
- Optical fiber distance: default 20 km; longer distances customized per project, up to 120 km; confirm single/multi-mode and counterpart configuration.
- Networking and configuration: number of sites, chain or ring topology, and CAN rate at each node.
- Others: Installation parts, optical fiber, and power supply accessories subject to order.

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