2/4 Channel Contact Closure over Fiber Converter

13 — IFC-CCF40A & IFC-CCF20A

CTC union

◀ 4 Channel Contact Closure Input, 4 Relay Output, Over Fiber Transmission
▶ 2 Channel Contact Closure Input, 2 Relay Output, Over Fiber Transmission

≫ *Both 4 Input (Open/Close) and 4 Output (Relay) in One Device*

≫ *4 Relay Output, Maximum Breaking Capacity AC62.5VA / DC 60W Load*

≫ *155M SC/ST/SFP M/M 2km, S/M 30km, or BiDi 20km Single Fiber for Transmission*

≫ *EN61000-6-2, EN61000-6-4, CE and FCC Certified*
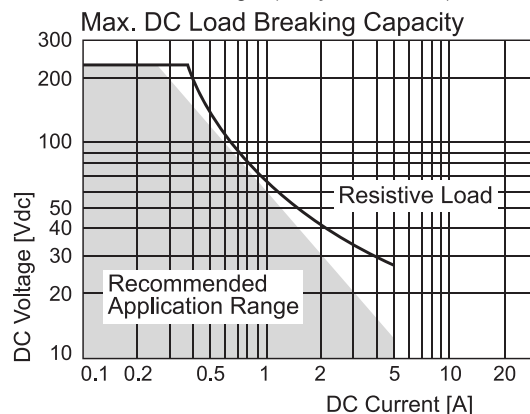
NEW

CE FC EN61000-6-2 EN61000-6-4

The Contact Closure over Fiber extender IFC-CCF series supports 2/4 channel contact closure to connect two points through a multi-mode or single-mode optical fiber, and then use a contact closure switch to open or close the contact between the two points. It is typically used in applications such as access control system, alarm event triggering, building automation, security barriers status indications and environmental control systems, fire & alarm systems, traffic signal control equipment etc.

Features

- Supports 155M SC/ST/SFP multi mode fiber 2KM or single mode 30KM fiber for transmit distances
- Supports duplex fiber, or single fiber BiDi to save cabling
- Removable terminal block connector for Power input, Alarm, Open/Close input and Relay output
- Supports relay output for power or failure warning
- Hardened housing with IP40 protection
- Fanless and DIN-Rail design for harsh industrial environment

Specifications

Input	4 Channel Open/Close (IFC-CCF40A) 2 Channel Open/Close (IFC-CCF20A)
Relay Output	Channel: 4x contact relay Output (Out 1, Out 2, Out 3, Out 4) (IFC-CCF40A) Channel: 2x contact relay Output (Out 1, Out 2) (IFC-CCF20A) Contact rated voltage: 250VAC/220VDC AC breaking capacity: Max AC 62.5VA DC resistive load breaking capacity: max. 60W (see below diagram for detail)

Max. DC Load Breaking Capacity

Resistive Load

Recommended Application Range

DC Voltage [Vdc] — values: 300, 200, 100, 50, 40, 30, 20, 10
DC Current [A] — values: 0.1, 0.2, 0.5, 1, 2, 5, 10, 20

www.ctcu.com / sales@ctcu.com / Specifications & design are subject to change without prior notice. Please visit CTC Union website for more details.

2/4 Channel Contact Closure over Fiber Converter

Fiber Transmission	Connector type: 155M ST/SC/SFP, M/M, S/M or Bidi Optional distance: SC/ST 2KM (M/M) SC/ST 30KM (S/M), 20KM (Bidi) SFP slot depend on SFP Fiber Transceiver	
Removable Terminal Block Connector	Support for Open/Close input (In1~In4) , Relay output (Out1~Out4), Power Input (PWR1, PWR2), and Alarm (IFC-CCF40A) Support for Open/Close input (In1~In2) , Relay output (Out1~Out2), Power Input (PWR1, PWR2), and Alarm (IFC-CCF20A)	

Environmental	Operating Temperature	-40 ~ 75°C
	Storage Temperature	-40 ~ 85°C
	Humidity	5 ~ 95% RH

LED Indications	PWR 1, PWR 2(Green): Power on Alm(Amber): Alarm event Link(Green): Fiber link I1~I4 (Green): Input Close (IFC-CCF40A) I1~I2 (Green): Input Close (IFC-CCF20A) O1~O4: (Green): Output Relay Active Close (IFC-CCF40A) O1~O2: (Green): Output Relay Active Close (IFC-CCF20A)
Alarm Relay	Alarm exists for power, fiber link, Relay output with carry capacity 1A @ 24VDC

Power	Redundant Dual Input power (Removable Terminal Block) 12/24/48VDC		

	Input Voltage	IFC-CCF40A	IFC-CCF20A
Power Consumption	12VDC	2.7W	2.1W
	24VDC	2.9W	2.4W
	48VDC	3.9W	2.9W

	Power Reversal Protection	Supported for power input
	Removable terminal block connector for power input	

Mechanical	Water & Dust Proof	IP40 Protection, Fanless
	Dimensions	106 x 32.6 x 142mm (Dx Wx H)
	Mounting	DIN-Rail or wall mounting (Optional)
	Weight	400g (IFC-CCF40A) 390g (IFC-CCF20A)

Certification

EMC	CE (EN55032, EN55035)
EMI	FCC Part 15 Subpart B Class A, CE
Immunity for Heavy Industrial Environment	EN61000-6-2
Emission for Heavy Industrial Environment	EN61000-6-4
EMS (Electromagnetic Susceptibility) Protection Level	EN61000-4-2 ESD Level 3
	EN61000-4-3 RS Level 3
	EN61000-4-4 EFT Level 3
	EN61000-4-5 Surge Level 3
	EN61000-4-6 CS Level 3
Free Fall	IEC 60068-2-31
Vibration	IEC 60068-2-6
Shock	IEC 60068-2-27
Green	RoHS
MTBF	935,978 Hours (IFC-CCF40A) 1,082,347 Hours (IFC-CCF40A-SFP) 1,166,619 Hours (IFC-CCF20A) 1,403,126 Hours (IFC-CCF20A-SFP)
Warranty	5 years

2/4 Channel Contact Closure over Fiber Converter

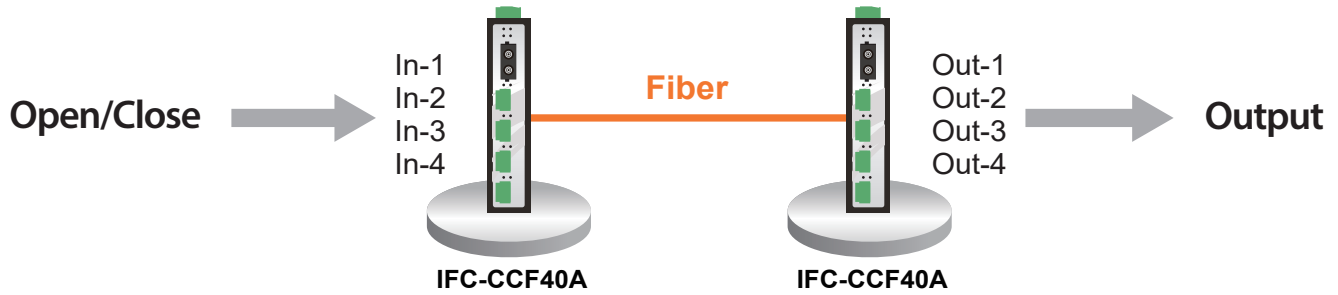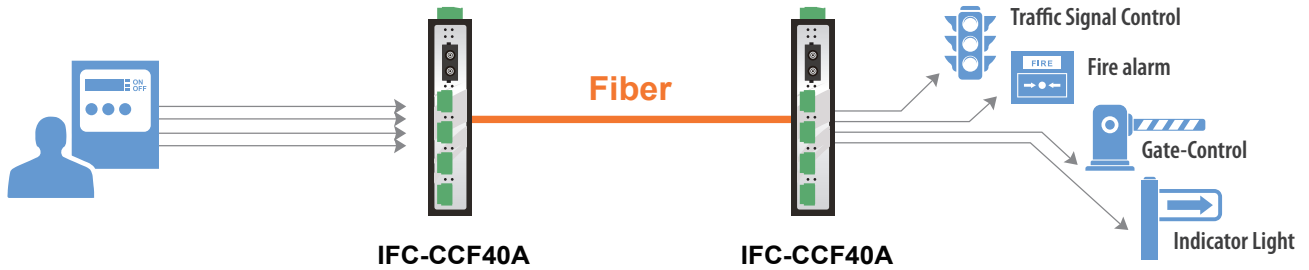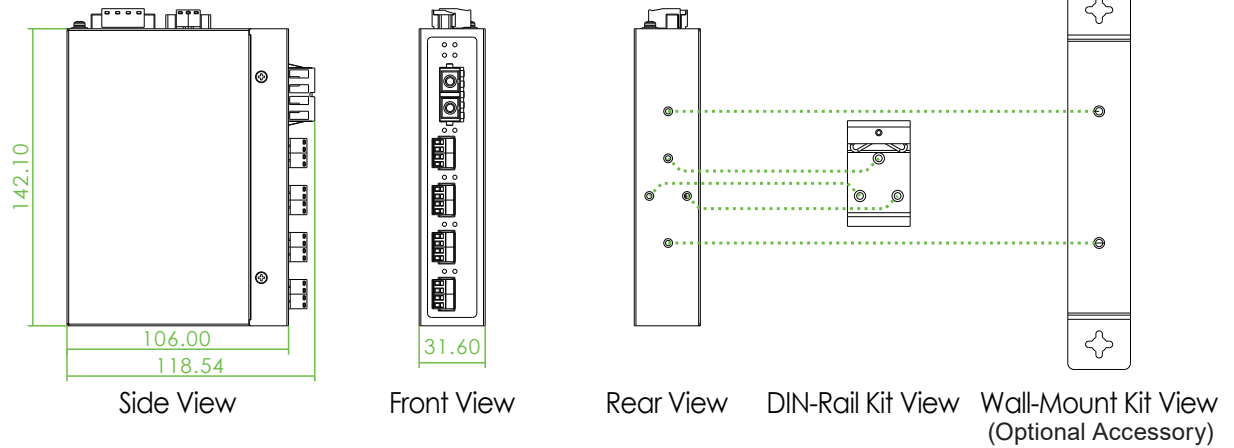## Application & Topology

Figure 1 : Application connection diagram

Open/Close → In-1 In-2 In-3 In-4 — Fiber — Out-1 Out-2 Out-3 Out-4 → Output

IFC-CCF40A   **IFC-CCF40A**

Figure 2 : Application example

Fiber

IFC-CCF40A   **IFC-CCF40A**

Traffic Signal Control
Fire alarm
Gate-Control
Indicator Light

Application: High power Gate control Heavy industry automation factory Substation

Dimensions

▶ IFC-CCF40A

142.10

106.00
118.54

31.60

Side View   Front View   Rear View   DIN-Rail Kit View   Wall-Mount Kit View
(Optional Accessory)

▶ IFC-CCF20A

142.10

106.00
118.54

31.60

Side View   Front View   Rear View   DIN-Rail Kit View   Wall-Mount Kit View
(Optional Accessory)
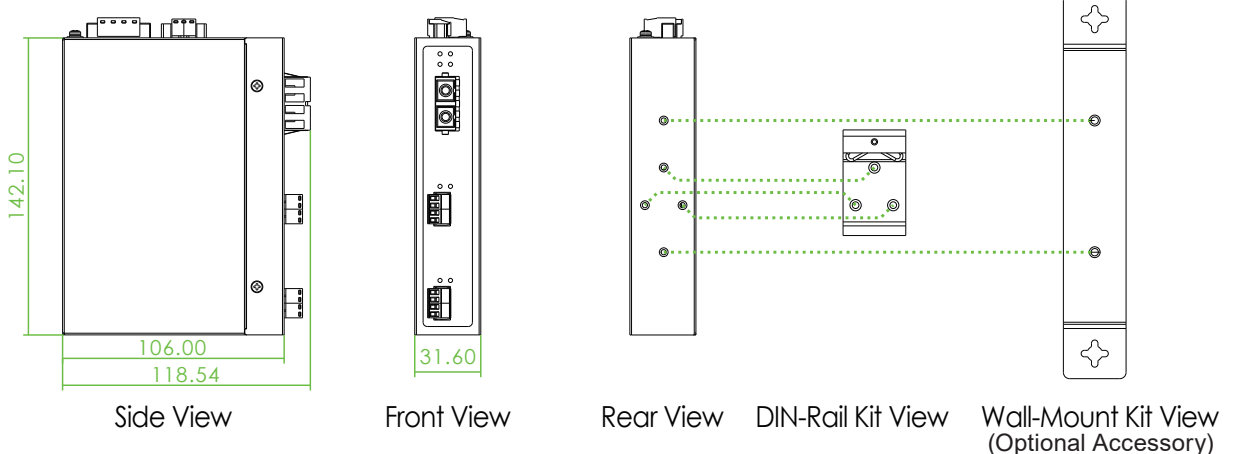
13

■ Related Product

IFC-BT40: 4 Channel Binary Transducer, 4 binary input ,4 high power MSR relay output , fiber transmission

(Page 13-17)

Ordering Information

Model Name	Input	Output	Fiber transmission	Power Input (Redundant)	Certification		
					EN61000-6-2 EN61000-6-4	CE	FCC
IFC-CCF40A-xxxxx	4x Open/Close	4x Contact Relay	1x SC/ST/Bidi (see detail)	12/24/48VDC	V	V	V
IFC-CCF40A-SFP	4x Open/Close	4x Contact Relay	1x SFP	12/24/48VDC	V	V	V
IFC-CCF20A-xxxxx	2x Open/Close	2x Contact Relay	1x SC/ST/Bidi (see detail)	12/24/48VDC	V	V	V
IFC-CCF20A-SFP	2x Open/Close	2x Contact Relay	1x SFP	12/24/48VDC	V	V	V

Connector Type	Connectivity Distance
SC, ST	002: M/M 2km
	030: S/M 30km
	020A:20KM Bidi mode (TX 1310nm/RX1550nm
	020B: 20KM Bidi mode B (TX 1550nm/RX1310nm)
Example	IFC-CCF40A-SC030

■ Package List

▪ One IFC-CCF40A or IFC-CCF20A device
▪ Din Rail kit with screws
▪ Terminal block

Optional Accessories

■ Wall Mount Kit

IND-WMK01	Wall Mount kit for Industrial product, 184 x 30mm

■ Industrial SFP Transceiver

The ISFP series of industrial grade SFP modules have been fully tested with all CTC Union industrial grade Ethernet switches for guaranteed compatibility and performance. Best performance can be guaranteed, even in mission-critical applications. (Please see CTC Union's Industrial SFP datasheets for more items and detailed information.)

ISFP-M5002-31-D(E)	Industrial SFP 155M 100Base-FX, MM, 2km, wave length 1310nm, 12dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-S5030-31-D(E)	Industrial SFP 155M 100Base-FX, SM, 30km, 1310nm, 19dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-S5020-WA-D(E)	Industrial SFP 155M 100Base-FX, SM,BIDI 20km, TX 1310nm/RX 1550nm, 18dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-S5020-WB-D(E)	Industrial SFP 155M 100Base-FX, SM,BIDI 20km, TX 1550nm/RX 1310nm, 18dB, LC, DDMI, -10~70°C (-40~85°C)

■ Industrial Power Supply

MDR-20-24	Industrial Power, Input 85 ~ 264VAC/120 ~ 370VDC, Output 24VDC, 24W, -20 ~ 70°C