

# Utility Power System Control and Stability for Taipower (Taiwan)

## Case Introduction

The comprehensive planning of electric power distribution system is practical and extremely important for daily activities. As technologies advance, operation personnel now are able to monitor and collect temperature, voltage or current details of devices placed inside transformer cabinets that are scattered around a city in a remote SCADA. The real-time information gathering in a remote SCADA is important for real-time monitoring and essential to stabilize power voltage and current of transformer cabinets scattered around a city. Generally speaking, in order to prevent data loss, fiber optic cables are used for data transmission. By using fiber optic cables, they can prevent signals from distortion by unexpected and unwanted noises such as microwaves, radio or TV broadcast signals. To improve availability and reliability, ring topology is largely deployed which is able to create several redundancies so as to reduce possibilities of data losses. As far as creating a sound electric power distribution system is concerned, fiber optic cables that are able to prevent noises while transmitting data and redundant ring topology that can further ensure data reliability are greatly recommended.



## About CTC Union

CTC Union, founded in 1993, is committed to developing and manufacturing and selling network communication products. In particular, the focus on fiber optical technologies, Ethernet technologies and the integration of broadband access technologies. With leading-edge technology and high quality service as the driving force, CTC Union continued steady growth, and become a top global equipment supplier of innovative last-mile access in the telecommunications market.



Industrial Serial Fiber Daisy Chain Converter

Industrial Ethernet Switch

## Requirements and challenges

- Collect data from different places and ensure stability while transmitting data
- Long distance data transmission
- Inter-connect signals in different places and overcome distortion signals and noise
- Overcome serial port's grounding interference
- Long life-time but low failure/malfunction rate to reduce operational cost

# CTC Union Solutions

## Industrial Serial Fiber Converter

- IFC-FDC



- 2.5KV isolation for serial signal
- Supports dual channel communication, including Triple-Way communication, and Two-Way communication.
- Auto baudrate, and enhanced serial baudrate up to 1024kpbs.
- Protocol transparent, could be work on Modbus, C-Bus,..
- Supports RS-232, RS-422, RS-485(2/4 wire) transmission to dual fiber connections.
- Supports 2 fiber link for redundant Ring
- Provide EMS (Electromagnetic Susceptibility) protection for agains varies electromagnetic noise
- Certification : Heavy industrial environment EN61000-6-2 ,EN61000-6-4, Safty UL60950-1, CE, FCC certification
- Wide operating temperature -40 ~ 75°C suitable for outside cabinet in high temperature

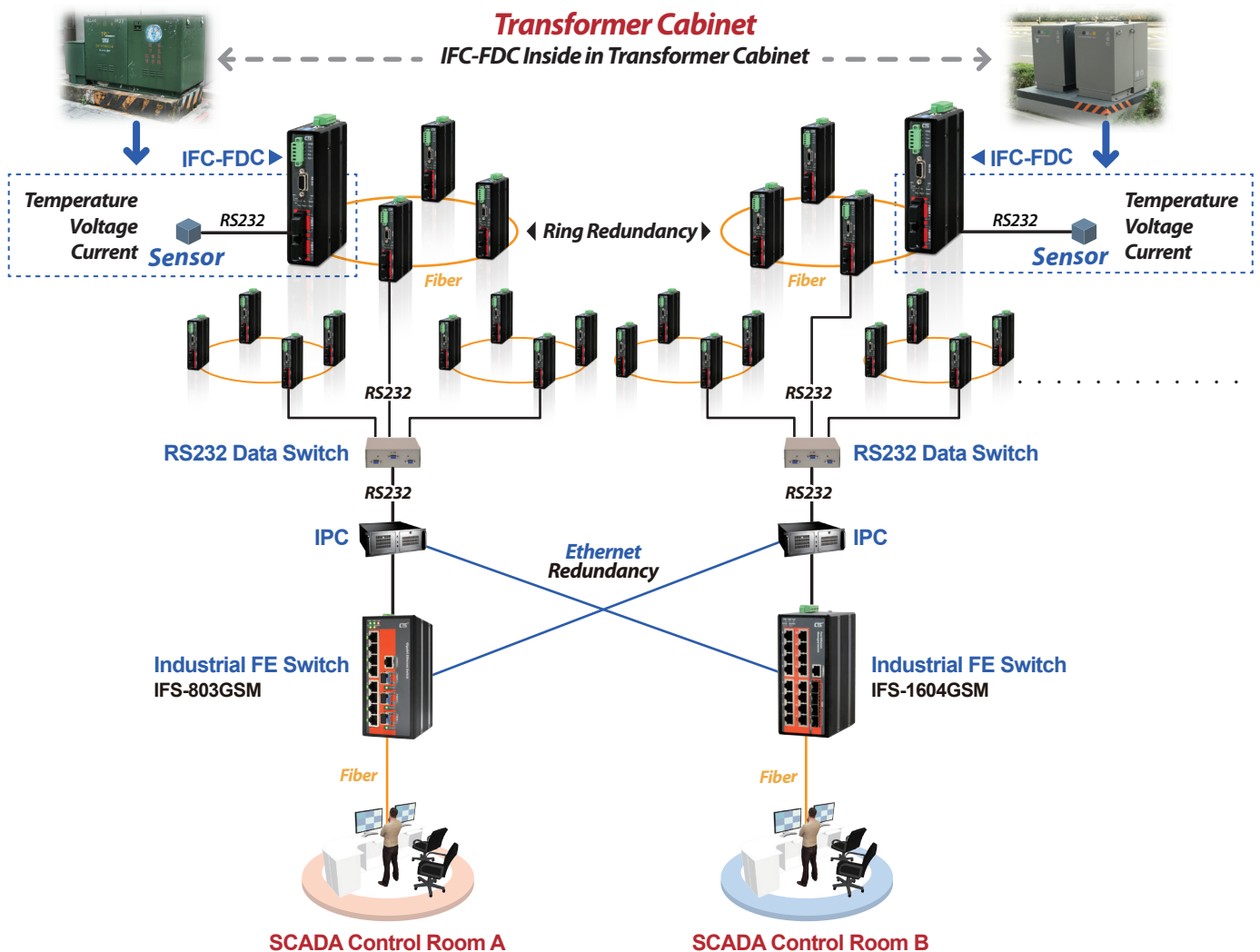
## Industrial Ethernet Switch

- IFS-803GSM & IFS-1604GSM



- 16x 10/100Base-TX RJ-45 and 4 x 100/1000Base-X SFP Fiber (IFS-1604GSM)
- 8x 10/100Base-TX RJ-45 and 3 x 100/1000Base-X SFP Fiber (IFS-803GSM)
- UL60950-1, CE, FCC, Rail Traffic EN50121-4, Traffic control NEMA TS2 , Industrial Grade EMS, EMI, EN61000-6-2, EN61000-6-4 certified
- Supports SmartView™ for Centralized management
- Supports IEEE1588 PTP V2 for precise time synchronization, NTP, SNTP.
- u-Ring, STP, RSTP, MSTP, ITU-T G.8032 ERPS for redundant cabling
- QoS, VLAN, DHCP, SNMP, CLI, Telnet, RMON, Security
- Wide operating temperature -40 ~ 75°C, suitable for outside cabinet in high temperature

## Topology



CTC UNION TECHNOLOGIES CO., LTD.

8F, No.60, Zhouzi St. Neihu, Taipei 114, Taiwan TEL: +886 2 2659-1021 FAX: +886 2 2659-0237 sales@ctcu.com

© Copyright 2016 CTC UNION TECHNOLOGIES CO., LTD.

CTC UNION and the CTC UNION logo are trademarks of CTC UNION TECHNOLOGIES CO., LTD. All rights reserved. All other trademarks are the property of their respective owners.

www.ctcu.com

Specifications & design are subject to change without prior notice. Please visit CTC UNION website for more details.