CIM100

Communication Interface Module

RS485 Repeater and Interface to RS485 Communication Network

Overview

The CIM100 Communication Interface Module allows for seamless interfacing between RS485 physical layer networks and a range of standard communication interfaces. The CIM100 is protocol independent and can be configured to a wide range of standard baud rates.

The CIM100 is supplied with USB 2.0 as standard, but can also be configured to operate with a proprietary Bluetooth or Wi-Fi module.

The CIM100 presents a 2.5kV electrical isolation barrier between its two RS485 terminals (Port A & Ports B1/B2) in the form of galvanic isolation. This allows the CIM100 module to be used as an RS485 repeater in systems that require RS485 communication paths over extended ranges by boosting the signal in both directions.
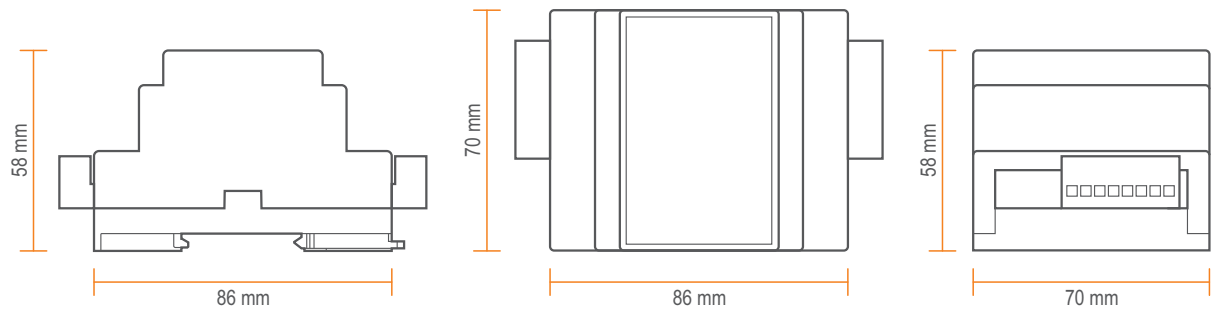
Features

- 2.5kV isolation between Port A and Ports B1/B2
- 2.5kV isolation between USB and Port A
- Simple LED System Status indication
- Signal quality and amplitude visual indication
- Wireless connectivity using a Bluetooth or Wi-Fi communication connection
- DIN Rail mounting
- Baud rate selectable from 9600-115kbits/sec

Instance

Managing Data Xchange

Specifications

Dimension Diagram

Dimensions: 70 X 58 X 86 mm
Weight: 0.2kg

Power

Operating voltage: 18 to 36V (24V DC nominal)
Rated current: 250mA (at 24V)

Interfaces

RS485:   Port A: Fixed Termination (Switchable: on / off)
                     Port B1: Fixed Termination (Switchable: on / off)
                     Port B2: Fixed Termination (Switchable: on / off)
                     Port B1 & B2: Isolated (2.5kV)
                     Baud Rate: 9600 to 115200 (selectable / configurable)
USB: USB 2.0 Micro-B connection (Device / Slave Mode)
Bluetooth: Module available
Wi-Fi :   Module available

Temperature

Operating: -10 to 70°C
Storage: -40 to 70°C

Agency Approvals and Standards

CE, RoHs, WEEE compliant
EMC   EN 61000-6-2, Immunity Standard (Industrial Environments)
                     EN 61000-6-4, Emission Standard (Industrial Environments)
Safety   EN 60950, IT Equipment
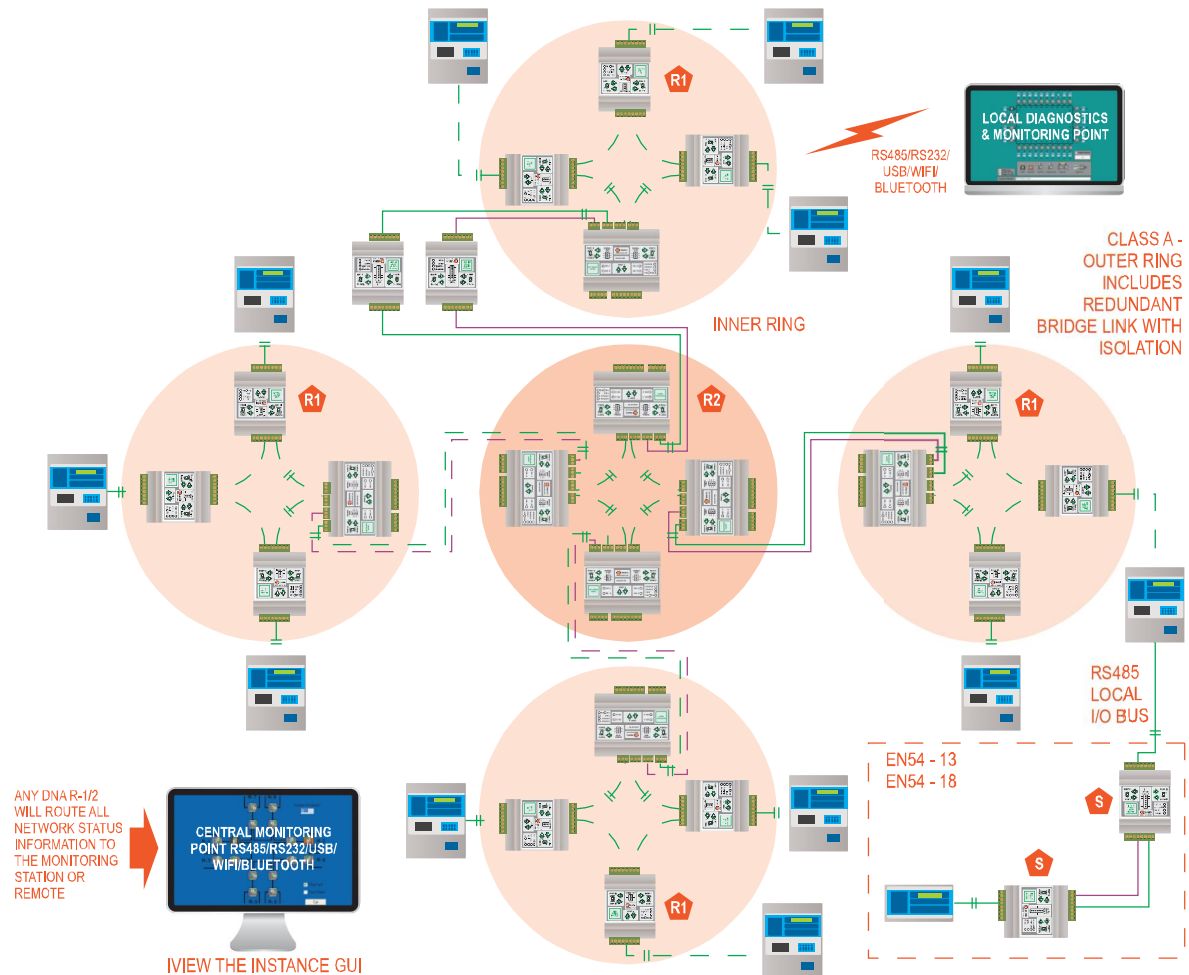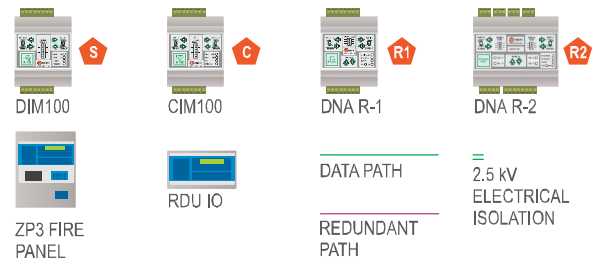
Instance Network Equipment

Application:

Ziton Multiple Fault (wiring) Network
Redundancy for BS5839-1

Products Used:

DNA-R2   Dynamic Network Analyzer
          (Dual CIE port with CIE & Link Isolation)

DNA-R1   Dynamic Network Analyzer
          (Single CIE port with CIE Isolation)

CIM100   RS485 Isolator/Repeater Module

DIM100   DIM Impedance (Redundancy) Module

IVIEW   Graphics Monitoring Tool

Legend:

DIM100

CIM100

DNA R-1

DNA R-2

ZP3 FIRE
PANEL

RDU IO

DATA PATH

REDUNDANT
PATH

2.5 kV
ELECTRICAL
ISOLATION

LOCAL DIAGNOSTICS
& MONITORING POINT

RS485/RS232/
USB/WIFI/
BLUETOOTH

CLASS A -
OUTER RING
INCLUDES
REDUNDANT
BRIDGE LINK WITH
ISOLATION

INNER RING

RS485
LOCAL
I/O BUS

EN54 - 13
EN54 - 18

ANY DNA R-1/2
WILL ROUTE ALL
NETWORK STATUS
INFORMATION TO
THE MONITORING
STATION OR
REMOTE

CENTRAL MONITORING
POINT RS485/RS232/USB/
WIFI/BLUETOOTH

IVIEW THE INSTANCE GUI

Instance

Managing Data Xchange
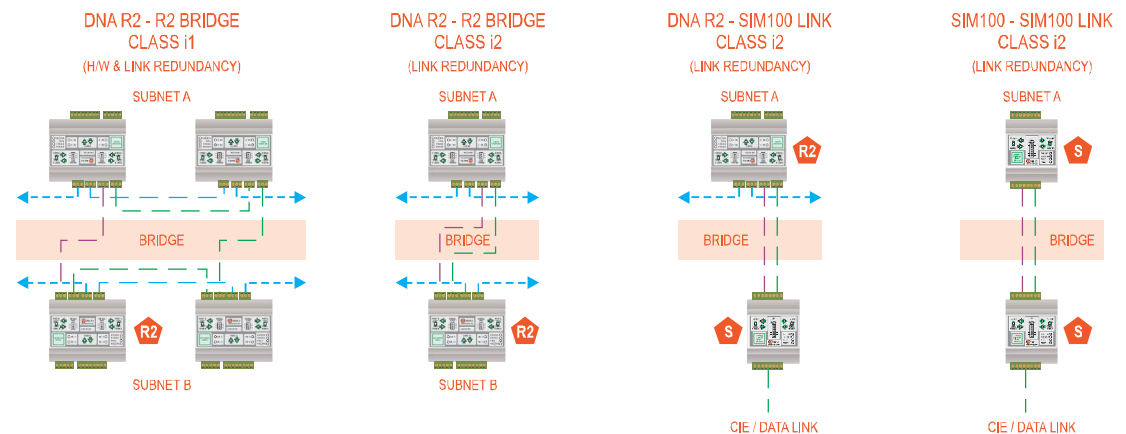
Instance Network Equipment

Application:

Instance Redundant Network Bridge for full
EN54-13 Class i1 and
BS5839-1 Class i2 compliance

The multi-Ring topology supported by Instance
is utilised to increase the number of faults a
network can tolerate while maintaining full
communication.

Products Used:

DIM 100   Dynamic Impedance Module
DNA-R2   Dynamic Network Analyzer
             (Dual CIE port with CIE & Link Isolation)

Legend:

DIM 100   DNA R-2

SUBNET PATH

DATA PATH

REDUNDANT
PATH

DNA R2 - R2 BRIDGE
CLASS i1
(H/W & LINK REDUNDANCY)

DNA R2 - R2 BRIDGE
CLASS i2
(LINK REDUNDANCY)

DNA R2 - SIM100 LINK
CLASS i2
(LINK REDUNDANCY)

SIM100 - SIM100 LINK
CLASS i2
(LINK REDUNDANCY)

SUBNET A

BRIDGE

SUBNET B

CIE / DATA LINK

Instance
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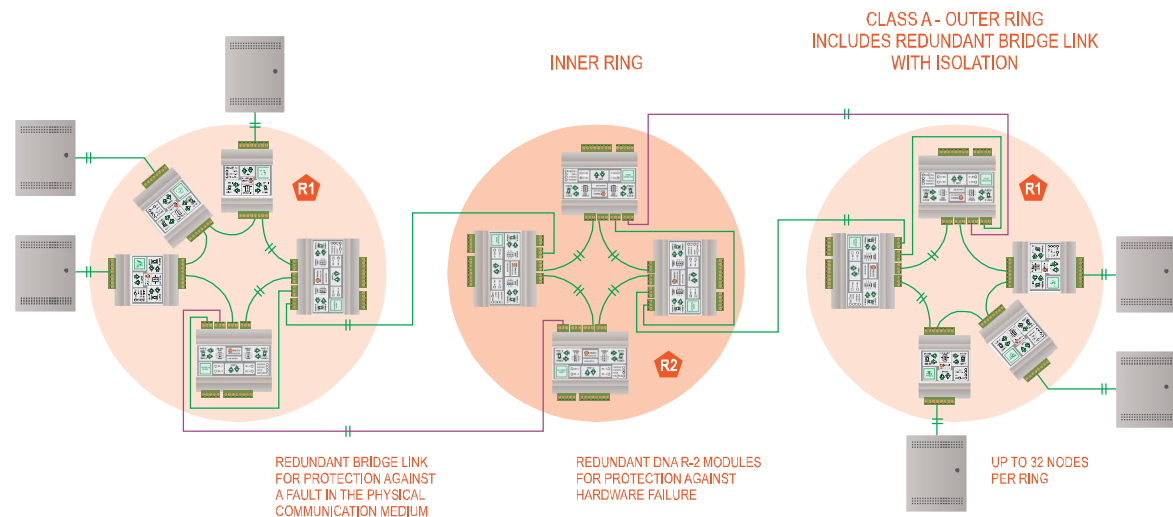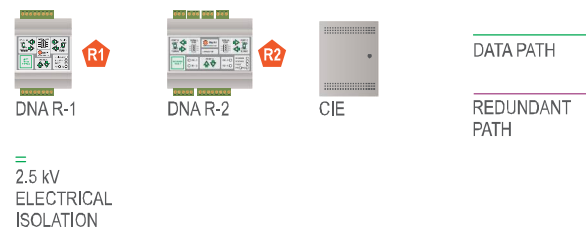
Instance Network Equipment

Application:

Instance Redundant Network Bridge for
full EN54-13 and BS5839-1 compliance

The multi-Ring topology supported by Instance
is utilised to increase the number of faults a
network can tolerate while maintaining full
communication.

Products Used:

DNA-R1   Dynamic Network Analyzer
         (Single CIE port with CIE Isolation)

DNA-R2   Dynamic Network Analyzer
         (Dual CIE port with CIE & Link Isolation)

Legend:

DNA R-1   DNA R-2   CIE

DATA PATH

REDUNDANT
PATH

2.5 kV
ELECTRICAL
ISOLATION

CLASS A - OUTER RING
INCLUDES REDUNDANT BRIDGE LINK
WITH ISOLATION

INNER RING

R1

R2

R1

REDUNDANT BRIDGE LINK
FOR PROTECTION AGAINST
A FAULT IN THE PHYSICAL
COMMUNICATION MEDIUM

REDUNDANT DNA R-2 MODULES
FOR PROTECTION AGAINST
HARDWARE FAILURE

UP TO 32 NODES
PER RING

Instance
Managing Data Xchange

Instance Network Equipment

Application:

Ziton Network Redundancy for
BS5839-1/EN54-13/EN54-18

The Inner Ring allows for a single fault in
each subnet while maintaining full
communication with each CIE node.

Products Used:

DNA-R2   Dynamic Network Analyzer
              (Dual CIE port with CIE & Link Isolation)

DNA-R1   Dynamic Network Analyzer
              (Single CIE port with CIE Isolation)

DIM100   Impedance (Redundancy) Module

IVIEW   Graphics Monitoring Tool

Legend:

DIM100   DNA R-1   DNA R-2   ZP3 FIRE PANEL

RDU IO

REDUNDANT PATH

DATA PATH

= 2.5 kV ELECTRICAL ISOLATION

LOCAL DIAGNOSTICS & MONITORING POINT

RS485/RS232/ USB/WIFI/ BLUETOOTH

TYPE 2: CLASS A RING
CIE ISOLATION

INNER RING

TYPE 1: CLASS A RING
CIE & FULL LINK ISOLATION

RS485 LOCAL I/O BUS

EN54 - 13
EN54 - 18

ANY DNA R-1/2 WILL ROUTE ALL NETWORK STATUS INFORMATION TO THE MONITORING STATION OR REMOTE

CENTRAL MONITORING POINT RS485/RS232/USB/ WIFI/BLUETOOTH

IVIEW THE INSTANCE GUI

Instance
Managing Data Xchange