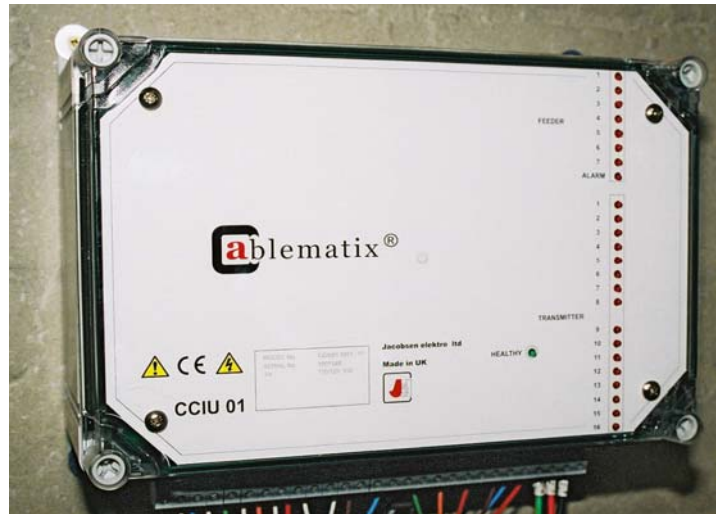




CABLEMATIX SCADA INTERFACE TYPE CCIU 01

INTRODUCTION

The SCADA interface unit type CCIU01 provides a simple interface between the Cablematix receiver units within a primary substation and the existing or new SCADA system within the substation. The unit is designed for mounting in the substation adjacent to the 11kV switchgear. The unit provides indication of the most recent cable fault incident via LEDs on the front panel indicating the feeder and the transmitters on the feeder which have operated.



OPERATION

The CCIU01 constantly communicates, via the communications bus, with all the receivers within the primary substation. Indications on the front panel are generated if any of the following conditions occur: -

- Cable fault detected by a receiver and associated transmitters at RMUs
The display indicates which feeder the fault was on and which transmitters detected the passage of fault current.
- Loss of test transmissions from a transmitter unit
The display indicates an alarm condition identifying the feeder and which transmitter has failed
- Loss of communication with a receiver unit
The display indicates an alarm condition identifying the feeder on which the receiver has failed.

Each of the indication LEDs are repeated by a volt-free relay contact which pulses for a period of 1 second. The LEDs indications remain static until either the test button is operated or the next alarm event occurs.

A flashing green LED is provided to indicate healthy operation. If a failure should occur within the CCIU the Alarm relay contact will close signalling an alarm condition to the SCADA system.

INSTALLATION

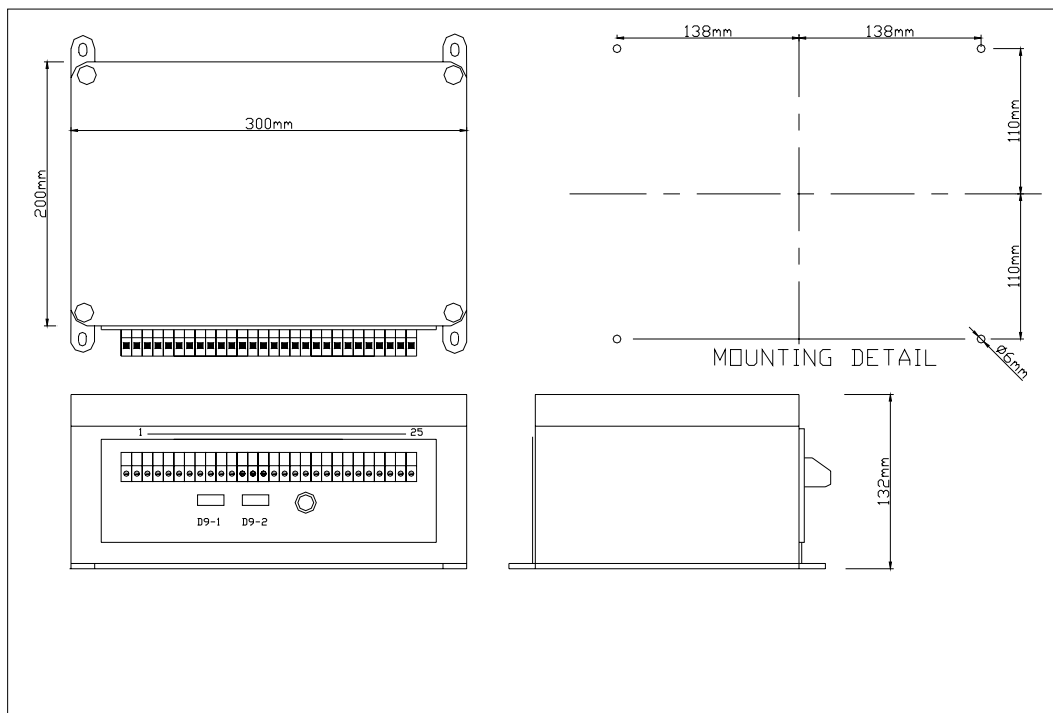
Connections to the unit are

- Local 110V dc supply (5A fuse) for operation of the inter-unit communications during a mains ac supply failure.
- Multicore connections to the SCADA marshalling cubicle, 24 volt free contacts (with common), connection by screw clamp terminals
- Communication bus connections, 9 way 'D' type connectors, signal level RS485

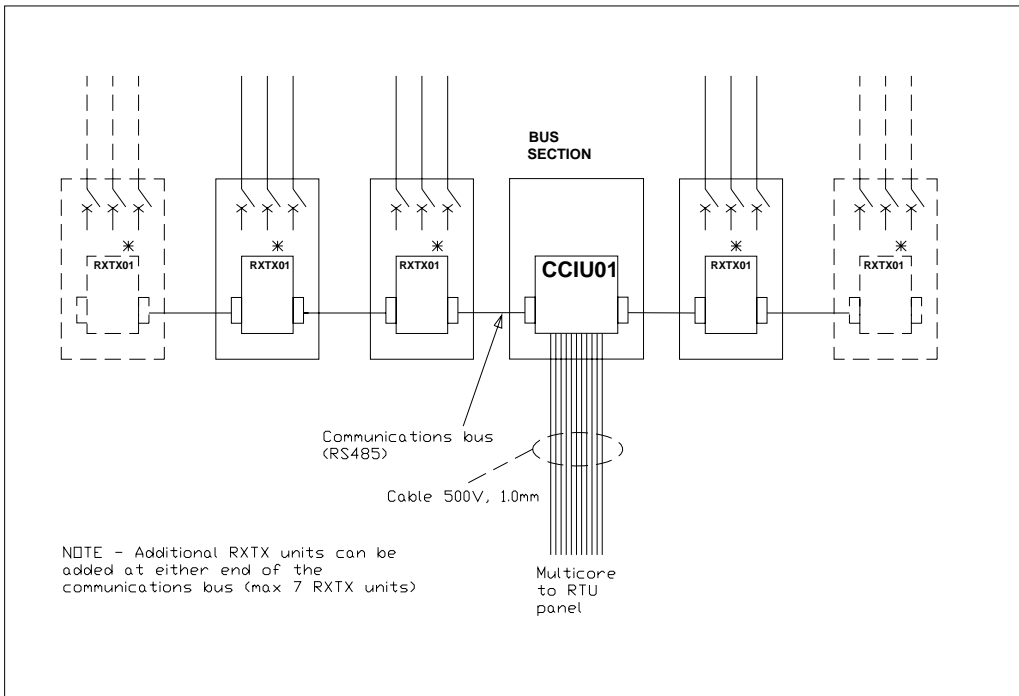
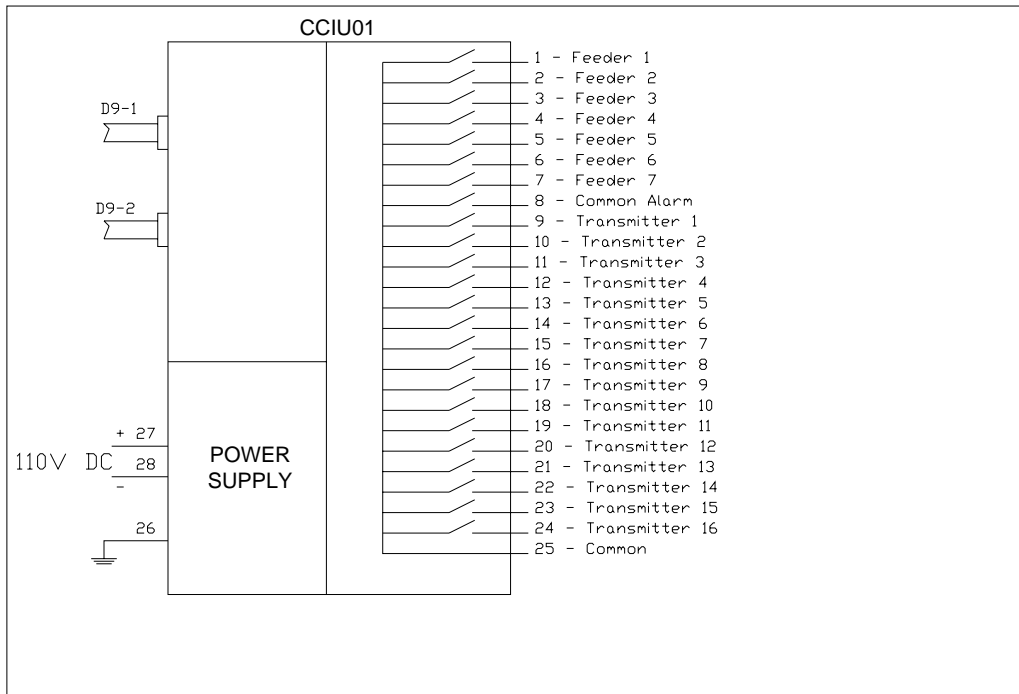
COMMISSIONING

The unit has been designed for rapid installation and commissioning. Following installation and connection of the dc supply, and connections to the SCADA marshalling cubicle. Portable test equipment is available to confirm that the wiring from the receiver units is correctly installed and that the indication contacts from the SCADA interface are correctly connected to the SCADA system.

MOUNTING DETAIL



CONNECTION DETAIL



TECHNICAL DATA:

SETTINGS

No settings required

RATINGS

DC Auxiliary supply (Vx): 110/125V
Operative range 88 to 150V

BURDENS

DC Auxiliary supply (Vx) < 4W at 110V

ELECTRICAL ENVIRONMENT

- Insulation
IEC60255-5 :1977
2kV for 1 minute between case terminals and earth
2kV for 1 minute between independent circuits
- Insulation Resistance
IEC60255-5: 1977 >100MΩ
- DC Interruption
IEC60255-11: 1979
20ms without de-energising.
- Ripple on DC
IEC60255-11: 1979
Withstand 12% ripple
- Electrostatic Discharge
IEC60255-22-2: 1989
Class III (8.0kV)- discharge in air with cover in place
Class III (6.0kV) – point contact discharge
- Radiated Immunity
IEC61000-4-3:1995
80 to 1000MHz, level 3 10V/m
ENV50204:1995
900MHz and 1.89GHz, level 10V/m
- Radiated Emissions
EN55011:1991

- Conducted Emissions
EN55011:1991
- Power frequency
IEC60255-22-7: Draft

ATMOSPHERIC ENVIRONMENT

- Temperature
IEC60255-6:1988
Operating -25°C to 70°C
Storage -25°C to 70°C
IEC60068-2-2: 1990/A2 1994
Cold (96 hours)
IEC60068-2-2: 1974/A2 1994
Dry heat (96 hours)
- Humidity
IEC60068-2-30:1980
- Enclosure protection
IEC60529:1989
IP56

MECHANICAL ENVIRONMENT

- Vibration
IEC60255-21-1:1996
Response class I, Endurance class I
- Shock and Bump
IEC60255-21-2:1995
Shock response class I, Shock endurance class I
Bump class I
- Seismic
IEC60255-21-3:1995 Class 1

TIMING

- Time from fault reset to SCADA indication 5 seconds
- Relay output pulse time 1 second

HOW TO SPECIFY

The information to specify a systems requirement is as follows

- Number of Cable feeders within each of the primary substations
- Number of fault location units on each of the cable feeders

Rated voltage for SCADA interface unit is 110V dc