

VSE-C1

C-Bus G51 fiber converter

Introduction

The C-Bus is used for communication between terminals and central units and has a loop architecture. That means every node (central unit or terminal) on the C-Bus has the ability to disconnect the incoming wires from the outgoing and to terminate these wire ends if needed. During the automatic configuration of the C-Bus the termination node is chosen randomly and is moving from time to time. All this is needed that in case of a failure the damaged cable can be isolated and the communication between all nodes is still working.

Operation

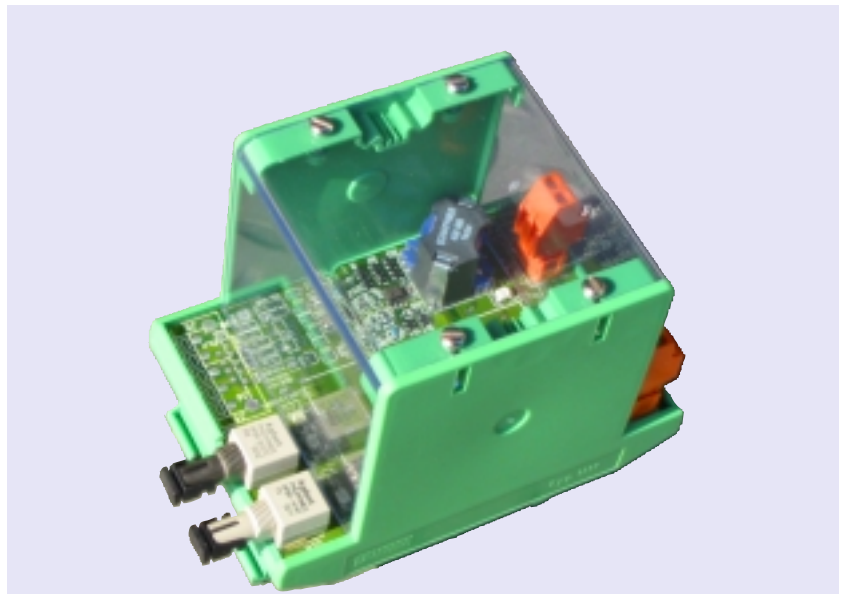
The VSE-C1 converter has a built in C-Bus termination. It is not a normal C-Bus node like a terminal or a central unit, it behaves like a piece of G51 cable seen from the C-Bus nodes. It recovers and rebuilds the weak signal from one bus segment and sends it to the optical fiber segment with a delay of some nanoseconds. This makes it possible to have multiple fiber segments. A cable segment is the physical length of the cable between two VSE-C1 converters (not the cable connection between two nodes).

Installation

Just clip the VSE-C1 onto the DIN rail and connect the screw terminal plug to the C-Bus wires. Be sure to have the C-Bus pair correctly inserted (A/B). Then plug in the power plug. You should see the green LED. Then plug in the C-Bus connector. As soon the fire detection system starts to run the receive and transmit LED will indicate the traffic on the bus. If you see the red collision LED a lot, then there must be some error in the wiring of the C-Bus, typically shorts or opens.

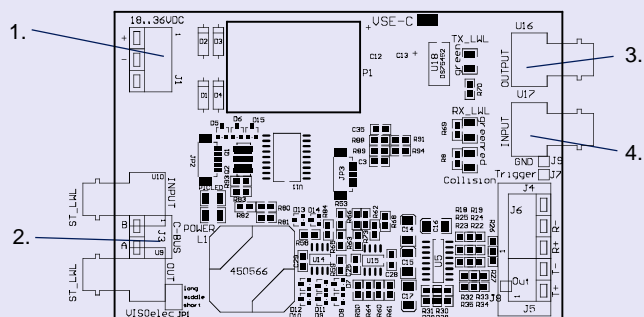
Hints

- try to make copper cable segments as short as possible especially if you have many media conversions.
- when the fiber length exceeds the maximum of 5km (with 62,5 / 125 μm multimode fiber; max 10dB attenuation) you can insert a fiber repeater VSE-C2.



Technical Details:

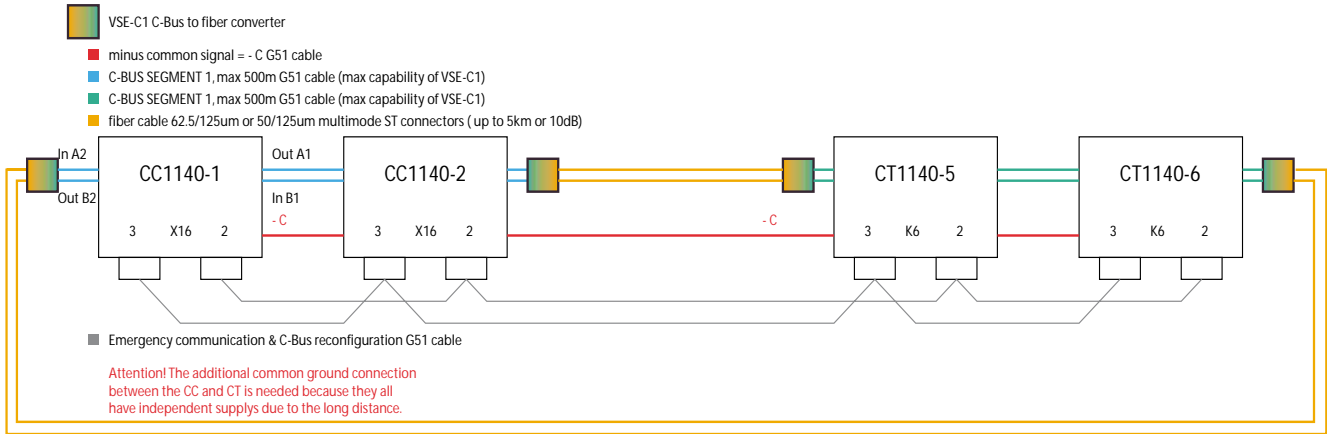
- Fiber modules HP HFBR-1414 / HFBR-2412
- Fiber connector ST type
- Fiber cable 62,5/125 μm or 50/125 μm multimode
- Fiber length up to 5km (max 10dB total), every 5km repeater VSE-C2 needed
- C-Bus copper cable segment length (G51, 0.8 mm²) up to 500m
- 18-36V AC/DC power supply input, power consumption 3 W
- Dimensions: (L x W x H) 110x80x90mm with hood, 110x80x50mm open frame
- Easy mounting on DIN rail
- LED indicators for receive, transmit activity and collision detection



- 1 AC/DC power connector pin1 and 2
- 2 C-Bus connector pin1:B, pin2:A
- 3 fiber segment OUTPUT
- 4 fiber segment INPUT

VSE-C1 C-Bus G51 to optical fiber converter

Application example (4x VSE-C1 minimum configuration)



Application example (VSE-C1/C2/C3 mixed configuration)

