

# 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

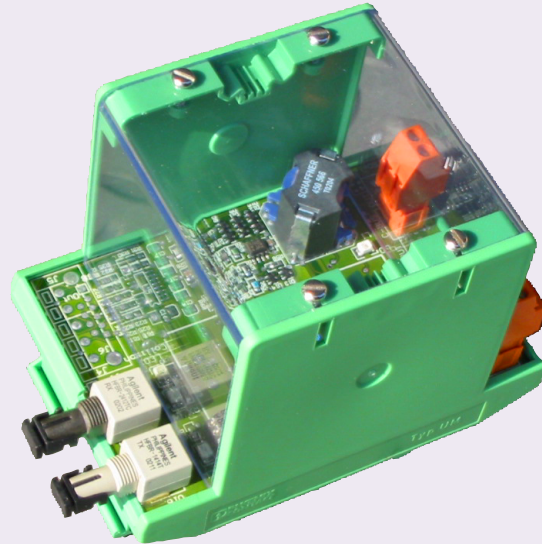
The VSE-C1 converter has a built in C-Bus termination. It is not a normal C-Bus node like a terminal or a central unit, it behaves like a piece of G51 cable seen from the C-Bus nodes. It recovers and rebuilds the weak signal from one bus segment and sends it to the optical fiber segment with a delay 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 fiber connector. As soon the fire detection systems 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.

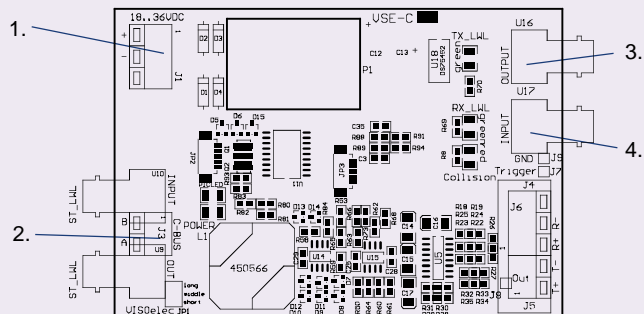
### Hints

- 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  $\mu\text{m}$  multimode fiber; max 10dB attenuation) you can insert a fiber repeater VSE-C2.



### Technical Details:

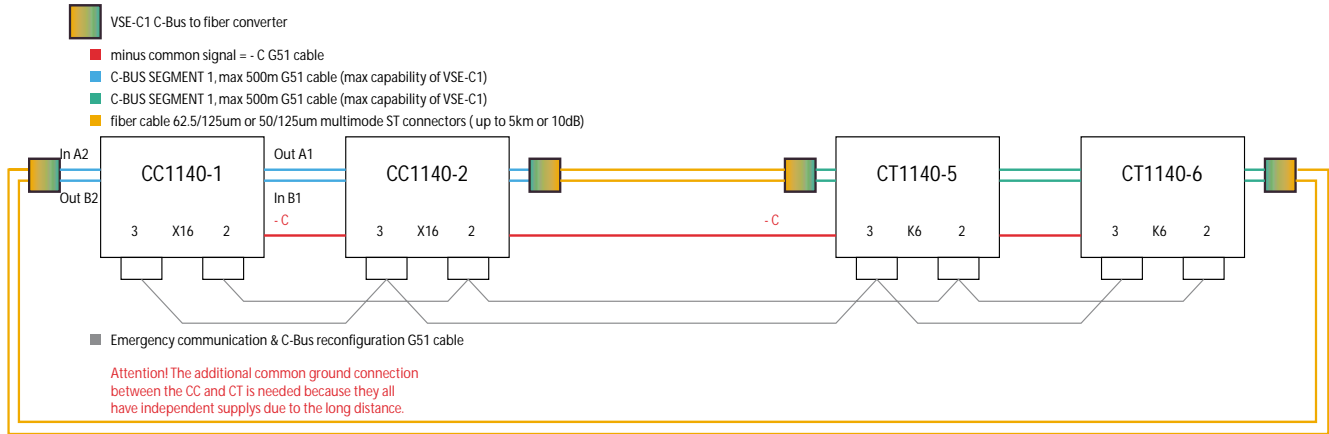
- Fiber modules HP HFBR-1414 / HFBR-2412
- Fiber connector ST type
- Fiber cable 62,5/125  $\mu\text{m}$  or 50/125  $\mu\text{m}$  multimode
- Fiber length up to 5km (max 10dB total), every 5km repeater VSE-C2 needed
- C-Bus copper cable segment length (G51, 0.8 mm<sup>2</sup>) up to 500m
- 18-36V AC/DC 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)

