

# VSE-C4

## C-Bus G51 single mode 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

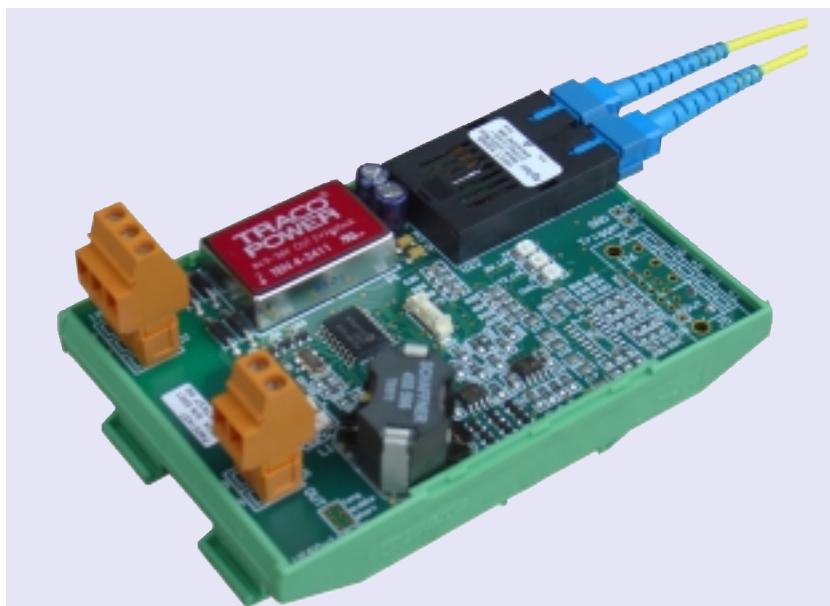
The VSE-C4 converter has a built in C-Bus termination. It is not a normal C-Bus node like a terminal or a central unit, it behaves like a piece of G51 cable seen from the C-Bus nodes. It recovers and rebuilds the weak signal from one bus segment and sends it to the optical fiber segment with a delay 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-C4 converters (not the cable connection between two nodes).

### Installation

Just clip the VSE-C4 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. The green Power LED lights up and the CPU indicator LED flashes. Then plug in the fiber connector. As soon the fire detection systems starts to run the receive and transmit LEDs 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.

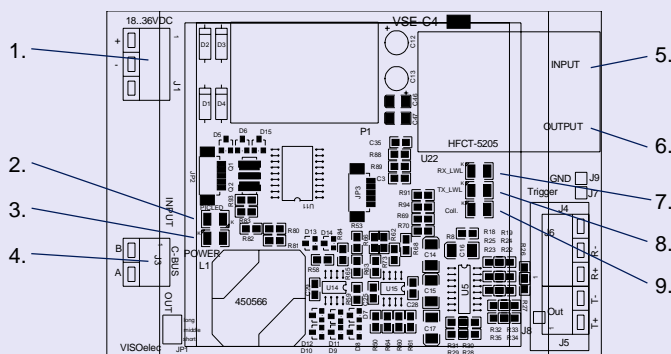
### Hints

- try to make copper cable segments as short as possible especially if you have many media conversions.
- for long fiber connections ask for the long distance version with the HFCT-5215 module.



### Technical Details:

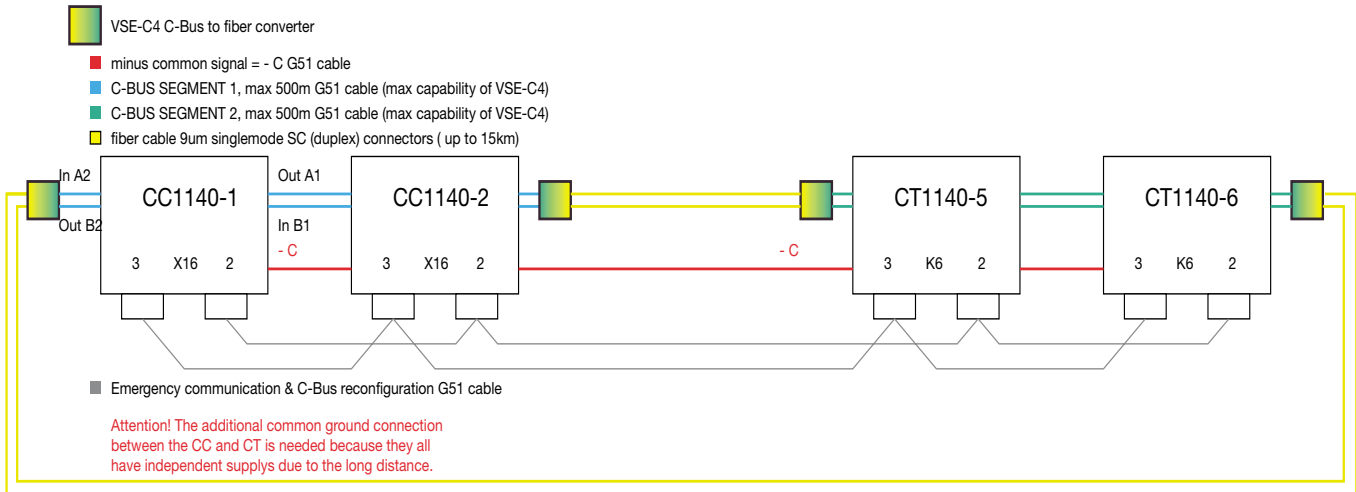
- Fiber modules Agilent HFCT-5205 (HFCT5215 long distance version)
- Fiber connector SC duplex type
- Fiber cable 9  $\mu$ m single mode (1300 nm)
- Fiber length up to 15km ( long distance version up to 50km)
- C-Bus copper cable segment length (G51, 0.8 mm<sup>2</sup>) up to 500m
- 18-36V AC/DC power supply input, power consumption 3.5 W
- Dimensions: (L x W x H) 110x80x90mm with hood, 110x80x50mm open frame
- Easy mounting on DIN rail
- LED indicators for receive, transmit activity, collision detection and processor operation



- |                                    |                             |
|------------------------------------|-----------------------------|
| 1 AC/DC power connector pin1 and 2 | 5 fiber segment INPUT       |
| 2 CPU indicator LED                | 6 fiber segment OUTPUT      |
| 3 Power LED                        | 7 RX fiber indicator LED    |
| 4 C-Bus connector pin1:B, pin2:A   | 8 TX fiber indicator LED    |
|                                    | 9 C-Bus collision LED (red) |

# VSE-C4 C-Bus G51 to optical fiber converter

## Application example (4x VSE-C4 minimum configuration)



## Application example (VSE-C1/C2/C3/C4 mixed configuration)

