

# VSE-C3

## C-Bus G51 copper repeater

### 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

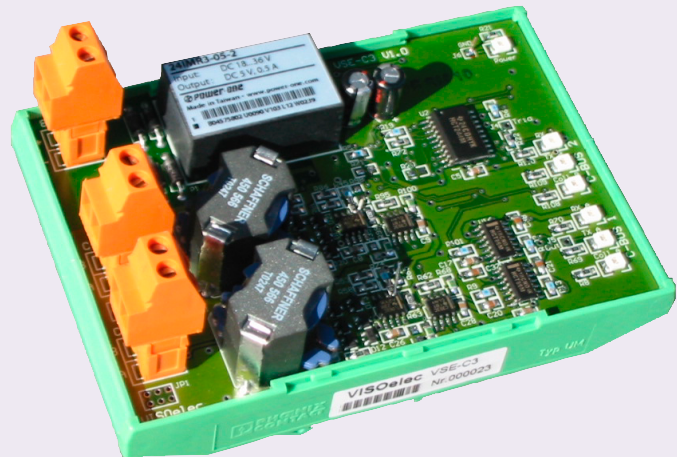
The VSE-C3 repeater has a built in C-Bus termination. It is not a normal C-Bus node like a terminal or a central unit, it behaves like a piece of G51 cable seen from the C-Bus nodes. It recovers and rebuilds the weak signal from one bus segment and sends it to the other segment with a delay of some nanoseconds. This makes it possible to have multiples of cable segments of up to 1000m each. A cable segment is the physical length of the cable between two VSE-C3 repeaters (not the cable connection between two nodes).

### Installation

Just clip the VSE-C3 onto the DIN rail and connect the screw terminal plugs to the wires. Be sure to have the C-Bus pairs correctly inserted (A/B). Then plug in the power. You should see the green LED. Then plug in the two C-Bus connectors. 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.

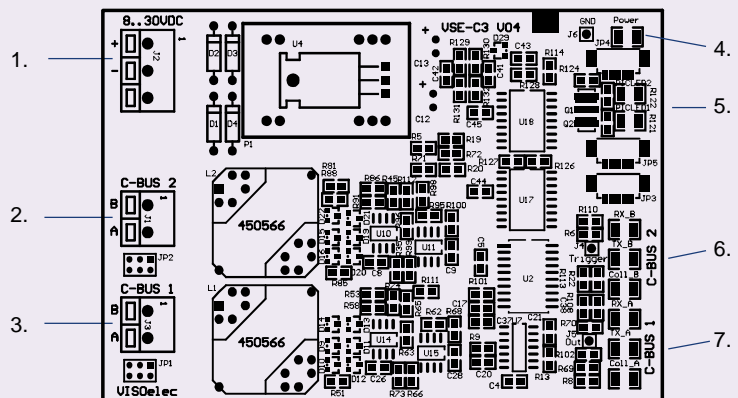
### Hints

- to enlarge the length of a C-Bus system you always need at least two repeaters: you need to split a circle (loop) into two pieces...
- try to make cable segments with equal length



### Technical Details:

- C-Bus segment cable length (G51, 0.8 mm<sup>2</sup>) up to 1000m
- 18-36V AC/DC power supply input
- 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 for both C-Bus segments
- Power good LED
- All connections through plug screw terminals



- |                                    |                                      |
|------------------------------------|--------------------------------------|
| 1 AC/DC power connector pin1 and 2 | 5 Controller function indicator LEDs |
| 2 C-Bus 2 connector pin1:B, pin2:A | 6 C-Bus 2 link indicators            |
| 3 C-Bus 1 connector pin1:B, pin2:A | 7 C-Bus 1 link indicators            |
| 4 Power Good LED                   |                                      |

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## Application example(2x VSE-C3 minimum configuration)

