



## CAN-Repeater CRep N

### Special Features

- Short propagation delay
- Extended error suppression, separation of faulty segments
- Wide range of power supply and operational temperature
- Assembly rail fixing, connection by terminal block

### Description

The assembly rail mountable CAN repeater CRep N transmits and amplifies CAN signals in a protocol transparent way. CRep N allows the design of flexible wiring topologies. Star and tree structures as well as stub lines can be realized. The maximum data rate in comparison to a line structure can be increased by a suitable topology. For the most common occurring errors the integrated error suppression reduces the influence of faulty segments to intact sections. Besides technical improvements the selection of the most favourable network topology can lower the installation costs.

Both CAN connections behave like one single physical CAN node. An increase in the maximum number of nodes can be achieved by separation of the network into several segments, each of them connected by CRep N. Each sub network can then manage a maximum number of CAN nodes only restricted by the transceiver driver capabilities. With transmission over long distances CRep N allows signal recovering.

## Technical Data

### Layout and Connection

CRep N devices include 2 CAN segments, wired by a terminal block with 8 clamps. Besides the CAN signals the terminal block also carries the power supply for CRep N. The following table shows the terminal assignment.

| Pin | Name   | Function                               |
|-----|--------|--|
| 1   | CAN1_H | CAN bus line circuit 1 (dominant high) |
| 2   | CAN1_L | CAN bus line circuit 1 (dominant low)  |
| 3   | GND    | Ground line                            |
| 4   | GND    | Ground line                            |
| 5   | CAN2_H | CAN bus line circuit 2 (dominant high) |
| 6   | CAN2_L | CAN bus line circuit 2 (dominant low)  |
| 7   | GND    | Ground line                            |
| 8   | +24V   | Power supply +24V                      |

### Limiting Values

| Parameter                              | Minimum | Maximum | Unit |
|--|---------|---------|------|
| Storage temperature                    | -40     | +90     | °C   |
| Operating temperature                  | -20     | +80     | °C   |
| Supply voltage                         | -100    | +35     | V    |
| Voltage on bus connections             | -30     | +30     | V    |
| Admissible power consumption (at 60°C) | n.s.    | 1000    | mW   |

Any (also temporary) stress in excess of the limiting values may cause permanent damage on CRep N and other connected devices. Exposure to limiting conditions for extended periods may affect the reliability and shorten the life cycle of the device.

### Nominal Values

| Parameter                                       | Minimum | Typical | Maximum | Unit |
|---|---------|---------|---------|------|
| Current consumption (running idle)              | n.s.    | 25      | n.s.    | mA   |
| Current consumption (250 kBits/s, 100% busload) | n.s.    | 35      | n.s.    | mA   |
| Supply voltage                                  | 11      | 24      | 30      | V    |
| Propagation delay                               | n.s.    | 100     | 175     | ns   |

All values, unless otherwise specified, refer to a supply voltage of 24V and an environmental temperature of 20°C.