



CAN Repeater CRep S8C/FD

Special Features

- Protocol transparent CAN repeater for CAN FD and CC
- 8 CAN channels
- Low propagation delay
- Links for cascading up to 3 devices with one supply
- ISO 11898-2:2016 and CiA 601-4 (SIC) compatible bus interface (TI TCAN1462)
- Detach of dominant locked bus segments
- Signal conditioning over long distances
- Optional with 120 Ohm or high impedance termination

Description

The DIN rail-mountable CAN repeater CRep S8C/FD was developed with signal quality in mind. The use of a Signal Improvement Capability Transceiver (SIC) for the physical CAN interface and split termination enables stable signal transmission and increased immunity to common-mode interference for Classic CAN and CAN FD.

Each of the eight CAN channels physically behaves like a single bus node. CRep S8C/FD enables the implementation of star network structures. It is possible to cascade up to three CRep S8C/FD with one power supply acting as one logical device. This opens up the possibility to select a network topology, that can help to reduce installation costs.

The ability to isolate permanent dominant segments from the rest of the CAN system after an error time reduces the impact of the most frequently occurring errors on intact bus segments. CRep S8C/FD features split termination with 2 x 60 ohms. If termination isn't required, the device is offered with high-ohm resistors to ensure that a channel without a connected or unterminated cable cannot interfere with the rest of the network.

The operating voltage is indicated by a LED. Each channel is also assigned an LED to indicate which segment has generated a CAN message.

Technical Data

Layout and Connection

CRep S8C/FD includes eight CAN segments, wired by terminal blocks with 3 clamps. The power supply of CRep S8C/FD is separately wired by a terminal block with 2 clamps.

The following table shows the terminal assignment of the power supply:

Pin	Name	Function
1	Power +	Supply voltage
2	Power -	Ground

The following table shows the pin assignment of the CAN terminal block:

Pin	Name	Function
1	CAN_H	CAN data line (dominant high)
2	CAN_L	CAN data line (dominant low)
3	CAN_GND	CAN ground

The power supply is galvanically decoupled from the CAN system.

Limiting Values

Parameter	Minimum	Maximum	Unit
Storage temperature	-40	+85	°C
Operating temperature	-20	+70	°C
Supply voltage	-100	+35	V

Any (also temporary) stress in excess of the limiting values may cause permanent damage on CRep S8C/FD 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)	-	30	-	mA
Current consumption (250 kBit/s / 2 MBit/s, 100 % busload)	-	80	-	mA
Supply voltage	19	24	30	V
Propagation delay between two arbitrary channels	-	160	210	ns

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

Scope of Delivery

- CAN repeater CRep S8C/FD
- User manual