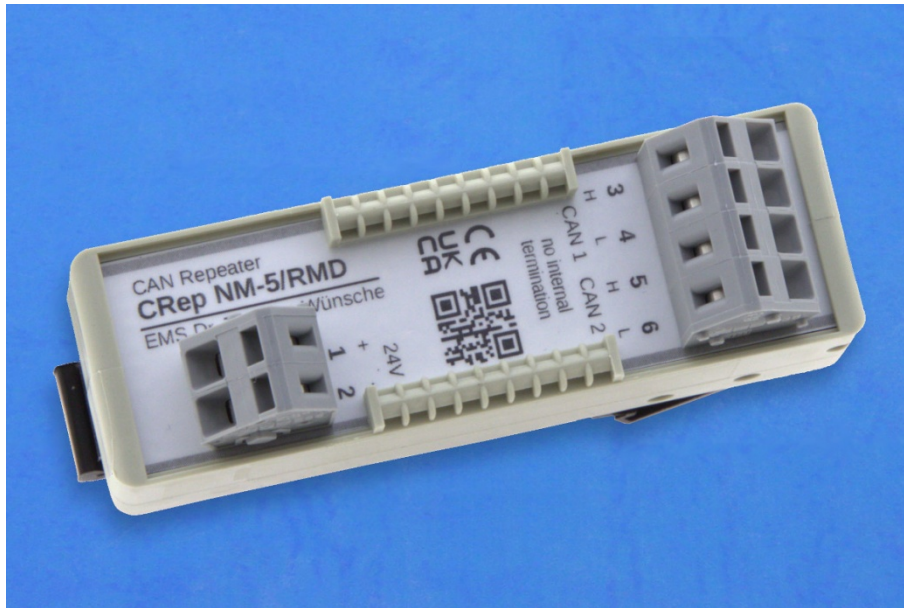




CAN Repeater CRep NM

Special Features

- Protocol transparent CAN repeater
- Low propagation delay
- Shutdown of erroneous bus segments
- Rail mountable
- Optional with 120 Ohm or high impedance termination

Description

The compact CAN repeater CRep NM has been designed for mobile use. It transmits and amplifies signals transparent to the CAN protocol.

Each of the two CAN connections has the physical behavior of a single bus node. CRep NM enables a flexible network topology design, such as star and tree structures, as well as long stub lines. This allows to choose an application specific network topology, that can lead to a reduction of 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 NM is delivered with 120 Ohm termination. 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.

CRep NM was designed for the use in mobile machines and has been tested for EMC, climate, and shock resistance against standards for earthmoving and construction machinery. An identical device has been used in large quantities by a global leading construction machinery company for many years.

Although designed for mobile use, CRep NM also qualifies as a cost-effective, compact solution for automation tasks involving CAN.

Technical Data

Layout and Connection

CRep NM includes two CAN segments, wired by a terminal block with 4 clamps. The power supply of CRep NM 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
3	CAN_H	CAN data line 1 (dominant high)
4	CAN_L	CAN data line 1 (dominant low)
5	CAN_H	CAN data line 2 (dominant high)
6	CAN_L	CAN data line 2 (dominant low)

Limiting Values

Parameter	Minimum	Maximum	Unit
Storage temperature	-20	+85	°C
Operating temperature	-20	+85	°C
Supply voltage	-36	+36	V
Admissible power consumption (at 60 °C)	-	2000	mW

Any (also temporary) stress in excess of the limiting values may cause permanent damage on CRep NM 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)	-	20	-	mA
Current consumption (250 kBits/s, 100 % busload)	-	35	-	mA
Supply voltage at connector 1	10	24	30	V
Propagation delay	-	100	180	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 NM
- User manual