# Ixxat CAN-CR220

**Item number: 1.01.0067.44300**

The Ixxat CAN-CR220 repeater with two CAN interfaces provides a galvanic isolation up to 4 kV DC/4 kV AC for 1 second, enhancing the protection of network segments. It improves the CAN bus load capacity, establishes a physical coupling of bus systems and provides the flexibility to optimize network structures. The CAN-CR220 meets DIN/EN 50178 standards.



*CAN repeater with 4 kV DC/4 kV AC galvanic isolation*

## Features and benefits

**Robust industrial use**

Designed for industrial environments, meeting high demands for robustness, temperature ranges, and safety.

**Fast and transparent operation**

Minimal impact on real-time behavior, equivalent to a short line length (ca. 40 m/200 ns delay). Enabling transparent transmission, compatible with all higher layer protocols.

**Increased system protection up to 4 kV DC/4 kV AC for 1 sec.**

Using the CAN-CR220, network components can be galvanically isolated up to 4 kV DC/4 kV AC for 1 second (4 kV DC/3.75 kV AC for 1 minute). This reliably enhances the protection of the device against damage to electronics caused by voltage peaks.

**Integrated bus termination resistors**

Integrated bus termination resistors (120 Ohm, switchable via DIP switch) prevent reflections on the line ends and ensure optimum communication.

**Flexibility in CAN network design**

Helps to optimize CAN network structures by enabling extended layouts (stub lines, star and tree topologies).

**Cost savings due to simple wiring**

Optimized topologies enable simpler wiring, resulting in less cables and cost savings at installation and maintenance.

**Network monitoring and fault recovery**

In case of disturbances, the repeater automatically disconnects the affected segment and restores it after the fault is resolved.

# Ixxat CAN-CR220



## General

| | |
|---|---|
| **Net Width (mm)** | 100 |
| **Net Height (mm)** | 118 |
| **Net Depth (mm)** | 22.5 |
| **Net Weight (g)** | 200 |
| **Packed Width (mm)** | 13 |
| **Packed Height (mm)** | 4 |
| **Packed Depth (mm)** | 17 |
| **Packed Weight (g)** | 283 |
| **Operating Temperature °C Min** | -20 |
| **Operating Temperature °C Max** | 70 |
| **Storage Temperature °C Min** | -40 |
| **Storage Temperature °C Max** | 85 |
| **Relative Humidity** | 10 to 95 %, non-condensing |
| **Current Consumption Type Value at Vcc Nom (mA)** | 41 |
| **Current Consumption Max value at Vcc nom (mA)** | 100 |
| **Input Voltage (V)** | +9 V to +32 V DC |
| **Isolation** | 4 kV DC/4 kV AC for 1 sec., 4 kV DC/3.75 kV AC for 1 min., 3 kV AC for 3 min. |
| **Content of Delivery** | CAN repeater, user manual |
| **Mounting** | DIN rail mount (bracket included) |

# Ixxat CAN-CR220



## General

| | |
|---|---|
| **Housing Materials** | Polyamide housing for top hat rail mounting |
| **Packaging Material** | Cardboard |
| **Warranty (years)** | 1 |

## Identification and Status

| | |
|---|---|
| **Product ID** | 1.01.0067.44300 |
| **Successor** | 1.01.0211.20000 |
| **Country of Origin** | Germany |
| **HS Code** | 8517620000 |
| **Dual Usage** | No |

## Physical Features

| | |
|---|---|
| **Connectors / Input / Output** | 2 x D-Sub 9 connectors, 1 x power connector |
| **Contains Battery** | No |

## CAN Features

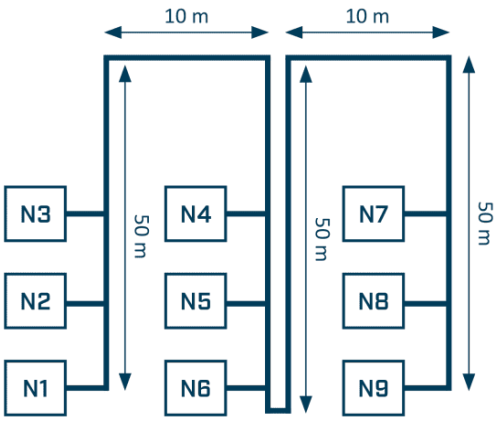
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|---|---|
| **CAN Mode** | CAN high-speed (ISO 11898-2) with CAN choke |
| **CAN Transceiver** | TI SN65HVD251 |
| **CAN Baud Rate** | Up to 1 Mbit/s |

## Certifications and Standards

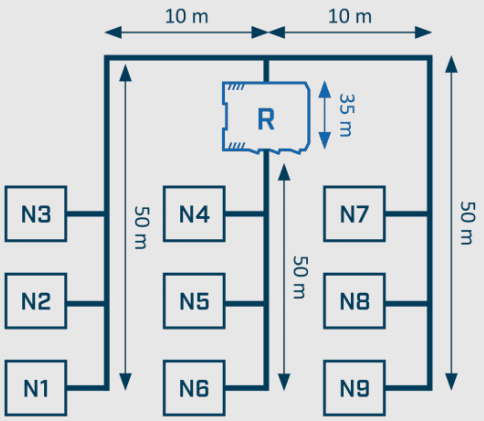
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|---|---|
| **Protection Class IP** | IP30 |
| **Product Certifications** | CE, FCC |
| **WEEE Category** | IT and telecommunications equipment |

# Use Case

**Conventional bus structure**
The distance between the two nodes furthest apart (1/9) is 220 meters.




**Extended structure with drop line**
The distance between the two nodes furthest apart (1/6 or 6/9) is 145 meters.




CAN repeaters can be used to better adapt the cable routing to the ambient conditions. Stub lines can be made and the bus structure can be expanded to a star/tree structure, which saves cable lengths. Shorter cable lengths reduce interference on the signal lines and enable higher bit rates. Segments connected via repeaters are galvanically decoupled and therefore offer overvoltage protection for connected participants.