

DeviceNet Repeater

- Extend Network Length
- Extend Drop Lengths
- Isolate Power Segments
- Isolate Communication Segments



REP-DN  
REP-DN-DROP



Electrical

- Operating Current: 125 mA from segment A, 30 mA from segment B

Power Distribution

- REP-DN: DeviceNet power supply for each segment (must be powered by separate supplies)
- REP-DN-Drop: Does not require a separate power supply and does not isolate power between segments

Mechanical

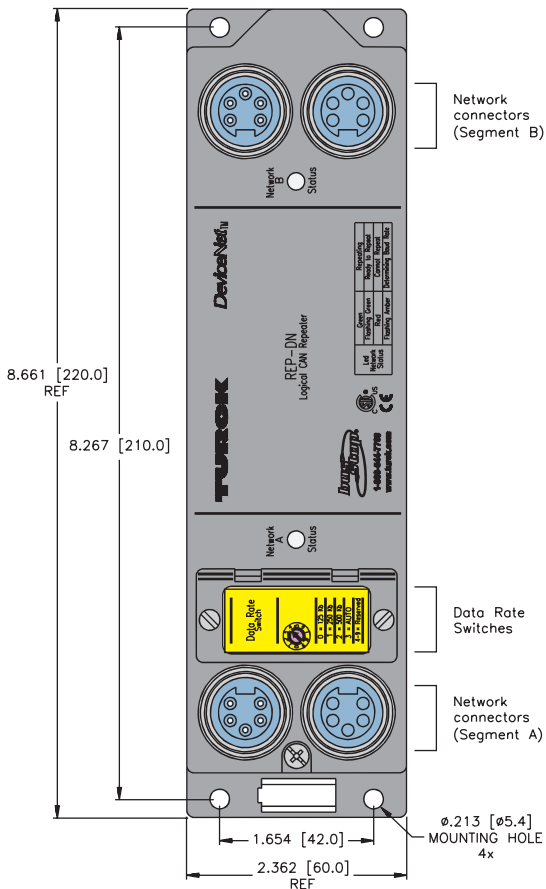
- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 and IEC IP 67
- Vibration: 50 g @ 10-500 Hz

Material

- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Physical)

- One LED for each segment to indicate communication status



DeviceNet minifast Pinout

Male	Female
5-Pin	5-Pin

- 1 = Shield
- 2 = V+
- 3 = V-
- 4 = CAN\_H
- 5 = CAN\_L

Note: each segment has one male and one female connector

## DeviceNet™ Repeater

The **REP-DN** is a potted, fully connectorized rugged repeater that can be mounted directly on the machine. It is designed for use on any Controller Area Network (CAN), including DeviceNet. Network segments connected by a repeater are considered separate physical networks (trunk and drop lengths for each segment are determined as if the other segments are not there), but one logical network (addresses cannot be duplicated - the scanner and configuration tools work as a single network).

A repeater does not consume an address and is invisible to all the other devices on the network. A repeater does not have an EDS file. The **REP-DN** repeater can be used to extend either the trunk or drop lines, and to isolate power supplies on networks with multiple supplies. There is no limit to the number of repeaters that can be used on one network.

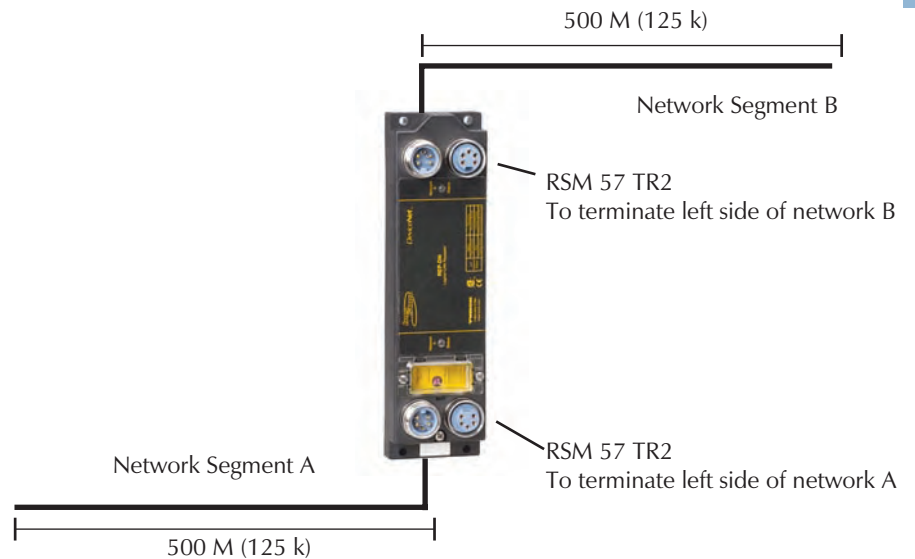
A repeater's baudrate is set via a rotary switch. The baudrate on each side of the repeater must be the same, as different rates would cause the "slow" side to be overloaded with messages from the "fast" side. When a message is repeated, a 2 ms delay is introduced. This is typically insignificant compared to the overall scan time of the network. If more than four repeaters are used in series, the interscan delay may need to be increased.

### Repeater Configurations

#### Extended Trunk Line

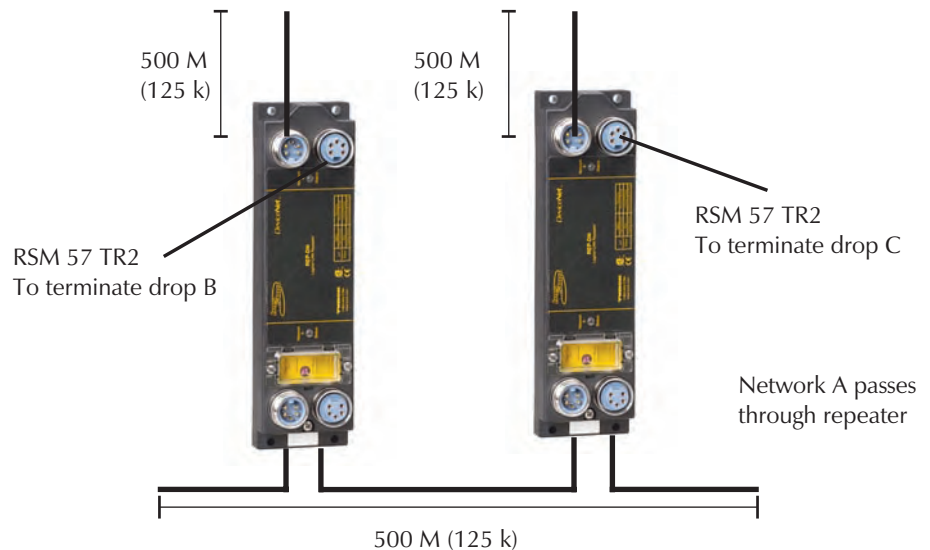
Repeaters are connected in series to extend the trunk line. The total delay is 2 ms multiplied by the number of repeaters.

\* REP-DN-DROP does not require a separate power supply on segment B. If a separate power supply is desired, it must be attached using a "Power T" (RSM RKM 57 WSM 40 PST recommended).



#### Extended Drop Line

Repeaters are connected in parallel to extend the drop length. The overall network delay is 2 ms, because there is only one repeater between the scanner on the trunk and any other device.



#### Do Not Create a Ring

While a repeater can be used to create very large and complex networks, some configurations are not permitted. If a ring is created (both sides of a repeater are connected to the same network), the repeater will continuously repeat to itself, causing the network to overload.