

Applications

- Automotive CAN bus systems
- Automation CAN bus systems
- General purpose CAN bus interfaces
- CANopen
- CAN FD
- CAN 2.0
- MilCAN
- Industrial field networks

Product Features

- Complies with ISO 11898 standard
- Communication baud range: 10Kbps ~ 2Mbps
- EMI noise suppression up to 30 dB
- ESD protection up to 30 kV according to IEC 61000-4-2 and ISO 10605
- ESD protection is 4A with the condition of 8/20 μ s according to IEC 61000-4-5
- Extended operating temperature: -40 ~ +85 °C
- Extended storage temperature: -40 ~ +105 °C
- IP65
- Various mounting options: M4 screw, DIN rail and the box
- Various connector options: Screw connector, push-in spring connector, DB9 male, DB9 female
- Various channel options: Single or dual channel

General Description

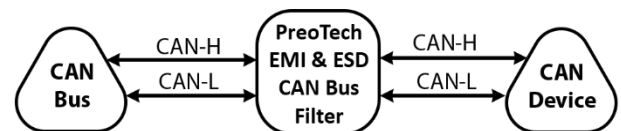
The PreoTech CAN Bus Filter is an electronic device that suppresses electromagnetic interference and electrostatic discharge on the CAN bus. It can run at high speeds up to 2Mbps and fully compatible with ISO 11898 standard. Provides ESD protection up to 30 kV according to IEC 61000-4-2, ISO 10605. It prevents electromagnetic interference and noise that may occur through its EMI suppression feature up to 30dB. It protects the CAN bus-device and prevents data loss.

The PreoTech CAN Bus Filter must be used in places where ESD and EMI noise may occur.

Options are available regarding mounting type, connector type and channels.



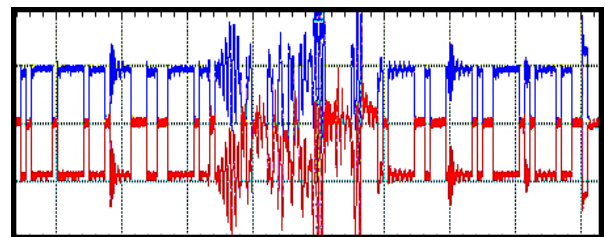
Functional Diagram



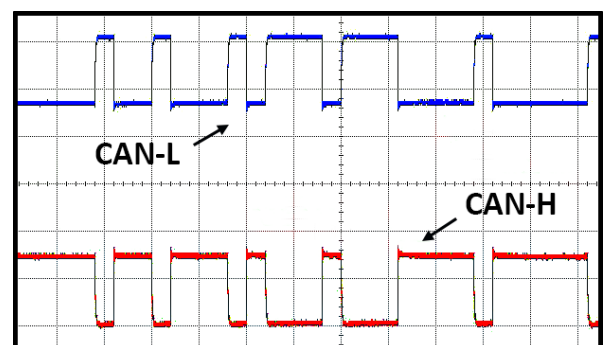
Effect On Signal

In the pictures below, the CAN bus line is seen under the oscilloscope. As can see the CAN bus is affected by environmental conditions. If do not use filters, it is inevitable to experience data loss on the CAN bus.

CAN Bus Signal Without PreoTech CAN Bus Filter:

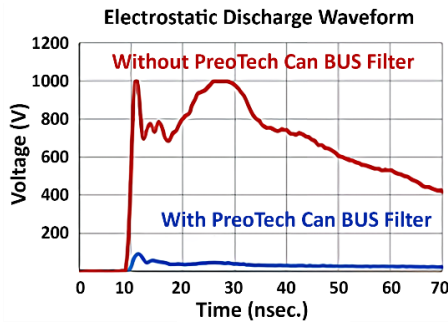


After PreoTech CAN Bus Filter:



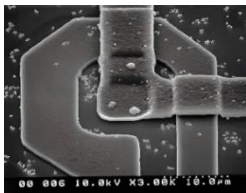
Electrostatic discharge is also a serious problem for CAN bus lines. If the filter is not used, the voltage on the lines can rise to thousands of volts and can give damage to the CAN IC chip.

Under ESD Condition:

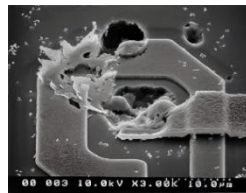


High voltage will destroy the silicon blocks inside the CAN IC chip. The image below shows a silicon gate exposed to electrostatic discharge.

Normal Silicone Gate:



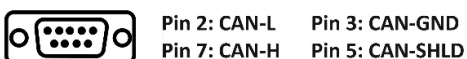
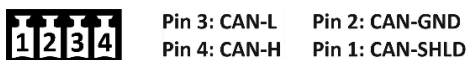
Damaged Silicone Gate:



Pin Configuration

Connector Options:

- Screw Connector
 - Board side P/N: Wurth 691322310004
 - Cable side P/N: Wurth 691361300004
- Push-In Spring Connector
 - Board side P/N: Wurth 691322310004
 - Cable side P/N: Wurth 691368300004B
- DB9 Male Connector
 - Board side P/N: Wurth 618009231221
- DB9 Female Connector
 - Board side P/N: Wurth 618009231121



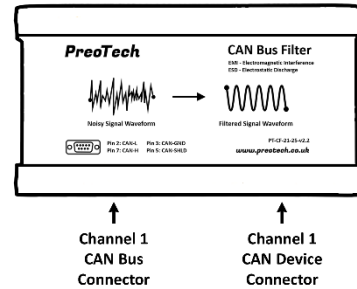
CAN Bus Filter

EMI – Electromagnetic Interference
ESD – Electrostatic Discharge

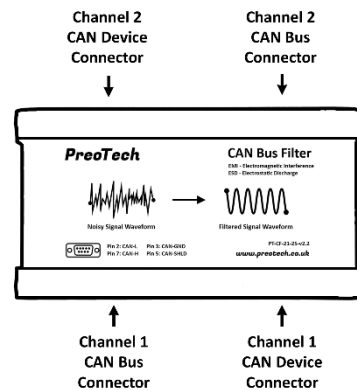
The PreoTech CAN Bus Filter can be purchased as single channel and dual channel. In the dual channel, the channels are isolated from each other.

Channel Options:

- Single Channel:

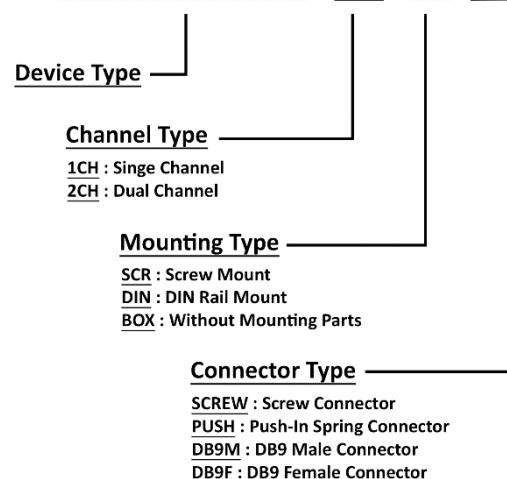


- Dual Channel:



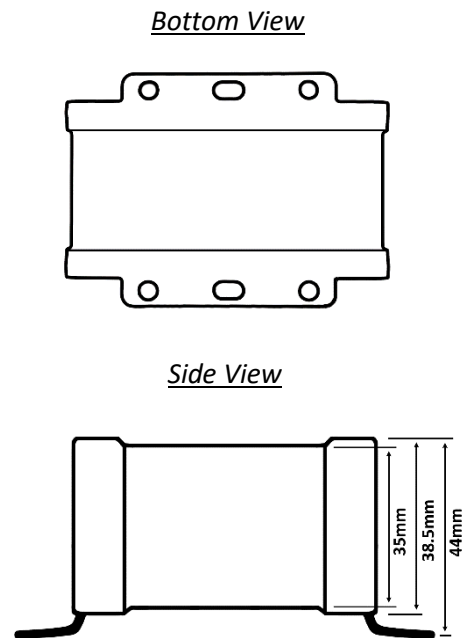
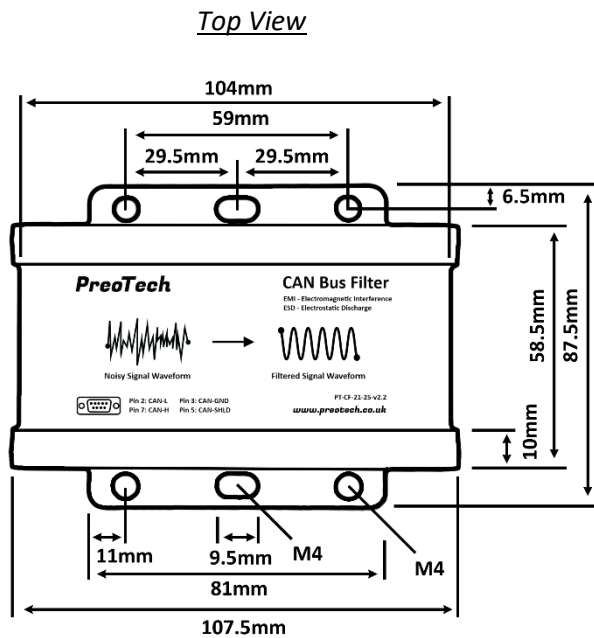
Ordering Information

PT-CF-21-25-v2.2-2CH-SCR-PUSH



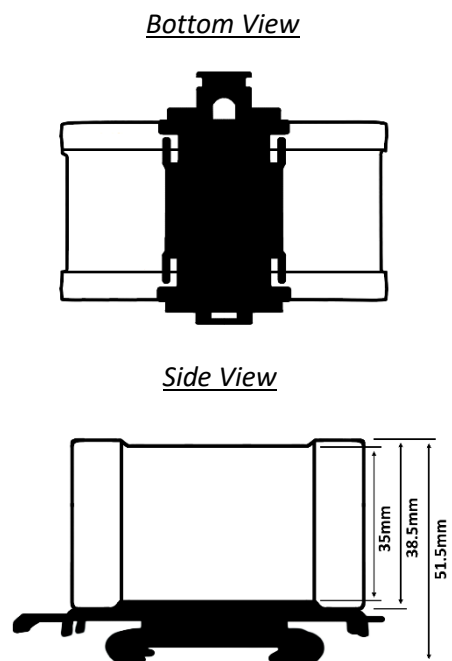
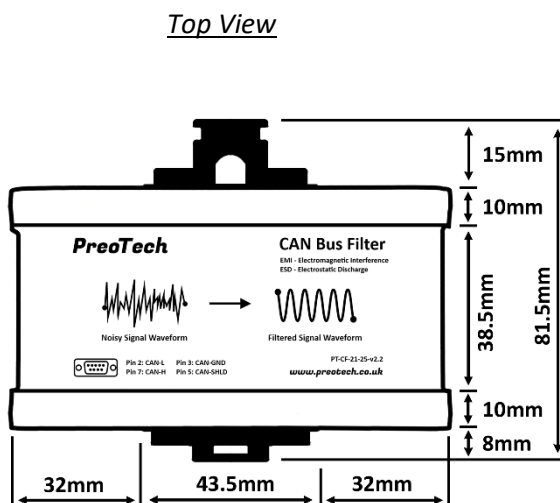
Mechanical Information

With Screw Mount: (SCR)



Dimensions are in millimeters.

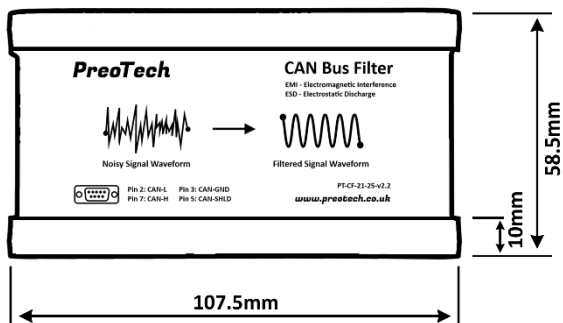
With DIN Rail Mount: (DIN)



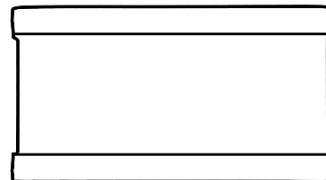
Dimensions are in millimeters.

Without Mounting Parts: (BOX)

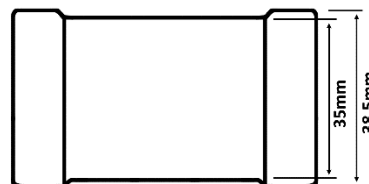
Top View



Bottom View



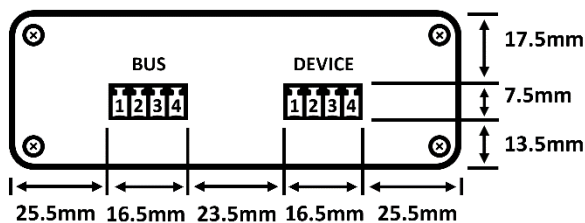
Side View



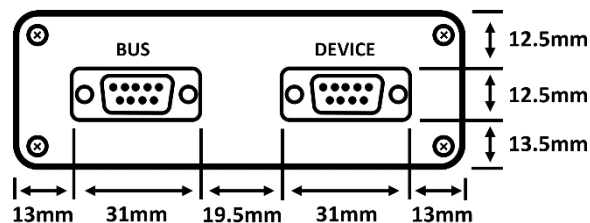
Dimensions are in millimeters.

Connector Type:

Screw and Push-In Spring Connectors



DB9 Male and DB9 Female Connectors



Dimensions are in millimeters.

Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations, and information about PreoTech:

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