

CAN-KEY



Introduction

“Listen to any CAN bus without damaging the wires or disturb the CAN bus signals”

Listen to the data traffic on a CAN bus without making an electrical connection to the physical bus. The sensor is easy to mount, attached to the existing CAN wires with a smart click-fit locking function and provides galvanic isolation to the CAN bus it is attached to. The device will eavesdrop all data from the bus to a dedicated CAN bus. No configuration is required!

CAN-KEY can be used with any ISO 11898-2 compliant CAN bus, such as SAE J1939 or CANopen.

Many of the devices available on the market today need to have physical connection to the conductors of the CAN bus wires to be able to read the data. This will break the insulation of the wires and exposing the conductors.

If the insulation of the wires in the original system is tampered with, you will have the possibility that the connected device may disturb the CAN bus and it will in most cases also void the warranty of the system it is connected to.

CAN-KEY have a small sensor part inserted between the CAN-High and CAN-Low wires and listens to the bus by sensing the extremely small capacitance change during data transmissions.

Features

- No physical wire connections
- 100% Galvanic isolation
- Fast and easy installation
- Do not void the warranty of the system it is connected to
- Reliable and fit most applications
- Wide supply voltage
- IP67 protection

How to use CAN-KEY

The Passive version of CAN-KEY is used as a passive reader of the CAN bus signals. The CAN bus signals are read without damaging the wires and past forwarded to a new dedicated CAN bus. It will eavesdrop all data and transmit this information to the desired system.

Before attaching to the CAN bus that you want to listen to, the CAN-KEY shall be connected to power/ground and the CAN device that will receive the data traffic.

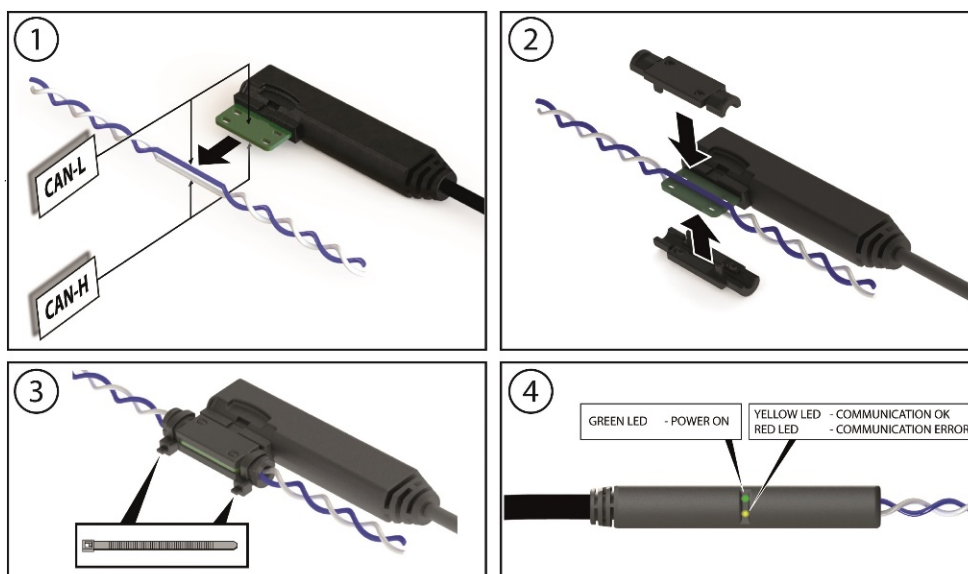
IMPORTANT INFORMATION

CAN-KEY Passive will ONLY copy each and every frame of the CAN bus it is listening to and eavesdrop the data with the exactly same baud rate. The CAN-KEY Passive must ONLY be connected to ONE receiving device. No other devices can be connected to the same bus since the CAN-KEY will not care if other devices are transmitting data, CAN-KEY will flood the bus with the instantaneous copied frames from the device it's listening to.

- 1 - Place the sensor part of the CAN-KEY between the CAN-High and CAN-Low wires, from the system you want to listen to. Make sure that the CAN-High and CAN-Low wires are placed on the right side of the sensor.
- 2 - Attach the cables to the CAN-KEY with the holders.
- 3 - Secure the holders with zip-ties.
- 4 - The green LED will turn on if properly powered. See pinout for more information.

NOTE

The CAN-KEY is also delivered with zip-ties which can be used instead of the holders. Zip-ties can in some cases be preferred in difficult attachment locations. Place the sensor part of the CAN-KEY between the CAN-H and CAN-L wires and tighten two zip-ties firmly around the wires trough the holes at the sensor part.



NOTE:
YELLOW/RED LED ONLY
AVAILABLE for CAN-KEY Active

CAN-KEY is available as an Active version (customer specific) and will provide far more functionalities such as:

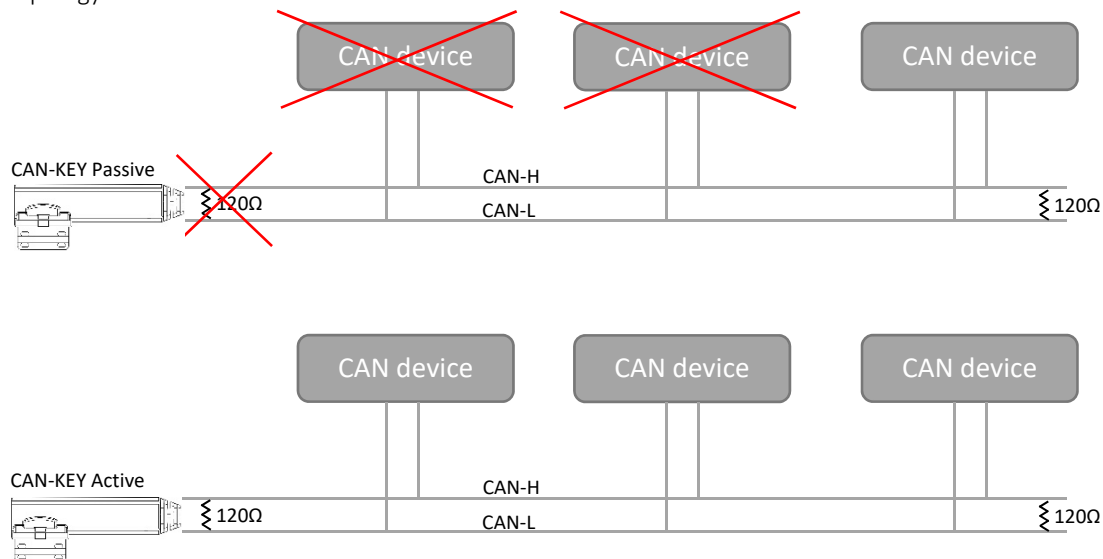
- Configurable (listen and detect specific CAN messages)
- LEDs showing CAN bus activity
- 2 configurable high side/high current outputs
- 2 configurable analog inputs
- Measure and transmit system voltage and temperature
- Configurable CAN bus baud rate
- Can Co-exist with other CAN bus devices

Except for eavesdrop the CAN signals, you can also configure the *CAN-KEY Active* to, for example, activate outputs when specific CAN messages appear in the attached CAN bus system.

Termination

CAN-KEY Passive has internal terminating resistor of 120ohm. It is only possible to have one other CAN node on the CAN bus when using CAN-KEY Passive.

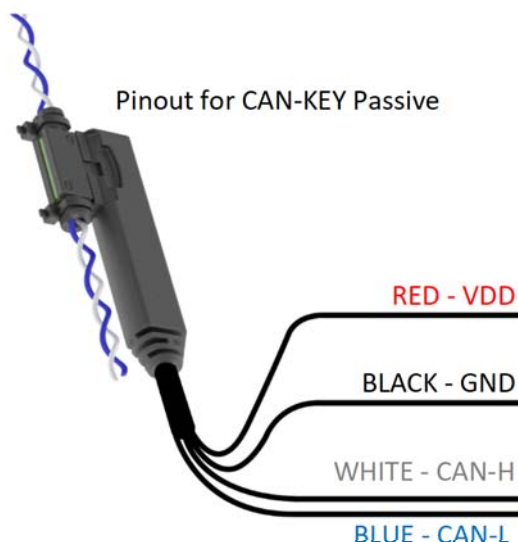
CAN-KEY Active do not have any internal terminating resistor. Please connect terminating resistor according to bus topology.



Technical specification

ELECTRICAL	
Operating voltage	7 – 36 VDC
Inputs*	2xAIN (0-36 VDC)
Outputs*	2xDOUT (PWM, 3A)
Protection	Reverse polarity, Over current
CAN	ISO11898 2.0B, 20k to 1Mbit/s

ENCLOSURE	
Material	TPU (Clip: PP/PE-LLD)
IP protection	IP67
Size WxHxD	85x34x13 mm
Color	Black
Temperature range	-40°C to +85°C
Weight (incl. 1.5m cable)	85 g



CERTIFICATION	
CE, E-mark	E5 Approval number: E5*10R05/01*0385*00
Fulfills directive	UN ECE R10
Applying standards	CISPR 25 ISO 11452-2 ISO 11452-4 ISO 7637-2:2004

Ordering information

MODEL	PART NUMBER
CAN-KEY Passive, 1.5 m PUR cable	84 20 00
CAN-KEY Active*	84 21 xx

*Upon request

NOTE

Any CAN-KEY model can be ordered with customer specific length of the cable and connector (Deutsch, Molex, etc.)

