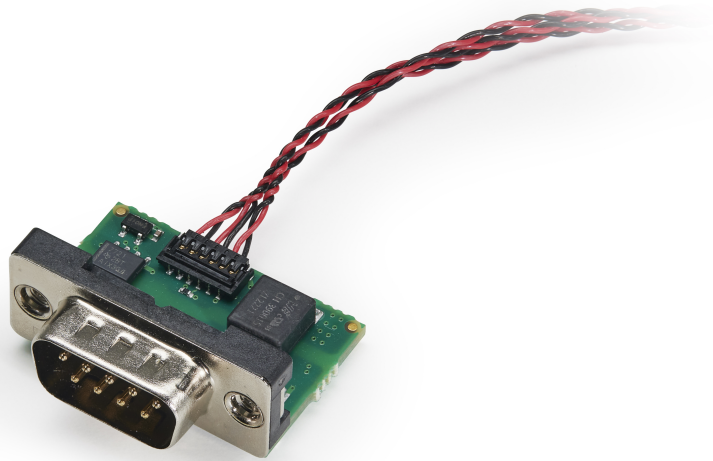




Kvaser Flex D-SUB9 User's Guide



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<https://www.kvaser.com>

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We believe that the information contained herein was accurate in all respects at the time of printing. Kvaser AB cannot, however, assume any responsibility for errors or omissions in this text. Also note that the information in this document is subject to change without notice and should not be construed as a commitment by Kvaser AB.

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1 About this manual

This manual is intended for Kvaser Flex D-SUB9 users. This document contains a description of the hardware's properties and general instructions for connecting the module to Kvaser M.2 PCIe xCAN devices.

2 Introduction

This section will describe the functions and features of the Kvaser Flex D-SUB9.

2.1 Welcome to Kvaser Flex D-SUB9



Figure 1: Kvaser Flex D-SUB9

Kvaser Flex D-SUB9 is a CAN module that can be used in combination with Kvaser M.2 PCIe xCAN (<https://kvaser.com/product/kvaser-m-2-pcie-xcan/>) to handle transmission and reception of CAN messages on the bus with high timestamp precision.

This guide applies to Kvaser Flex D-SUB9 modules and Kvaser M.2 PCIe xCAN devices using at least the firmware and driver versions listed in Table 1. For minimum compatible firmware and driver versions of Kvaser Flex D-SUB9 modules and Kvaser M.2 PCIe xCAN see Table 2 on Page 6.

Device	Product Number	Firmware	Driver (Windows/Linux)
Kvaser Flex D-SUB9	73-30130-01821-1	N/A	N/A
Kvaser M.2 PCIe xCAN	73-30130-01818-1	v1.4	v5.52 (kcanf/kvpciefd)

Table 1: Firmware and driver versions needed to support all functionality present in this guide.

2.2 Major features

- Supports CAN FD, up to 8 Mbit/s.
- High-speed CAN connection (compliant with ISO 11898-2), up to 1 Mbit /s.

2.3 Interface

Kvaser Flex D-SUB9 provides together with a Kvaser M.2 PCIe xCAN device a CAN bus interface through the PCIe system bus in a B or M keyed M.2 slot.

The absolute minimum firmware and driver versions for the Kvaser M.2 PCIe xCAN needed in order to use Kvaser Flex D-SUB9 are listed in Table 2.

Device	Min. Firmware Version	Min. Driver Version
Kvaser Flex D-SUB9	N/A	N/A
Kvaser M.2 PCIe xCAN	v1.4	v5.52

Table 2: Minimum compatible driver and firmware versions of Kvaser Flex D-SUB9 modules and Kvaser M.2 PCIe xCAN devices.

3 Kvaser Flex D-SUB9 hardware

In this section you can read more about the CAN channels and power supply.

3.1 Hardware installation

Kvaser Flex D-SUB9 is connected to the M.2 card using PCB-to-PCB cabling (see Figure 2). The Kvaser Flex D-SUB9 module has a 9-pin D-SUB connector for connection to the CAN bus. How the pins on the CAN modules are connected to the pins on the M.2 card is described in Table 3.

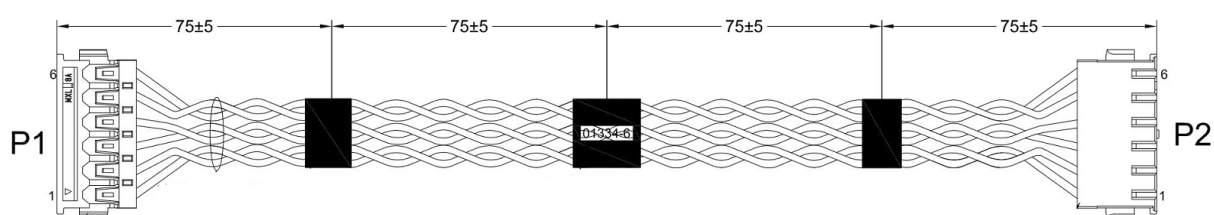


Figure 2: PCB-to-PCB cabling.

Pin connection 1	Pair	Pin connection 2
1	1	1
2	1	2
3	2	3
4	2	4
5	3	5
6	3	6

Table 3: Connection between pins in the PCB-to-PCB cabling.

3.2 CAN channels

The Kvaser Flex D-SUB9 provides one CAN channel. A pico-EZmate 6-pin PCB connector is used for the interface between the module and the M.2 card. A 30 cm long cable is included for the connection to the M.2 card, see Section 3.5, CAN connectors, on Page 8 for pinout information.

3.3 Power supply

Kvaser Flex D-SUB9 is powered by Kvaser M.2 PCIe products.

3.4 Technical data

In Table 4 on Page 8 below you will find the technical specifications of Kvaser Flex D-SUB9.

CAN Channels	1
CAN Connector	9-pin D-SUB
CAN Transceivers	SIC (Compliant with ISO 11898-2)
Galvanic isolation	Yes
CAN Bit Rate	20 kbit/s to 1 Mbit/s
CAN FD Bit Rate	Up to 8 Mbit/s
Error Frame Detection	No
Error Frame Generation	No
Silent mode	No
Kvaser t Script	No
Kvaser CANtegrity	No
Power consumption	Typically up to 1 W.
Cable length	30 cm
Dimensions CAN module card	30 x 19 (30 x 26 mm if including edge overhanging connector)
Weight	10 g
Operating temperature	−40 °C to +85 °C
Storage temperature	−40 °C to +85 °C
Relative humidity	0 % to 85 % (non-condensing.)

Table 4: Technical Specifications.

3.5 CAN connectors

The Kvaser Flex D-SUB9 has one CAN channel.

The CAN connector for the Kvaser Flex D-SUB9 is the 9-pin D-SUB connector (see Figure 3) which has the pinout described in Table 5 on Page 9.

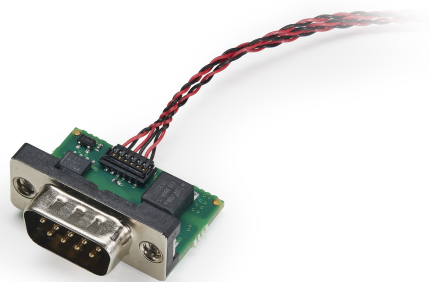


Figure 3: 9-pin D-SUB CAN connector.

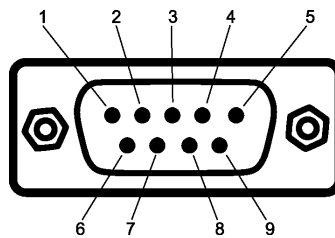


Figure 4: The D-SUB 9 connector pin numbers.

D-SUB pin number	Function
1	Not connected
2	CAN_L
3	GND
4	Not connected
5	Not connected
6	Not connected
7	CAN_H
8	Not connected
9	Not connected

Table 5: Configuration of the 9-pin D-SUB connector.

3.6 CAN bus termination

Every CAN bus must be terminated with a 120 Ohm resistor at each end of the bus. The Kvaser Flex D-SUB9 does not contain any CAN bus termination, because their inclusion could cause severe disturbance in a system which is already correctly terminated.

For laboratory or testing use, the exact value of the termination resistors is not always critical. Sometimes a single terminator is sufficient. For production, proper termination is essential. If you see error frames on the bus, you should check the termination.



To save yourself a lot of trouble, always terminate the CAN bus properly.

4 Safety Instructions

4.1 Intended Use

The Kvaser Flex D-SUB9 is intended for connection to a Kvaser M.2 PCIe product.

4.2 Usage Warning



WARNING FOR ALL USERS

WARNING! - YOUR USE OF THIS DEVICE MUST BE DONE WITH CAUTION AND A FULL UNDERSTANDING OF THE RISKS!

THIS WARNING IS PRESENTED TO INFORM YOU THAT THE OPERATION OF THIS DEVICE MAY BE DANGEROUS. YOUR ACTIONS CAN INFLUENCE THE BEHAVIOR OF A CAN-BASED DISTRIBUTED EMBEDDED SYSTEM, AND DEPENDING ON THE APPLICATION, THE CONSEQUENCES OF YOUR IMPROPER ACTIONS COULD CAUSE SERIOUS OPERATIONAL MALFUNCTION, LOSS OF INFORMATION, DAMAGE TO EQUIPMENT, AND PHYSICAL INJURY TO YOURSELF AND OTHERS. A POTENTIALLY HAZARDOUS OPERATING CONDITION IS PRESENT WHEN THE FOLLOWING TWO CONDITIONS ARE CONCURRENTLY TRUE: THE PRODUCT IS PHYSICALLY INTERCONNECTED TO A REAL DISTRIBUTED EMBEDDED SYSTEM; AND THE FUNCTIONS AND OPERATIONS OF THE REAL DISTRIBUTED EMBEDDED SYSTEM ARE CONTROLLABLE OR INFLUENCED BY THE USE OF THE CAN NETWORK. A POTENTIALLY HAZARDOUS OPERATING CONDITION MAY RESULT FROM THE ACTIVITY OR NON-ACTIVITY OF SOME DISTRIBUTED EMBEDDED SYSTEM FUNCTIONS AND OPERATIONS, WHICH MAY RESULT IN SERIOUS PHYSICAL HARM OR DEATH OR CAUSE DAMAGE TO EQUIPMENT, DEVICES, OR THE SURROUNDING ENVIRONMENT.

WITH THIS DEVICE, YOU MAY POTENTIALLY:

- CAUSE A CHANGE IN THE OPERATION OF THE SYSTEM, MODULE, DEVICE, CIRCUIT, OR OUTPUT.
- TURN ON OR ACTIVATE A MODULE, DEVICE, CIRCUIT, OUTPUT, OR FUNCTION.
- TURN OFF OR DEACTIVATE A MODULE, DEVICE, CIRCUIT, OUTPUT, OR FUNCTION.
- INHIBIT, TURN OFF, OR DEACTIVATE NORMAL OPERATION.
- MODIFY THE BEHAVIOR OF A DISTRIBUTED PRODUCT.
- ACTIVATE AN UNINTENDED OPERATION.
- PLACE THE SYSTEM, MODULE, DEVICE, CIRCUIT, OR OUTPUT INTO AN UNINTENDED MODE.

ONLY THOSE PERSONS WHO:

(A) ARE PROPERLY TRAINED AND QUALIFIED WITH RESPECT TO THE USE OF THE DEVICE,

(B) UNDERSTAND THE WARNINGS ABOVE, AND

(C) UNDERSTAND HOW THIS DEVICE INTERACTS WITH AND IMPACTS THE FUNCTION AND SAFETY OF OTHER PRODUCTS IN A DISTRIBUTED SYSTEM AND THE APPLICATION FOR WHICH THIS DEVICE WILL BE APPLIED, MAY USE THE DEVICE.

PLEASE NOTE THAT YOU CAN INTEGRATE THIS PRODUCT AS A SUBSYSTEM INTO HIGHER-LEVEL SYSTEMS. IN CASE YOU DO SO, KVASER AB HEREBY DECLARES THAT KVASER AB'S WARRANTY SHALL BE LIMITED TO THE CORRECTION OF DEFECTS, AND KVASER AB HEREBY EXPRESSLY DISCLAIMS ANY LIABILITY OVER AND ABOVE THE REFUNDING OF THE PRICE PAID FOR THIS DEVICE, SINCE KVASER AB DOES NOT HAVE ANY INFLUENCE ON THE IMPLEMENTATIONS OF THE HIGHER-LEVEL SYSTEM, WHICH MAY BE DEFECTIVE.

5 Disposal and Recycling Information



When this product reaches its end of life, please dispose of it according to your local environmental laws and guidelines.

For information about Kvaser's recycling programs, visit:
<https://www.kvaser.com/en/kvaser/recycling-policy.html>

6 Legal acknowledgements

6.1 EU Regulatory Compliance



EU Declaration of Conformity (DoC)

We

Company Name:	Kvaser AB	City:	Mölndal
Postal address:	Aminogatan 25	Telephone number:	+46 31 886344
Postcode:	431 53	E-mail address:	sales@kvaser.com

declare that the DoC is issued under our sole responsibility and belongs to the following product:

Product: Kvaser Flex D-SUB9

Object of the declaration (identification of apparatus allowing traceability):

Product: Kvaser Flex D-SUB9

Type: 73-30130-01821-1

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Electromagnetic Compatibility (EMC) Directive 2014/30/EU (Art. 6)

RoHS recast Directive 2011/65/EU (Art. 4.1)

The following harmonised standards and technical specifications have been applied
(title, date of standard/specification):

EN 55032 (2015 + A11:2020)

EN 55035 (2017 + A11:2020)

EN 61000-6-2 (2019)

EN IEC 63000 (2018)

Signed for and on behalf of:

Mölndal

2026-03-23

Place of issue

Date of issue

Kent Lennartsson, Research Manager

6.2 FCC Regulatory Compliance



Federal Communications Commission (FCC) Compliance Information Statement

IDENTIFICATION OBJECT:

Product: Kvaser Flex D-SUB9

Type: 73-30130-01821-1

APPLICABLE COMPLIANCE STATEMENTS:

CFR Title 47 Part 15 §15.107, §15.109

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

RESPONSIBLE PARTY (IN USA) NAME:

Kvaser Inc.

41650 Gardenbrook Road, Suite 130

Novi, MI 48375

Internet contact: support@kvaser.com

6.3 Patents, Copyrights and Trademarks

All trademarks are the property of their respective owner. Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

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DeviceNet is a trademark of Open DeviceNet Vendor Association, Inc.

NMEA 2000 is the registered trademark of the National Marine Electronics Association, Inc.

For information about Kvaser related CAN patents, see www.kvaser.com/patent.

7 Document Revision History

Version history for document UG_98452_kvaser_flex_dsub9:

Revision	Date	Changes
1.0	2026-04-27	Initial version.
1.1	2026-08-17	Minor textual changes.