Korlan USB2CAN

With Korlan USB2CAN you can monitor a CAN network, write a CAN program and communicate with industrial, medical, automotive or other CAN based device. The USB2CAN adapter connects a CAN bus to the USB port of a PC or notebook, which also supplies the power to the adapter. It comes in two different connector versions: OBD2 or SUB-DB9.

Features

- ARM 32bit Cortex-M0 (STM32F072)
- CAN transceiver TI ISO1050
- Galvanic isolation 2.5kV
- USB 2.0 A type connector
- USB powered
- Bus topology ISO-11898-2 High-speed CAN
- Wide CAN bus baud rate range:
  40-2000 Kbit/s user definable speed
- Compliant with CAN specifications 2.0A
  (11-bit ID) and 2.0B (29-bit ID)
- Up to 4 USB2CAN converters can be connected
  for simultaneous use on a single PC
- Firmware upgrade via secure bootloader,
  USB DFU protocol
- CAN bus interface connector:
  SUB-DB9/OBD2/(option to add different connector)
- Drivers for Windows XP, Windows Vista,
  Windows 7, Windows 8, Windows 10, Linux
  (SocketCAN)
- Open source CANAL API DLL for Windows
- Driver for VSCP protocol (www.vscp.org)
- “Silent” and “loopback” modes for testing
- Error code system
- Enclosure meets IP 51 requirements

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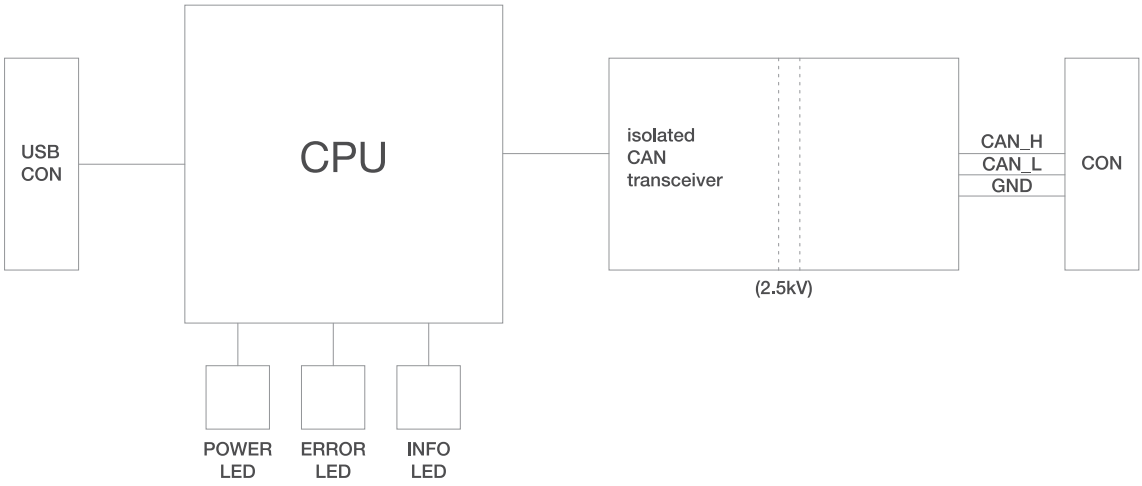
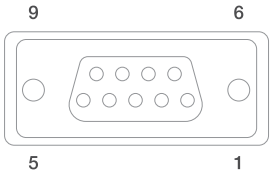
1. Block diagram

Figure 1-1. Korlan USB2CAN Block Diagram



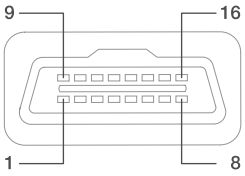
2. Connector pin-out

Figure 2-1. DB9 connector



Pin	Signal	Description
1	-	No connection
2	CANL	CANL bus line (dominant low)
3	CAN GND	CAN Ground
4	-	No connection
5	CAN_SHLD	Connected to CAN GND via 100 Ω /0.1uF
6	CAN GND	CAN Ground
7	CANH	CANH bus line (dominant high)
8	-	No connection
9	-	No connection

Figure 2-2. OBD2 connector



Pin number	Description
4	GND
5	GND
6	CAN Bus High
14	CAN Bus LOW

Note: All other pins on OBD2 are not used and not connected.

3. Technical specification

Connectors	
Computer	USB 2.0 Full speed, Type A
CAN	DB9, 9 pin, standard interface pin assignment
	OBD2, 16 pin, standard interface pin assignment

CAN	
Specification	
Bit rates	20, 50, 100, 125, 250, 500, 800, 1000 kbit/s (or user definable, up to 2000 kbit/s)
Controller	ARM 32bit Cortex-M0 (STM32F072)
Transceiver	TI ISO1050
Galvanic isolation	Up to 2.5kV, separate for each CAN channel
Termination	None

Environment	
Operating temperature	-35 to +55C
Relative humidity	15-90%, not condensing
Usage	Indoor only

Other	
Available drivers	Windows XP, Windows Vista, Windows 7, Windows 8, Windows 10, Linux
3rd party protocol support	Driver for VSCP protocol Open source CANAL API DLL for Windows Linux SocketCAN compatible

4. Power management

Scenario	Voltage, V	Current, A	Power, W
Idle	5	0.06	0.3
Sending packets (13kbps rate)	5	0.1	0.5
Receiving (13kbps rate)	5	0.07	0.35
Sending (2Mbps rate)	5	0.07	0.35
Receiving (2Mbps rate)	5	0.06	0.3

5. Mechanical characteristics

Figure 5-1. Product dimensions, DB9 connector

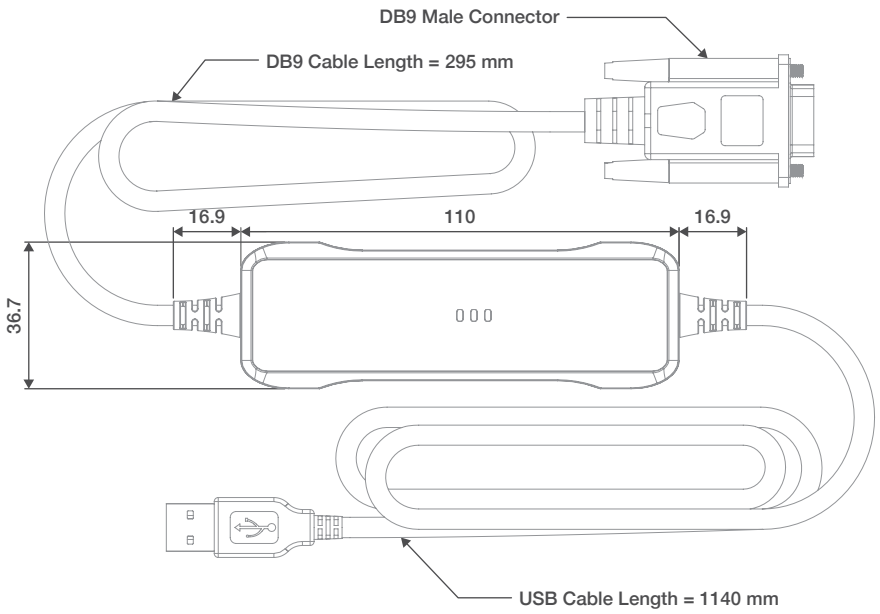


Figure 5-2. Product dimensions, OBD2 connector

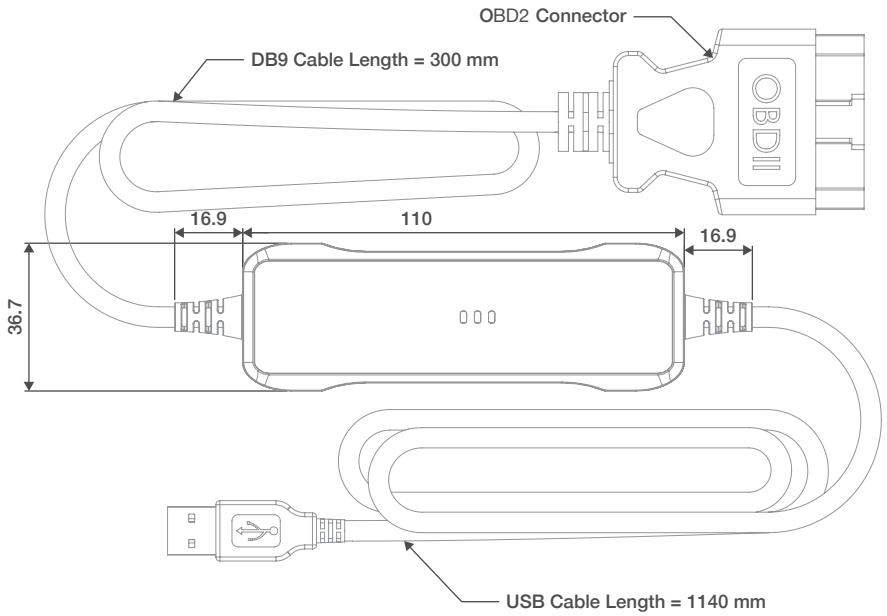


Figure 5-3. Height

6. Ordering Info

Order No.	Description
Korlan USB2CAN OBD2	Korlan USB2CAN adapter – OBD2 connector
Korlan USB2CAN DB9	Korlan USB2CAN adapter – SUB-DB9 connector

7. Document Revision History

Revision	Revision Date	Description
1.0	20 March, 2019	Initial release
2.0	7 August, 2025	Ordering Info added