

FLEXCARD USB



BENEFITS:

- 1* FlexRay A+B, 2* CAN HS, 1* CAN LS
- Synchronous timestamp generation for all of the bus interfaces
- FlexRay bus system is self-sync capable (second FR-Controller only for synchronization integrated)
- USB powered (no need of an external power supply)
- Numerous triggering capabilities
- Driver available for: Windows, LabVIEW
- Monitoring software included

OVERVIEW

The FlexCard USB, robust and powerful, is a multifunctional USB interface device for analyzing and monitoring of CAN and FlexRay bus systems. One FlexRay Communication Controller is available in the FlexCard USB, including channel A and B. Additionally, access to two CAN high-speed and to one CAN low-speed bus systems are provided.

FLEXRAY:

- Bosch E-Ray IP Core FlexRay controller
- V2.1 A FlexRay protocol specification
- Asynchronous monitoring mode allows listening without FlexRay synchronicity
- Combined asynchronous and synchronous monitoring mode (the procedure of a bus start-up can be monitored and registered exactly)
- Configurable TX-acknowledges
- Network synchronicity will be reported immediately (with timestamp)
- Chronological correlation of bus messages with one timestamp base
- Firmware update directly at the user PC possible
- Extensive filter configuration available
- Significant bus error messages
- Triggering on the precise slot, cycle, channel and on various error states
- Start-up Communication Controller

CAN:

- Bosch D-CAN IP Core CAN controller
- V2.0 A/B CAN protocol specification
- Silent mode useable for listening without bus interference
- Transmit FIFO up to 512 messages
- Configurable TX-acknowledges
- Significant bus error messages

TRIGGER:

- Trigger 1x in, 1x out

PC INTERFACES:

- USB 2.0 PC interface

DRIVER:

- Uniform FlexCard API (Same API for all FlexCards)
- Driver Windows 32-bit (Windows XP, Vista, 7)
- Driver Windows 64-bit (Windows 7)
- Driver LabVIEW 32-bit (8.6)

SOFTWARE SUPPORT:

- Eberspächer Electronics
 - Caromee
 - FlexAnalyzerV2
 - Testtools SDK
- RA Consulting
 - DiagRA D
- National Instruments
 - LabVIEW
- dSPACE
 - Control Desk Bus Navigator Module

SCOPE OF DELIVERY:

- FlexCard USB
- USB cable
- Documentation
- FlexCard API
- Monitoring Software FlexAnalyzer
- Demos
- Tools

HARDWARE:

▪ **Electrical Characteristics**

The typical power consumption of the FlexCard USB is 1.75 W.

Supply voltage	5 VDC
Supply current (typical)	350mA
Supply current (Standby)	20 mA

▪ **Physical Characteristics**

FPGA on the FlexCard USB	Altera Cyclone III
Bus interfaces	1 FlexRay interface (Channel A+B), 2 CAN interfaces (high-speed) 1 CAN interface (low-speed)
Bus drivers	2x TJA1080 FlexRay transceivers 2x TJA1041 CAN high-speed transceivers 1x TJA1054 CAN low-speed transceiver
LEDs	Two LEDs per bus interface + 1 power LED
Synchronization interfaces	2 TTL trigger lines (1 IN, 1 OUT)
Dimensions L x W x H without cables approx	105mm x 102mm x 37mm

▪ **Environmental Conditions**

Temperature	Operating: -20 to +70°C Storage: -40 to +85°C
Relative Humidity	Operating/Storage: 0% to 100% rH, condensing

ORDER INFORMATION FLEXCARD USB:

Product	Description	Ordering number
FlexCard USB	The FlexCard USB is a small-size, bus-powered USB device. It is equipped with 1 FlexRay CC, 2 CAN high-speed CCs and 1 CAN low-speed CC.	3-0058-0P01
FlexCard USB CAN	The FlexCard USB CAN is a small-size, bus-powered USB device. It is equipped with 2 CAN high-speed CCs and 1 CAN low-speed CC.	3-0058-0A02

ORDER INFORMATION ACCESSORY PARTS:

Product	Description	Ordering number
FlexCard USB bus cable, 1m length, black (BusCable 100 9SUBDf 9SUBDm2)	Bus adapter cable between FlexCard USB and 2 male Sub-D-connectors, suitable for the FlexRay and CAN connections	3-0034-2C01
USB cable	USB A to USB B cable.	3-0034-2E01
FlexCard USB trigger cable, 1m	Trigger cable for FlexCard trigger connector to 2 BNC connectors.	3-0034-2D01