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FlexCard PMC-II

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BENEFITS

- 8x exchangeable bus interfaces
- Physical Layer available for CAN, CAN FD, FlexRay, Ethernet and BroadR-Reach
- Synchronous timestampgeneration for all of the 8 bus interfaces (resolution 1 us)
- PMC-Adapter available for: PCI, PCIe, PXI
- Driver available for: Windows, Linux, LabVIEW
- Numerous triggering capabilities
- Switchable on-board bus termination
- Analysis software included

FLEXCARD PMC-II – OVERVIEW

The FlexCard PMC-II is a bus interface for automotive bus systems in PMC design. The card's 8 bus interfaces can be configured for different bus systems via Physical Layer (FlexTiny II) slots.

- 8x exchangeable bus interfaces
- PMC interface (PCI Mezzanine Card)
- Synchronous timestamp generation for all of the 8 bus interfaces (resolution 1 us)
- FlexTiny II exchangeable Physical Layer slots
- 4x Binder 712 8pol connector
- 3,3 V and 5 V compatible PCI power supply
- LEDs signal the state of the network

- Trigger- 2x in/out configurable
- Configurable bus termination
- Analyzing software FlexAlyzerV2 included
- Bosch E-Ray IP Core FlexRay controller
- Bosch D_CAN IP Core CAN controller
- Bosch M_CAN IP Core CAN FD Controller
- MorethanIP 10/100/1000 Mbps Ethernet controller
- V2.1 A FlexRay protocol specification
- V2.0 A/B CAN protocol specification
- ISO 11898-1:2015 CAN protocol specification
- Bosch CAN FD specification 1.0

FlexCard PMC-II

ETHERNET

- Synchronous hardware timestamps for all bus interfaces (CAN, FlexRay, Ethernet)
- Resolution of the timestamp 1 us (32-bit)
- FlexCard PMC-II with Ethernet will be detected as standard Ethernet interface
- Access to the Ethernet packets by NDIS driver (raw sockets possible)
- Special WinPcap version allows access to the hardware timestamps of the Ethernet packets
- Access to the CAN and FlexRay packets by standard FlexCard API
- 100 Mbit Ethernet Physical Layer and BroadR-Reach Physical Layer available
- External synchronization by trigger input possible

FLEXRAY

- Asynchronous monitoring mode allows listening without FlexRay synchronicity
- Combined asynchronous and synchronous monitoring mode (the procedure of a bus startup 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 and cycle

CAN / CAN FD

- Silent mode useable for listening without bus interference
- Transmit FIFO up to 512 messages
- Configurable TX-acknowledges
- Significant bus error messages

PC INTERFACES

- Native PMC (PCI Mezzanine Card) interface
- PCI Adapter available
- PCIe Adapter available
- PXI Adapter available

DRIVER

- Uniform FlexCard API (Same API for FlexCard PMC-II and FlexCard USB-M)
- CPU load reduction through DMA
- Driver Windows 32-bit (Windows XP, Vista, 7, 10)
- Driver Windows 64-bit (Windows 7, 10)
- Driver Xenomai 32-bit (2.5)
- Driver LabVIEW 32-bit (8.6)
- Driver Linux 32-bit (2.6.25 – 2.6.35)

ADDITIONAL MODULES

The FR/FR-Syncmodule is a special FPGA image, which allows the synchronization of two independent FlexRay networks. After the start-up of the master network at slot 1, the slave network at slot 2 will be started with the defined time offset. When both networks are synchro-nized, the defined time offset will be held constant by a control algo-rithm.

- Allows the realization of synchronized FlexRay/FlexRay gateways
- All FlexCard API functions can be used

PHYSICAL LAYER FLEXTINY II

You can use the following FlexTiny II combinations with FlexCard PMC-II

Slot 1	Slot 2	Slot 3	Slot 4
FlexRay*	–	–	–
FlexRay*	Dual-CAN	–	–
FlexRay*	Dual-CAN	Dual-CAN	–
FlexRay*	Dual-CAN	Dual-CAN	Dual-CAN
FlexRay*	Dual-CAN FD	–	–
FlexRay*	Dual-CAN FD	Dual-CAN FD	–
FlexRay	FlexRay	–	–
FlexRay	FlexRay	Dual-CAN	–
FlexRay	FlexRay	Dual-CAN	Dual-CAN
FlexRay	FlexRay	FlexRay	Dual-CAN
FlexRay	FlexRay	FlexRay	FlexRay
Dual-CAN	–	–	–
Dual-CAN	Dual-CAN	–	–
Dual-CAN	Dual-CAN	Dual-CAN	–
Dual-CAN	Dual-CAN	Dual-CAN	Dual-CAN
Ethernet	FlexRay*	–	Dual-CAN
BroadR-Reach	FlexRay*	–	Dual-CAN

* FlexRay is self-sync capable

ORDER INFORMATION FLEXCARD PMC-II

FlexCard PMC-II Windows PMC interface card with option for 4 FlexTiny II Includes Windows driver	3-V0550A01
FlexCard PMC-II Linux PMC interface card with option for 4 FlexTiny II Includes Windows and Linux driver	3-V0550B01

ORDER INFORMATION FLEXTINY II FOR FLEXCARD PMC-II

Extension PMC-II CAN FlexTiny II exchangable Physical Layer with dual CAN highspeed TJA1041	3-V0550N01
Extension PMC-II CAN-FD FlexTiny II exchangable Physical Layer with dual CAN FD TJA 1044	3-V0550H01
Extension PMC-II FlexRay FlexTiny II exchangable Physical Layer with FlexRay TJA1080	3-V0550M01
With 100-Mbit Ethernet	please ask
With 100-Mbit BroadR-Reach	please ask

ORDER INFORMATION CABLES FOR FLEXCARD PMC-II

BusCable 100 8B712m 9SUBDf IO cable 8pol Binder male to 9pol SubD female (CAN, FlexRay, LIN), length: 1 m	3-00342J01
BusCable 200 8B712m IO cable 8pol Binder male to 9pol SubD. female (CAN, FlexRay, LIN), length: 2 m	3-00341J02
IOCable 100 1MMCXf 1BNCm IO-Cable 2pol (Trigger Out)	3-00340H01

ORDER INFORMATION PC INTERFACES FOR FLEXCARD PMC-II

PMC-to-PCI-Adapter	3-00330C01
PMC-to-PCIe-Adapter	please ask
PMC-to-PXI-Adapter	please ask