



## FlexDevice-L<sup>2</sup>

[www.star-cooperation.com](http://www.star-cooperation.com)

### BENEFITS

- 5 bus connectors that can be allocated flexibly via pluggable transceivers
  - 2-6 bus interfaces on each bus connector
- The following maximum interfaces\* can be reached:
  - 8 FlexRay controllers (8 Bosch E-Ray Cores)
  - 10 FlexRay channels
  - 20 CAN-FD / CAN-HS
  - 10 Standard Ethernet (100BASE-TX)
  - 7 Automotive Ethernet (1000BASE-T1, 100BASE-T1)
  - 30 SENT/ LIN
- 2 ARM Cortex A9 Dual Core (800 MHz) with 2 GByte DDR3 RAM
- Integrated WiFi and Bluetooth module
- Wake-up/sleep mode support
- Startup <200 ms
- Temperature range - 40°C to + 85°C

\*Depending on the combination of the pluggable transceiver and available FPGA-Images

### FLEXDEVICE-L<sup>2</sup> – THE MULTIFUNCTIONAL BUS CONTROL UNIT

FlexDevice-L<sup>2</sup> is the flagship of the FlexDevice product range, which is used and recognized by many car manufacturers and component suppliers in their automotive electronics development. The FlexDevice family provides manifold solutions for:

- gateways between different automotive bus systems
- bus interfaces
- remaining bus simulation
- signal manipulation
- data logging
- rapid prototyping

The multifunctional bus control unit FlexDevice-L<sup>2</sup> supports the current and upcoming bus systems and has numerous variable interfaces, thus covering most of the application fields where bus interfaces are required. This device is appreciated by embedded software developers since it facilitates the implementation and testing of even very tricky gateway applications and prototyping functionalities.

Together with the comprehensive FlexConfig RBS software, the developers are enabled to set up and control their bus systems and ECU environment in a smart way.

# FlexDevice-L<sup>2</sup>

## TECHNICAL FEATURES

- 2 Altera Cyclone V SOC (integrated ARM Cortex A9 Dual Core CPU)
- 2 GByte DDR3 RAM
- 5 bus connectors that can be allocated flexibly via pluggable transceivers
- 2-6 bus interfaces on each bus connector
- Up to 8 FlexRay controllers (8 Bosch E-Ray Cores)
- Up to 10 FlexRay channels (5 channel A and 5 channel B) available on the bus connectors
- In any case, 2 FlexRay cores can be connected internally (SelfSync)
- Up to 20 CAN-HS bus interfaces
- Up to 20 CAN-FD bus interfaces
- Wake-up/sleep support (wake-up possible via FlexRay or CAN)
- Up to 10 100 Mbit/s Ethernet bus interfaces
- Up to 10 100BASE-T1 bus interfaces
- 1 Gbit/s Ethernet configuration interface
- Integrated 1 Gbit/s Ethernet switch
- One internal and one external Micro SD card slot
- 4 digital inputs or outputs (DIO)
- 5 analog or digital inputs (ADI)
- Integrated WiFi module (b/n/g)
- Integrated Bluetooth module (4.2 BR/EDR BLE dual mode controller)

## SOFTWARE SUPPORT

- The device is supported by FlexConfig RBS starting with version 5.0.

## HARDWARE

### Electrical characteristics

Supply voltage	8-42 VDC
Supply current (Sleep Mode)	<5 mA (@ 12 V)
Supply current (Operation Mode)	<600 mA (@ 12 V)

### Physical characteristics

Power	Binder series 702/712 - 2pol.
DIO, ADI	Binder series 702/712 - 7pol.
Ethernet, USB, Con 1-5	Binder series 702/712 - 8pol.
Weight approx.	975 g
Dimensions L x W x H	241 x 124 x 36 mm

### Environmental conditions

Temperature	Operating/Storage: -40°C to +85°C
IP-Code	IP20*
Relative humidity	Operating/Storage: 0% to 90% RH, condensing

\*IP67 on request

## SCOPE OF DELIVERY

- FlexDevice-L<sup>2</sup>
- Documentation

## ORDER INFORMATION FLEXDEVICE-L<sup>2</sup>

Product	Description	Order number
FlexDevice-L <sup>2</sup>	The FlexDevice-L <sup>2</sup> is a multifunctional autonomous bus system platform.	3-V0870S03

## ORDER INFORMATION ACCESSORY PARTS

Product	Description	Order number
FlexConfig RBS runtime	Runtime license for RBS execution. Required once per device.	3-00700J01
FlexConfig Gateway runtime	Runtime license for gateway execution. Required once per device. (Requires "FlexConfig RBS runtime")	3-00701E01
FlexConfig Control runtime	Runtime license for signal manipulation. Required once per device. (Requires "FlexConfig RBS runtime")	3-00701G01
FlexConfig Analyzing runtime	Runtime license for analyzing bus data. Required once per device.	3-00701J01
FlexConfig Logging runtime	Runtime license for recording bus data. Required once per device.	3-00701O01
FlexTiny3 1000BASE-T1	Pluggable transceiver module with two 1000BASE-T1 transceivers (88Q2112-A2-NYD2A000, Marvell)	3-00882H02
FlexTiny3 100BASE-T1	Pluggable transceiver module with two 100BASE-T1 transceivers (BCM89810A2AMLG, Broadcom)	3-00882C02
FlexTiny3 100BASE-T1 switch	Pluggable transceiver module with one 100BASE-T1 switch (BCM89500BQLEG, Broadcom)	3-00882D01
FlexTiny3 100BASE-TX switch	Pluggable transceiver module with one 100BASE-TX switch (88E6350RA1-TFJ21000, Marvell)	3-00882B01
FlexTiny3 FlexRay	Pluggable transceiver module with two FlexRay transceivers (TJA1081BTS, NXP)	3-00880A01
FlexTiny3 4x CAN-FD/HS	Pluggable transceiver module with four CAN-FD/HS transceivers (MCP2562FD, Micrel)	3-00881G02
FlexTiny3 2x CAN-FD/HS	Pluggable transceiver module with two CAN-FD/HS transceivers (TJA1145T/FD, NXP)	3-00881E01
FlexTiny3 4x LIN & 2x SENT	Pluggable transceiver module with four LIN (TJA1021T, NXP) and two SENT transceivers	3-00884A02
FlexTiny3 K-Line & UART & SPI	Pluggable transceiver module with one K-Line (TJA1021T, NXP), one UART and one SPI transceivers	3-00884B01
Power cable (2 m)	2 pole Binder male to 2 banana male connector	3-00341D02
Gbit Ethernet bus cable (2 m)	8 Pole Binder male to RJ-45 connector	3-00342L01
Standard Binder bus cable (2 m)	8 pole Binder male to 9 pole D-Sub female connector	10016468
Standard Binder 2x Y-bus cable (2 m)	8 pole Binder male to 2 x 9 pole D-Sub female connector	10016469
Standard Binder 4x Y-bus cable (2 m)	8 pole Binder male to 4 x 9 pole D-Sub female connector	3-00342S01
BASE-T1 Binder bus cable (2 m)	8 pole Binder male to 9 pole D-Sub female connector - PIN 1,2 & 4,5	3-00342P01
BASE-T1 Binder 2x Y-bus cable (2 m)	8 pole Binder male to 2 x 9 pole D-Sub female connector - PIN 4,5	3-00342Q01
IO (DIO/ADI) cable (2 m)	7 pole Binder male to 9 pole D-Sub female connector	3-00341F02