**FlexDevice-L**

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**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:
  - 4 FlexRay controllers (4 Bosch E-Ray Cores)
  - 8 FlexRay channels
  - 10 CAN-FD / 15 CAN-HS
  - 7 Automotive Ethernet 1000BASE-T1
  - 10 Automotive Ethernet 100BASE-T1
  - 30 SENT/ LIN
- ARM Cortex A9 Dual Core (800 MHz) with 1 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 — THE MULTIFUNCTIONAL BUS CONTROL UNIT**

FlexDevice-L is the high performance device 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 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 family, the developers are enabled to set up and control their bus systems and ECU environment in a smart way.
**FlexDevice-L**

**TECHNICAL FEATURES**
- Altera Cyclone V SOC (integrated ARM Cortex A9 Dual Core CPU)
- 1 GByte DDR3 RAM
- 5 bus connectors that can be allocated flexibly via pluggable transceivers
- 2-6 bus interfaces are available on each bus connector
- Up to 4 FlexRay controllers (4 Bosch E-Ray Cores)
- Up to 8 FlexRay channels (4 channel A and 4 channel B)
- In any case, 2 FlexRay cores can be connected internally (SelfSync)
- Up to 15 CAN-HS bus interfaces
- Up to 10 CAN-FD bus interfaces
- Wake-up/sleep mode support (wake-up possible via FlexRay or CAN)
- Up to 7 1000BASE-T1 bus interfaces
- Up to 100BASE-T1 bus interfaces
- 1 Gbit/s Ethernet configuration interface
- Integrated 1 Gbit/s Ethernet switch
- Integrated 1 Gbit/s Ethernet configuration interface
- 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**
- DIO, ADI: Binder series 702/712 - 7pol.
- Ethernet, USB, Con 1-5: Binder series 702/712 - 8pol.
- Weight approx.: 955 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

**SCOPE OF DELIVERY**
- FlexDevice-L
- Documentation

**ORDER INFORMATION FLEXDEVICE-L**

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>FlexDevice-L</td>
<td>The FlexDevice-L is a multifunctional autonomous bus system platform.</td>
<td>3-V0870A03</td>
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**ORDER INFORMATION ACCESSORY PARTS**

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>FlexConfig RBS runtime</td>
<td>Runtime license for RBS execution. Required once per device.</td>
<td>3-00700J01</td>
</tr>
<tr>
<td>FlexConfig Gateway runtime</td>
<td>Runtime license for gateway execution. Required once per device. (Requires “FlexConfig RBS runtime”)</td>
<td>3-00701E01</td>
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<td>FlexConfig Control runtime</td>
<td>Runtime license for signal manipulation. Required once per device. (Requires “FlexConfig RBS runtime”)</td>
<td>3-00701G01</td>
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<td>FlexConfig Analyzing runtime</td>
<td>Runtime license for analyzing bus data. Required once per device.</td>
<td>3-00701J01</td>
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<tr>
<td>FlexConfig Logging runtime</td>
<td>Runtime license for recording bus data. Required once per device.</td>
<td>3-00701K01</td>
</tr>
<tr>
<td>FlexTiny3 1000BASE-T1</td>
<td>Pluggable transceiver module with two 1000BASE-T1 transceivers (88Q2112-A2-NYD2400, Marvell)</td>
<td>3-00882H02</td>
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<tr>
<td>FlexTiny3 100BASE-T1</td>
<td>Pluggable transceiver module with two 100BASE-T1 transceivers (BCM89102AAMLD, Broadcom)</td>
<td>3-00882C02</td>
</tr>
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<td>FlexTiny3 100BASE-T1 switch</td>
<td>Pluggable transceiver module with one 100BASE-T1 switch (BCM895008BLEG, Broadcom)</td>
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<td>FlexTiny3 100BASE-TX switch</td>
<td>Pluggable transceiver module with one 100BASE-TX switch (BBE6350RA1-TFJ2100, Marvell)</td>
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<td>FlexTiny3 FlexRay</td>
<td>Pluggable transceiver module with two FlexRay transceivers (TJA1081TS, NXP)</td>
<td>3-00880A01</td>
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<td>FlexTiny3 4x CAN-FD/HS</td>
<td>Pluggable transceiver module with four CAN-FD/HS transceivers (MCP2562D, Microchip)</td>
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<td>FlexTiny3 2x CAN-FD/HS</td>
<td>Pluggable transceiver module with two CAN-FD/HS transceivers (TJA11457/FD, NXP)</td>
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<td>FlexTiny3 4x LIN &amp; 2x SENT</td>
<td>Pluggable transceiver module with four LIN (TJA1021T, NXP) and two SENT transceivers</td>
<td>3-00884A02</td>
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<td>FlexTiny3 K-Line &amp; UART &amp; SPI</td>
<td>Pluggable transceiver module with one K-Line (TJA1021T, NXP), one UART and one SPI transceivers</td>
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<td>Power cable (2 m)</td>
<td>2 pole Binder male to 2 banana male connector</td>
<td>3-00341D02</td>
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<tr>
<td>Gbit Ethernet bus cable (2 m)</td>
<td>8 Pole Binder male to RJ-45 connector</td>
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<td>Standard Binder bus cable (2 m)</td>
<td>8 pole Binder male to 9 pole D-Sub female connector</td>
<td>10016468</td>
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<tr>
<td>Standard Binder 2x Y-bus cable (2 m)</td>
<td>8 pole Binder male to 2 x 9 pole D-Sub female connector</td>
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<tr>
<td>Standard Binder 4x Y-bus cable (2 m)</td>
<td>8 pole Binder male to 4 x 9 pole D-Sub female connector</td>
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<td>BASE-T1 Binder bus cable (2 m)</td>
<td>8 pole Binder male to 9 pole D-Sub female connector - PIN 1, 2 &amp; 4,5</td>
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<td>BASE-T1 Binder 2x Y-bus cable (2 m)</td>
<td>8 pole Binder male to 2 x 9 pole D-Sub female connector - PIN 4,5</td>
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<td>IO (DIO/ADI) cable (2 m)</td>
<td>7 pole Binder male to 9 pole D-Sub female connector</td>
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</table>

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