



# FL3X System-M

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## BENEFITS

- Intel® Core™ i3 CPU, 8 GB RAM and 128 GB NVMe SSD
- Maximum performance and variability
- CAN-HS/FD (SIC), FlexRay, 10BASE-T1S, 100BASE-T1, 1000BASE-T1, 2,5/5/10GBASE-T1, 100BASE-TX, 1000BASE-T, 2,5/5/10GBASE-T LIN and SENT supported
- Up to 2 FL3X Device-PCIe or 2 FL3X Interface-PMC with up to 10 FL3X Tiny Slots (also possible in combination)
- Up to 11 SFP(+) ports
- Two 1000BASE-T connectors for configuration and measuring
- Fully supported by FL3X Config
  - remaining bus simulation
  - gateway
  - analyzing / measurement
  - logging
- PTP (IEEE1588v2) and gPTP (IEEE 802.1AS) support for TimeSync
- ASAM CMP 1.0 and PLP<sup>\*1</sup> measurement
- USB ports for mass storage, cameras or other equipment<sup>\*2</sup>
- Integrated WiFi module
- Temperature range -40°C to +70°C
- Remote power on/off

<sup>\*1</sup> coming soon

<sup>\*2</sup> STAR certified accessories only

## THE FL3X SYSTEM FAMILY

The FL3X System family is a universal tool for mastering all common challenges in dealing with bus systems. Whether recording, routing, simulation or manipulation of bus data, the devices of the FL3X System family are configured and ready for use within a very short time. This means that use cases such as remaining bus simulation, gateway or logging can be implemented without any problems both in the vehicle and in the laboratory. The devices of the FL3X System series are based on a Linux real-time operating system and are characterized in particular by the sovereign handling of very large amounts of data in the multi-gigabit range for the use cases mentioned open. The devices of the FL3X System family are configured with the intuitive FL3X Config development environment, which can be used without programming knowledge.

## THE FL3X SYSTEM-M - THE VARIABLE BUS CONTROL UNIT

The FL3X System-M is the mid-range variant of the FL3X System family and is characterized by high performance optimized for the multi-gigabit range and high flexibility with regard to the equipment with bus systems. Due to the flexible expandability and the modular platform, the FL3X System-M can be perfectly adapted to your needs. The freely configurable assembly enables a large selection of channel configurations with e.g. CAN, FlexRay and Automotive Ethernet. The external interfaces such as 1000BASE-T, USB and WiFi allow you to transfer data and connect accessories in a variety of ways. Even large data storage devices can be connected without any problems in order to log high data streams. Thus, gateways with high data throughputs, remaining bus simulations with a large number of ECUs or the logging of several data streams can be implemented with the FL3X System-M without any problems.

## TECHNICAL FEATURES OF ALL VARIANTS

- Intel® Core™ i3 CPU
- 8 GByte RAM
- 128 GByte NVMe SSD
- PTP (IEEE1588v2) and gPTP (IEEE 802.1AS) support for TimeSync on bus and config port
- ASAM CMP 1.0 and PLP<sup>\*1</sup> for measurement
- 1 Gbit/s Ethernet configuration and measurement interface via RJ45
- USB 3.2 ports for mass storage, cameras and other components<sup>\*2</sup>
- Wide operating temperature range from -40°C up to +70°C
- WiFi connector

\*1 coming soon

\*2 STAR certified accessories only

## SOFTWARE SUPPORT

- FL3X Config 1.0 (or later)
- FL3X Config SDK 1.5 (or later)
- FL3X Config mobile 1.1 (or later)

## SCOPE OF DELIVERY

- FL3X System-M
- Instruction for use

## HARDWARE

### Electrical characteristics

Supply voltage	9-48 VDC
Boot time:	aprox 60 sec*

\*up to 200ms possible with hardware extensions

### Physical characteristics

Ethernet	3 x RJ45 - 8 pin
Weight approx.	ca. 5 kg
Dimensions (L x W x H)	227 x 261 x 128 mm

### Environmental conditions

Temperature operating:	-40°C to +70°C (depends on accessories)
Temperature storage:	-40°C to +85°C
IP-Code	IP20
Relative humidity	Operating / Storage: 0% to 95% RH, condensing

## ORDER INFORMATION FL3X SYSTEM-M

Product	Description	Order number
FL3X System-M	The FL3X System-M is a multifunctional autonomous bus system platform with flexible channel configuration	3-V1050A01

## ORDER INFORMATION ACCESSORY PARTS

Product	Description	Order number
FL3X Interface-PMC	The FL3X Interface-PMC is a PMC bus interface card.	3-V0550A01
FL3X Tiny2 1*100BASE-T1	Pluggable transceiver module with one 100BASE-T1 transceivers (BCM89810A2AMLG, Broadcom)	3-V0550I01
FL3X Tiny2 2*FlexRay	Pluggable transceiver module with two FlexRay transceivers (TJA1080ATS, NXP)	3-V0550M01
FL3X Tiny2 2*CAN-FD	Pluggable transceiver module with two CAN-FD/HS transceivers (TJA1044GT, NXP)	3-V0550H01
PMC-to-PCI-Adapter	Adapter for using the FL3X Interface-PMC with PCI slots.	10016463
FL3X Interface-PCle	The FL3X Interface-PCle is a bus interface card.	3-V0952A01
FL3X Tiny3 3*100BASE-T1 Switch	FL3X Tiny3 physical layer module for three 100BASE-T1 channels (switched).	3-00882D01
FL3X Tiny3 2*FlexRay	FL3X Tiny3 physical layer module for two FlexRay channels	3-00880A01
FL3X Tiny3 2*CAN-FD	FL3X Tiny3 Physical layer module for two CAN-HS/FD channels.	3-00881E01
PMC-to-PCle-Adapter	Adapter for using the FL3X Interface-PMC with PCle slots.	10016484
FL3X Config Standard Runtime	Needed for RBS with CAN-FD, FlexRay or Automotive Ethernet.	please contact STAR COOPERATION
FL3X Config Extended Runtime	Needed for Gateway with CAN-FD, FlexRay or Automotive Ethernet.	please contact STAR COOPERATION
FL3X Config Basic	Basic version of FL3X Config for standard RBS use cases.	Free Download: flex-product.com
FL3X Config Professional	Professional version of FL3X Config for extended gateway use cases.	please contact STAR COOPERATION
FL3X Config Enterprise	Enterprise version of FL3X Config for cross-team collaboration.	please contact STAR COOPERATION
FL3X Config SDK	.NET library for the easy access.	3-V0161K01
Mini PCIe SFP Single	mini PCIe card to use one SFP module	3-01059A01
PCle SFP Quad	PCle card to connect up to four SFP modules	3-01059B01
CMI 10G Dual Port	CMI module including two 10BASE-T RJ45 connectors	3-01059C01
CMI 8xDI 8xDO	CMI module with 8 digital inputs and 8 digital outputs	3-01059D01
FL3X System-M AC-DC Power Adapter DE	AC-DC power adapter 110-230V DE	3-01059E01

## RUNTIME LICENSE OVERVIEW

