

BRICK CORE COMplus

Product overview

BRICK CORE COMplus is the central measurement and communication unit for the acquisition and recording of high bandwidth data.

The application areas for this platform are demanding measurement tasks for driver assistance systems (ADAS) or automated and autonomous driving (AD).

High performance recording unit

Quad Core Processor, 32GB RAM, integrated GPU

Data Stream Logging and Processing

Permanent data throughput up to 16Gb/s in combination with BRICK STORAGEplus

Mass Storage: BRICK STORAGE & STORAGEplus

Minimal height (22mm) and removable RAID System up to 32 TB capacity and 16Gb/s writing speed

Robust and compact hardware platform

Designed for in vehicle use and harsh environmental conditions with minimal dimensions

Massive I/O Bandwidth

2x 10 GBit Ethernet, 6x 1 GbE, USB3.0, SATA

Time Synchronization XTSS

Platform Timesync: Ethernet interfaces are hardware time synchronized, Cluster Timesync: Ethernet Time Sync via IEEE 802.1AS / IEEE 1588



Illustration 1: BRICK CORE COMplus with Storage cartridge



Illustration 2: BRICK CORE COMplus with SPC Add on

Highlights



Maximum processor performance and data processing in ca. 3,5l volume



10 Gb Ethernet for high bandwidth logging and distribution of measurement data



Time synchronization based on IEEE Std 802.1AS Add-On



Extended operating temperature range



Stackable systems



GPIO panel for tagging, triggers CFast-Slot for configuration, Service



CORE Add-on: STORAGEplus – Changeable memory unit for data logging

Datasheet BRICK-CORE-COMplus en

ADAS and AD recording and measurement platform

Technical information

Interfaces

- 2x RJ45 10GbE (Data back bone) for easy networking on system level with highest bandwidth
- 6x RJ45 1GbE, 5x IEEE 802.1AS / IEEE 1588
- DisplayPort
- 2x SATA 6G via SFF-8088 (external lockable conn.)
- 4x USB 3.0 Host
- M.2 mass storage interface (internal)
- External accessible CFast mass storage interface
- SYSCtrl (Ignition In, clamp 15, CAN-Bus for control – from the house keeping controller)
- GPIO (4x In, 4x Out –ca. 1A HighSide, 12V Power supply)
- WLAN 802.11 a/b/g/n (Option)
- GPS (Position and time)
- LTE/UMTS (Option) for e.g. fleet management
- Microphone input, e.g. for message to the measurement trigger
- Headphone output

Add-On

STORAGE Bay

- Preparation for 22mm flat BRICK STORAGEplus Cartridge with a capacity of up to 32 TB

Measurement Interface

- External Measurement Data Interfaces MDILink via 10Gb Ethernet and IEEE 802.1AS timesync
- Optional Add On for PCIe measurement cards

Processor and main memory

- Intel® Core™ i7-6820EQ (4x 2,8 GHz)
- 32 GB DDR4 RAM
- 128 (512) GB M.2 internal SSD

Time synchronization

- Hardware designed Platform time synchronization
- Cluster time synchronization, IEEE Std 802.1AS-2020, IEEE 1588v2 PTP
- Time Stamp (capture) on 1GbE TS ports
- internal GPS or oscillator

Software support

- 64Bit OS based on Windows 10 IOT Enterprise x64
- Linux 64Bit

High-End-ADAS Frameworks

- Application ready for the AVETO toolchain and 3rd party frameworks

Power Supply

- 12V, 24V / cranking save in the car down to 6,5V
- Power consumption range between ca. 80 and 140 Watt (including Storage) depending on setup and performance level + maximum 60W for SPC Add on

Operating Temperature Range

Active cooled in the closed finned heat sink

- At typical performance (@2,8GHz):
-25°C ~ +70°C
- Storage Cartridge (PRO SSD) -20°C/0°C – 60°C

Housing

- Robust aluminum profile housing
- B:320mm, H:66mm (1,5HE), T:250mm

Certification

- CE / FCC / VCCI
- RoHS / REACH
- KC

Name

Order-no.

Description

| | | |
|----------------------------------|---------------------|--|
| BRICK CORE COMplus 6820EQ | B17575-BCC-1xx-0000 | High Performance measurement and recording Unit Quad Core i7-6820EQ, 32 GB RAM, 128 GB M.2 SSD, 2x 10GbE, 6x 1GbE, Supply Voltage: 12/24 V DC |
| BRICK CORE COMplus 6820EQ BMC | B17575-BCC-1xx-BA00 | High Performance measurement and recording Unit with BMC Add for 2 BMC Measurements cards Quad Core i7-6820EQ, 32 GB RAM, 128 GB M.2 SSD, 2x 10GbE, 6x 1GbE, Supply Voltage: 12/24 V DC |
| BRICK CORE COMplus 6820EQ SPC | B17575-BCC-1xx-SA00 | High Performance measurement and recording Unit with SPC Add for 2 PCIe Measurements cards (max. 60W) Quad Core i7-6820EQ, 32 GB RAM, 128 GB M.2 SSD, 2x 10GbE, 6x 1GbE, Supply Voltage: 12/24 V DC |
| BRICK STORAGEplus | B17575-BSC-1xx-0000 | Storage cartridges up to 32 TB capacity with PRO SSD Based on high end Server RAID technology writing speed up to 16Gb/s |

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