



Data Sheet

## BRICK2

BRICK2 is the next generation ADAS / AD measurement platform for the acquisition, processing 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).

BRICK2 is a modular platform for a very flexible adaption and integration in sensor and ECU development and validation systems. Due to the optimized architecture a recording performance up to 32 Gbit/s opens a wide range of validation use cases.

## Highlights

- Massive I/O Bandwidth 6x 10GBase-T Ethernet, 3x 1000Base-T Ethernet, 4x USB3.1
- Time Synchronization System XTSS (g)PTP
- Cluster Time Sync: Time Synchronization via IEEE 1588v2 802.1AS-2020 Multi Domain
- Modular System for Measurement Add-On BMC
  - Hexa Core Processor, 64 GB RAM
  - Integrated GPU
  - Hardware time synced Ethernet interfaces
  - Optimized PCIe 3.0 Architecture for high bandwidth recording up to 32 Gbit/s
- Most integrated and compact hardware platform designed for harsh environments
- BRICK2 STORAGE  
robust and removable high performance mass storage, RAID or NVMe based
- BRICK2 STORAGE Link  
Dual 100 Gbit/s Ethernet interface (NVMe oF, RoCE) for central network storage devices



Figure 1.1: BRICK2 BMC with BMC-ETH 6000 and BMC-VB2



## Features

Ethernet	6x 10GBase-T, RJ45 3x 1000Base-T, RJ45 1x 1000Base-T, RJ45	(g)PTP IEEE 802.1AS-2020 (g)PTP IEEE 802.1AS-2020 Management Port
Serial Port	Rx/Tx NMEA, PPS	External time synchronization
Video	DP interface	Integrated GPU
GPS	Integrated GPS module	24 h backup cap for fast position fix
I/O	SYSCRTL (ignition), 4x GPI, optional 4x GPO	
USB	4x USB A 3.1 Gen1, 4x USB A 2.0	
xSTORAGE	PCIe 3.0 x8 STORAGE expansion slot up to 32 Gbit/s sustained writing speed	22 mm slot for BRICK2 STORAGE with BRICK2 STORAGE NVMe
BRICK2 SPC	2x PCIe 3.0 x8 Slot (mech. x16 and x8)	Max. 5A @12V (60W)
BRICK2 BMC	2x BRICK Measurement Card BMC	PCIe based module concept

## Specifications

CPU	Intel® Core™ i7-9850HE, UHD Graphics 630	
Memory	RAM, 64GB DDR4-2666, 512 GB M.2 internal	
Ethernet	3x X550 Dual 10GBase-T Controller 3x I210 1000Base-T	Hardware based platform time synchronization for highest accuracy
Operating System	Windows 10 IoT Enterprise, Linux 64	other on request
ADAS Framework	AVETO® ready x64 platform	

### Electrical Specification

Supply Voltage	12 V ( 10 V - 32 V) wide range	6 V cranking safe for short term
Typical Power Consumption	150 - 220 W including xSTORAGE	Depends on configuration and used BRICK2 STORAGE
Maximum Power Consumption	350 W	Incl. Measurement Add-On and xSTORAGE

### Environment Specification

Operating Temperature	-20 °C to +60 °C	@typical performance,
Non Operating	-40 °C to +85 °C	full load, all interfaces active
Relative Air Humidity	Max. 90 % non-condensing	




### Mechanical Specification

Dimensions	320 mm (W) x 250 mm (D) x 66 mm (H) 320 mm (W) x 250 mm (D) x 88 mm (H) 320 mm (W) x 250 mm (D) x 110 mm (H)	BRICK2 BRICK2 BMC BRICK2 SPC
Weight	7 kg	
Certification	CE, FCC, VCCI, IECS, KC, RoHS, REACH	

## Order Information

Name	Part Number	Description
BRICK2 	B17049-B2C-001-0000	BRICK2 Measurement and Recording Platform for ADAS and AD Development
BRICK2 BMC 	B17049-B2C-002-0000	BRICK2 Measurement and Recording Platform for ADAS and AD Development, Dual Slot BMC Add-On Empty
BRICK2 SPC 	B17049-B2C-003-0000	BRICK2 Measurement and Recording Platform for ADAS and AD Development, Dual Slot PCIe Add-On
BRICK2 STORAGE 	B17049-B2S-101-0xxT	BRICK2 STORAGE, 8 TB, 16 TB, 32 TB, 8x SATA SSD EVO, PCIe 3.0, Including Neoprene Protection Cover
BRICK2 STORAGE 	B17049-B2S-102-016T	BRICK2 STORAGE, 15 TB, 36 TB, 8x SATA SSD EXT Extended Temperature, PCIe 3.0, Including Neoprene Protection Cover
x8 STORAGE Gen3 E1.S  (Formerly BRICK2 STORAGE NVMe)	B17049-B2S-202-030T	x8 STORAGE Gen3 E1.S, 30 TB, 8x E1.S SSD

## Order Information

Name	Part Number	Description
360 W AC/DC Power Supply 	B09003-PWR-002-0360	Desktop Type Power Supply 360 W In: 90 - 264 V AC, 50 - 60 Hz, Out: 13.8 V DC / 26 A
750W AC/DC Power Supply 	B09003-PWR-003-0750	Desktop Type Power Supply 750 W In: 90 - 264 V AC, 47 - 63 Hz, Out: 12 V DC / 62,5 A
BRICK STORAGE Upgrade Kit for BRICK2	B17049-ACC-004-0001	Upgrade Kit for BRICK STORAGE and BRICK STORAGEplus to BRICK2 STORAGE Interface
BRICK Protection Bar 66 mm	B17575-ACC-008-0066	Set of 2 Pieces: Protection and Handle Bar 66 mm for BRICK2
BRICK2 Cable Guard 	B17049-ACC-008-0000	Cable Guard 66 mm with Handles, Screws and Cable Ties
BRICK Installation Set 66, 88, 110 mm for ITEM Profile 20	B17575-BIM-001-00xx	Installation Set 66, 88, 110 mm for BRICK System Components
COPYLynx ATX4 - EP3 Gen4 (6x STORAGE) 	B16092-CLY-EP3-0001	High Performance Data Copy Station Transfer Data from xSTORAGE to Data Center or directly to Cloud. Supports up to 6 Removable Storages simultaneously.
COPYLynx ATX4 - EP3 Gen3 (4x STORAGE) 	B16092-CLY-EP3-0002	High Performance Data Copy Station Transfer Data from xSTORAGE to Data Center or directly to Cloud. Supports up to 4 Removable Storages simultaneously.
Measurement Card BMC-ETH 6000 	B17575-BMC-ETH-6000	Time-Synchronized Measurement Card with 6x 1 GbE 802.1AS Ports and Power-over-Ethernet Support
Measurement Card BMC-VB2 8x CAN FD 	B17575-BMC-VB2-0008	Flexible Measurement Card based on FlexCard PMC-II with Max. 8 CAN FD Ports