



## Data Sheet

# BRICK2

BRICK2 is the next generation ADAS and 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)PTB
- Cluster Time sync: Time synchronization via IEEE 1588v2 802.1AS-2020 multi domain
- Modular system for measurement add on BMC

- Hexa Core Processor, 64GB RAM
- Integrated GPU
- Hardware time synchronized 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 environment
- BRICK2 STORAGE, very 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



BRICK2 BMC with BMC-ETH 6000 and BMC-VB2

## Features

### Interfaces

Ethernet	6x 10GBase-T, RJ45	(g)PTP IEEE 802.1AS-2020
	3x 1000Base-T, RJ45	(g)PTP IEEE 802.1AS-2020
	1x 1000Base-T, RJ45	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 positon fix
I/O	SYSCRTL (ignition), 4x GPI, optional 4x GPO	
USB	4x USB A 3.1 Gen1, 4x USB A 2.0	
STORAGE	PCIe 3.0 x8 STORAGE expansion slot	22mm slot for BRICK2 STORAGE
	up to 32 GBit/s sustained writing speed	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

### System

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, Ubuntu 20.04	other on request
ADAS Framework	AVETO® ready x64 platform	

### Electrical Specification

Supply Voltage	12V (10V – 32V) wide range	6V cranking save for short term
typ. Power consumption	150 - 220Watt including STORAGE	depends on configuration and used BRICK2 STORAGE
max. Power consumption	350W	incl. measurement add-on and STORAGE

### Environment Specification




operation Temperature	-20°C to +60°C	@typical performance, full load, all interface active
non operation	-40°C to +85°C	
Relative Air Humidity	max. 90 % non-condensing	

### Mechanical Specification

Dimensions	320 mm (W) x 250 mm (D) x 66 mm (H)	BRICK2
	320 mm (W) x 250 mm (D) x 88 mm (H)	BRICK2 BMC
	320 mm (W) x 250 mm (D) x 110 mm (H)	BRICK2 SPC
Weight	7kg	
<b>Certification</b>	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, 15,36 TB, 8x SATA SSD EXT extended temperature, PCIe 3.0, including neoprene protection cover
BRICK2 STORAGE NVMe	B17049-B2S-202-030T	BRICK2 STORAGE NVMe 30 TB, 8x E1.S SSD

## Order Information Accessories

Name	Part Number	Description
360W AC/DC power supply	B09003-PWR-002-03	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 66mm	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 66mm 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, 110mm for BRICK system components
COPYLynx	B16017-CLY-107-xxxx	Multifunctional data copy station for decentral and data center use. Copy data from BRICK2 STORAGE to disk or USB or upload via 10 GbE
MDLake Connection Set - BRICK2, 2x 100 GbE	B24004-ICO-004-2211	BRICK2 STORAGE Link 2100, 2x 100 GbE 1x DAC Ethernet Cable QSFP28, 1 m Starwind NVMe-oF Software and License on USB Stick
Measurement Card BMC-ETH 6000	B17575-BMC-ETH-6000	Time-synchronized measurement card with 6x 1GbE 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