

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 Gb/s opens a wide range of validation use cases.

Highlights

- Massive I/O Bandwidth 6x 10Gb Ethernet, 3x 1Gb Ethernet, 4x USB3.1 Gen1
 - 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
- 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 100Gb/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	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	
STORAGE	PCIe 3.0 x8 STORAGE expansion slot	22mm slot for BRICK2 STORAGE
BRICK2 SPC	2x PCIe 3.0 x8 Slot (mech. x16)	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, 512GB 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 – 28V) wide range	6V cranking save for short term
typ. Power consumption	150 - 220Watt including STORAGE	depends on configuration and used STORAGE
max. Power consumption	350W	incl. measurement add-on and NVMe




Environment Specification

operation Temperature	-10°C to +60°C	@typical performance
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	
Certification	CE, 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 SPC P1000	B17049-B2C-003-0001	BRICK2 measurement and recording platform for ADAS and AD development, dual slot PCIe Add on with integrated P1000 GPU
BRICK2 STORAGE	B17049-B2C-101-0xxT	BRICK2 STORAGE 8,16,32 TB Cartridge with high performance RAID Controller and 8x SATA SSD EVO
BRICK2 STORAGE NVMe	B17049-B2C-202-030T	BRICK2 STORAGE NVMe 30 TB, 8x E1.S SSD

Order Information Accessories

Name	Part Number	Description
360W AC/DC power supply	B09003-PWR002-03	Desktop type power supply AC 110-240 V 50/60 Hz, 360 W AC power supply, In: 90-264 V AC, Out: 13.8 V DC / 26 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 pload 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