

DATASHEET

ZAUBERZEUG ROBOT BRAIN

GENERAL

Artificial Intelligence Controller including real time industrial PLC-functionality
Very small (105 x 105 x 105 mm)
Suitable for DIN-rail mounting and plate mounting
Robot Operating System
Programming with Python, C, C++, Bash, .NET
Easy Bluetooth Control with the free Zauberzeug App for Android and iOS

PERFORMANCE DATA

ARTIFICIAL INTELLIGENCE

NVIDIA Jetson Nano or Xavier – suitable for CUDA¹

Processor

4x A57 @ 1.43 GHz (nano) or
6-core NVIDIA Carmel ARMv8.2 CPU @ 1400MHz (up to 1900MHz in dual-core mode) (xavier)

GPU

Nvidia 128 cores of Maxwell generation @ 921 MHz (nano) or
384-core Volta GPU @ 1100MHz with 64 Tensor Cores (xavier)

Memory

4 GB LPDDR4 @ 64 bit + 1.6 GHz = 25.6 GB/s (nano) or
8GB 128-bit LPDDR4x @ 1600MHz (51.2GB/s) (xavier)

Operating system

Ubuntu 18.04 LTS (with ROS and RoSys Containers)

REAL TIME

Processor

CPU: Xtensa dual-core 32-bit LX6² microprocessor,
240 MHz, up to 600 DMIPS
Ultra low power (ULP) co-processor

¹NVIDIA, jetson nano xavier and CUDA are trademarks of Nvidia Corporation

²Xtensa and LX6 are a trademark of Cadence Design Systems, Inc.

Memory

8MiB Flash, 520 KiB SRAM + 8 MiB pSRAM (optional up to 16MiB Flash)

STANDARD COMMUNICATION

Gigabit Ethernet (RJ45)

4x USB-A 3.1 (Host)

HDMI 2.0

DisplayPort 1.4

Bluetooth

Wireless Lan + USB Wlan Access Point

24V Auxiliary voltage at every Modular Socket

6 Modular Sockets configurable for Serial Communication, Digital I/O or Special I/O

MODULAR OPTIONS

CAN

RS485

RS232

I2C

SPI

ADC

DAC

I/O: up to 24 digital inputs or outputs (500mA, 1500mA peak), Sink and Source, all 24 V Special Inputs for Safety Contact Edges

SAFETY

Internal Logic and external communication, I/O are galvanically isolated even if they are operated from one Power Source / Battery

Power supply protected against overcurrent and reverse polarity

Dual ENABLE Input @24V

READY Output at every Industrial Communication Port

DEVICE DATA

Supply Voltage: 24V nominal.

2x internal isolated DC/DC Converter Wide Range 4:1 Input (9V – 36V)

Supply Current Logic: typ. 600 mA, max 2 A at 24V DC

ENVIRONMENTAL CONDITIONS

Weight: ca 950 g, depends on modules

Environmental conditions

Operating temperature: 0°C - 55°C

Storage temperature: -25°C - 85°C

Humidity: max. 85% non-condensing

Technical data are subject to change without notice.