

DATASHEET ZAUBERZEUG ROBOT BRAIN

General

Artificial Intelligence Controller including real time industrial PLC-functionality
Very small (105 x 105 x 105 mm)
Suitable for plate mounting and optional for DIN rail mounting
Compatible with Robot Operating System ([ROS](#)) and [RoSys](#)
Configure Embedded System with [Lizard](#)
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 Orin Nano – suitable for CUDA¹

Processor: 8-core Arm Cortex-A78AE v8.2 64-bit CPU @ 1.5 GHz
GPU: NVIDIA Ampere architecture with 2048 NVIDIA CUDA cores and 64 Tensor Cores
Memory: 8 GB 128-bit LPDDR5 @ 2133 MHz (68.3 GB/s)
Operating system: Ubuntu 20.04 LTS (with [ROS](#) and [RoSys](#) Containers)

Real Time

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

¹ NVIDIA, jetson Orin Nano and CUDA are trademarks of Nvidia Corporation

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

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 (500 mA, 1000 mA peak), Sink and Source, all 24 V, Special Inputs for Safety Contact Edges

Safety

Internal Logic and external communication, I/O are galvanically isolated with common ground

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 (9 V – 36 V)

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

Supply Current I/O: max 3 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.