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GaIA

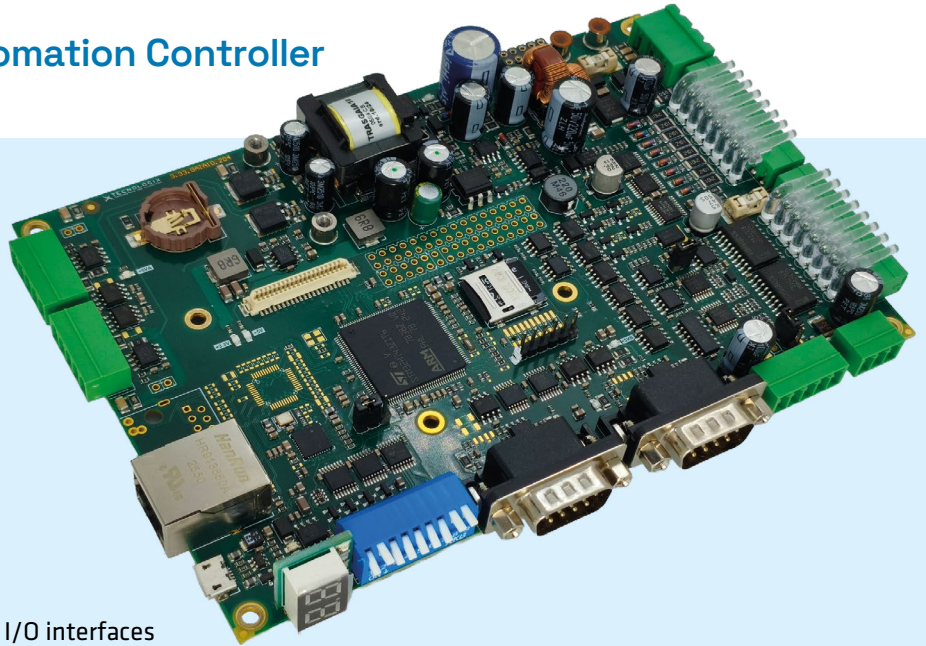
Gateway and Industrial Automation Controller with Fieldbus connectivity

Tecnologix GaIA is a multifunction Industrial Automation Controller, conceived to operate as a programmable I/O device and as a communication gateway to industrial fieldbuses.

The Controller communicates with the most popular standard fieldbuses, as

- + CANopen (CAN based)
- + Modbus/TCP, Profinet, EtherCAT, EtherNet/IP (Ethernet based)
- + Modbus RTU (RS485 based)

The User can control all the digital and analog I/O interfaces by writing their own automation procedures, directly, using C/C++ language and provided libraries.



GaIA CONTROLLER

Characteristics

- + STM32H7 Single/Dual Core
 - o 32 bit Arm Cortex-M7 @480 Mhz
 - o 32 bit Arm Cortex-M4 @240 Mhz
 - o 2 MB Flash + 1 MB RAM
 - o 12 bit A/D Converter
- + 2 x RS232/RS485 optoisolated serial interfaces
- + 1 x 10/100 Mbit/s Ethernet interface w/Single or dual Ethernet connector and high-speed switch
- + 2 x CAN/CAN-FD optoisolated interfaces
- + 1 x USB OTG Full Speed interface
- + 1 x Micro SD-CARD
- + 8 x 24V Digital Inputs w/status LEDs
- + 2 x Encoder inputs
- + 8 x 24V Digital Outputs w/status LEDs, blow fuse and short circuit alarm
- + DIP switch, 2 x 7 seg. display + 4 status LEDs
- + 24 V insulated power supply with RF filter and Low Voltage indication alarm
- + 1 x Lithium cell for RAM backup
- + I/O Bus Expansion Connector

Certifications: CE, UL

OPTIONS AND EXPANSIONS

Digital/Analog I/O Expansion

- + 16 x 24V Digital Inputs with status LEDs
- + 16 x 24V Digital Outputs with status LEDs, fused, with power sensing and short circuit alarm
- + 8 x analog inputs (0...10V, +10/-10V, 4...20mA)
- + 1 x analog input for temperature sensor PT1000
- + 1 x quadrature encoder input

Digital I/O Expansion

- + 16 x 24V Digital Inputs with status LEDs
- + 16 x 24V Digital Outputs with status LEDs, fused, with power sensing and short circuit alarm
- + Up to 4 stackable I/O interfaces

Analog I/O Expansion

- + 8 x analog inputs (0...10V, +10/-10V, 4...20 mA)
- + 1 x analog input for temperature sensor PT1000

Industrial Ethernet Expansion

- + EtherCAT + Profinet + Ethernet/IP + Modbus/TCP

Other expansions on request

Dimensions: metal box 180 x 120 x 50 mm

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Board Support Package

BSP

Example projects, drivers and low-level functions

- + IOBUS Identification, configuration and handling of IOBUS expansion peripherals
- + Serial Serial interfaces configuration and handling
- + Reset Reset and restart GalA firmware for bootloader functionalities
- + Identification GalA controller version, serial number, and unique MAC address handling
- + Display Led and display handling

Communication Libraries

- + CAN/CANopen Master and Slave
- + EtherCAT Master and Slave
- + Modbus/TCP Master and Slave
- + Ethernet/IP Master and Slave
- + PROFINET Slave

GalA Is supported by a wide choice of development tools

arm KEIL

KEIL MDK-ARM with TÜV Qualified Arm C Compiler, long term maintenance and Functional Safety Library Package | <https://www.keil.arm.com/keil-mdk/>

- + Automotive ISO26262, ASIL D
- + Industrial IEC61508, SIL 3
- + Railway EN50716, SIL 4
- + Medical IEC62304, Class C



Integrated Development Environment for STM32 C/C++ development platform with peripheral configuration, code generation, code compilation, and debug features for STM32 microcontrollers and microprocessors



Azure RTOS ThreadX Realtime Operating System

Azure RTOS NetX Duo IPv4/IPv6 TCP/IP protocol suite w/Cloud connectors

Azure RTOS FileX FAT Filesystem

Azure RTOS USBX USB Host and Device

Azure RTOS TraceX for System Analysis

Partner



About Us

With over 25 years' experience in electronic and IT engineering services, complemented by consulting and training, Tecnologix is the ideal partner for the development of any kind of application in the industrial sector.

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