

DG100

Multi-service Edge IoT Gateway

Highlights

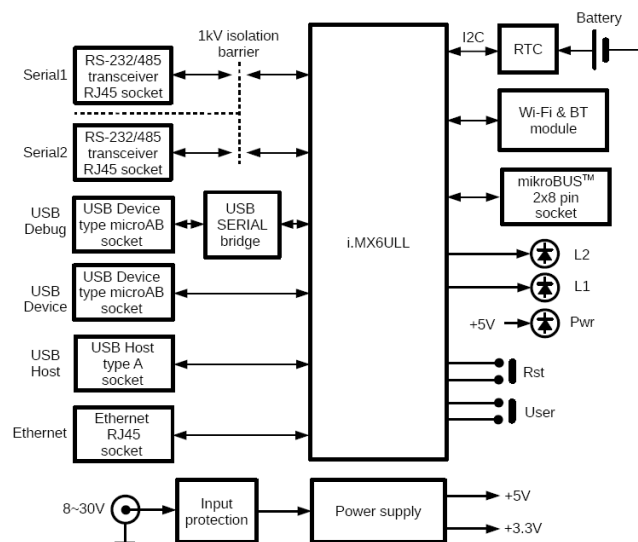
- Ultra compact and efficient
- Multi-Interface access
- Internal open standard mikroBUS™ socket
- Wi-Fi and Bluetooth connectivity
- LED indications for data and status
- IoT Ready with field protocol support
- Easily configurable with WebUI
- Linux and IoT Edge Device SDK
- Programable in C++ or JavaScript
- Modular, open platform for proprietary solutions



DG100 device

Description

DG100 is compact and efficient Multi-service IoT Edge Gateway for home, office and industrial applications. Powered by NXP i.MX6 CPU at 900MHz, with 256MB of SRAM memory and 4GB of eMMC, it offers great performance for great variety of next generation solutions. Robustness are guaranteed by wide range of power supply voltage with transient/surge/noise/reverse polarity protection and reliable hardware watchdog timer.

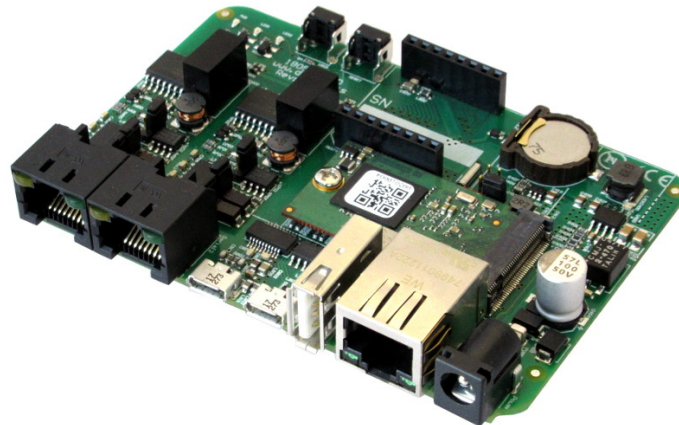


Block diagram

Device provides powerful combination of interfaces and is ideally suited for M2M and IoT to connect sensors, actuators and other devices to cloud services. Two protected and isolated serial ports, both with RS-232 and RS-485 interfaces, offers connection to serial enabled devices such as: PLC's, pump controllers, HMI's or

remote I/O devices. Embedded wireless connectivity with Wi-Fi and Bluetooth, three USB and one Ethernet port fulfill the needs for local and remote connectivity.

On board mikroBUS™ socket, placed inside enclosure, may be used for add-on boards and enable easy hardware expandability with a large number of standardized compact add-on boards, each one carrying a single sensor, transceiver, display, encoder, motor driver, connection port, or any other electronic module or integrated circuit.



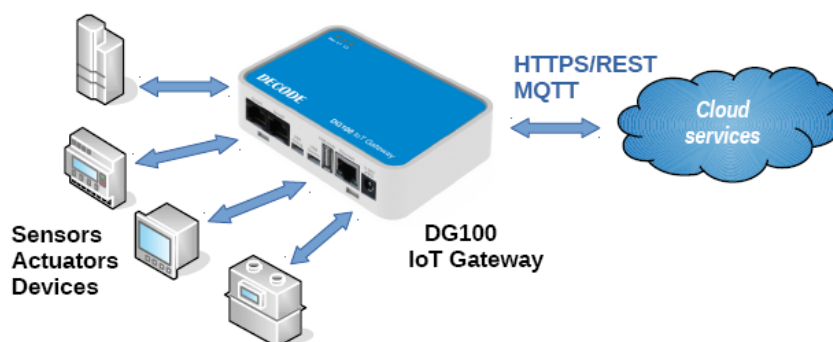
DG100 board

DG100 comes with preinstalled Linux OS and macchina.io IoT edge device framework which takes the complexity out of integrating sensors, actuators, devices and cloud services, as well as device management. This framework is right solution when performance, low footprint, efficiency and security counts, supporting variety of field and IoT protocols and devices such as Modbus, MQTT, BtLE, GNSS or SensorTag. Built-in web server providing UI for device management and parametrization.

The DG100 enclosure is made of durable ABS plastic for desktop or wall mounting in home, office or industrial environment. The side panel features power supply connector, connectors for USB peripherals, Ethernet and serial communication, as well as LED indicators.

Application

DG100 provides seamless integration of new IoT enabled devices together with legacy devices to cloud services via HTTPS/REST or MQTT. This provides a lot of useful data for the users from massive array of equipment, like motors, pumps, factory tools, HVAC units, vending machines, and much more.



Application diagram

Technical specification

PROCESSOR BOARD	
Central processor	32-Bit MCU Single Core, ARM A7, i.MX6ULL, 900MHz
Memory	256MB DDR3 SDRAM (up to 512MB factory option)
Storage	eMMC 4GB Flash (up to 32GB factory option)
USB	1 x USB2.0 Hi-Speed Host, 1 x Device
USB Debug	1 x USB2.0 device, FT231X
Ethernet	RJ45, 10/100TBase
Real Time Clock (RTC)	Implemented (powered by a CR1220 battery)
Serial ports	
Serial ports	2 x RS-232C (TD, RD, RTS, CTS signals) and RS-485 (A+ & B-) Galvanically isolated to 1kV with send and receive LED indicators
Wireless	
WiFi	Single-band 2.4 GHz IEEE 802.11b/g/n
Bluetooth	BT 4.1 (Low Energy compatible)
COMMON CHARACTERISTICS	
Power supply	8~30V DC
Power consumption	1W Typical, 15W Max
Enclosure protection	IP40
Temperature range	from 0°C to +55°C and from 0 to 95% RH (without condensation) (industry option available from -20°C to +65°C)
Dimensions	110 x 76 x 27mm
Mounting	Desktop, Wallmount
Software	
OS	Linux Buildroot 4.17.4 or Yocto 4.9.88
SDK	Buildroot-based Eclipse Tooling
IoT Framework	macchina.io C++ and JavaScript IoT Edge Device SDK

Scope of supply

Model	SKU	Description	Pcs.
DG100	10421	Multi-service Edge IoT Gateway	1

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