

Industrial IoT Gateway

IOT-GATE-RPi

Datasheet v.1



IOT-GATE-RPi is a powerful Industrial IoT Gateway PC based on the Raspberry Pi 3 processor designed for industrial control and monitoring.

Designed for reliability and with 24/7 operation in mind, IOT-GATE-RPi features extensive wireless and wired connectivity including 3G/LTE modem, WiFi b/g/n, 2x Ethernet, 4x USB2, RS485, RS232, and CAN.

This impressive Gateway PC has an extended temperature range of -40°C to 80°C and a wide input voltage range of 10V to 36V. It also features a fanless design in aluminum with shock, vibration, dust and humidity resistance. Security features include a twist-lock DC-plug preventing unintentional pull-out and the hardware protection against unauthorized boot from external storage.

Key Features:

- Powered by Raspberry Pi 3 Compute Module
- Broadcom BCM2837 CPU, quad-core Cortex-A53
- 1GB LPDDR2 and up-to 64GB eMMC
- 3G/LTE modem and WiFi b/g/n
- 2x Ethernet, 4x USB2, RS485, RS232, CAN
- Miniature size – 112 x 84 x 25 mm
- Custom I/O expansions with RPi HAT add-ons



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CPU Core, Memory and Network

Note:

- "Option" column specifies the configuration code required to have the particular feature.
- "+" means that the feature is always available

Feature	Specification	Option
CPU	Broadcom BCM2837, quad-core Cortex-A53 1.2GHz	+
GPU	Broadcom VideoCore IV	+
RAM	1GB LPDDR2	+
Storage	4GB – 64GB eMMC flash, soldered on-board	N
	Micro-SD socket * mutually exclusive with eMMC	+
LAN	2x 100Mbps Ethernet ports, RJ45 connectors	+
WiFi	802.11b/g/n WiFi interface Ralink RT3070 / RT5370 chipset	WB
Cellular	3G cellular module, Simcom SIM5360 (EU bands) * via mini-PCie socket	J3GE
	4G/LTE cellular module, Simcom SIM7100E (EU bands) * via mini-PCie socket	J4GE
	4G/LTE cellular module, Simcom SIM7100A (US bands) * via mini-PCie socket	J4GA
	On-board micro-SIM card socket	+

Display and audio

Display	HDMI 1.3, up-to 1920 x 1080 @60Hz	+
Analog Audio	Analog audio - stereo line-out, 3.5mm jack	+
Digital Audio	HDMI audio output	+

I/O

USB	4x USB2.0 host, type-A connectors	+
Serial	1x RS232 port, ultra-mini serial connector	+
CAN	1 x CAN bus, RJ11 connector Implemented with EB-RPI-FCSD HAT board	FCSD
RS485	1x RS485 port, half-duplex 2-wire, RJ11 connector Implemented with EB-RPI-FCSD HAT board * precludes RS232 port	FCSD

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Feature	Specification	Option
Digital I/O	6x DIO, 5V tolerant, 100-mil header Implemented with EB-RPi-FCSD HAT board	FCSD
Expansion	RPi HAT expansion interface	+

System

Security	Hardware protection against unauthorized boot from external storage	+
RTC	Real time clock operated from back-up battery	+

Electrical, Mechanical and Environmental Specifications

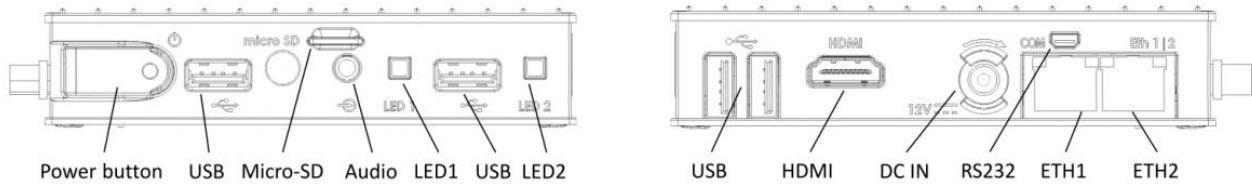
Supply Voltage	Unregulated 10V to 36V
Dimensions	112 x 84 x 25 mm
	112 x 84 x 34 mm (industrial temperature housing)
Enclosure Material	Aluminum housing
Cooling	Passive cooling, fanless design
Weight	450 gram
Compliance	FCC/CE, RoHS-II
MTTF	> 200,000 hours
Operating temperature	Commercial: 0° to 60° C Extended: -20° to 60° C Industrial: -40° to 80° C.
Storage temperature	-40° to 85° C
Relative humidity	10% to 90% (operating) 05% to 95% (storage)

Software

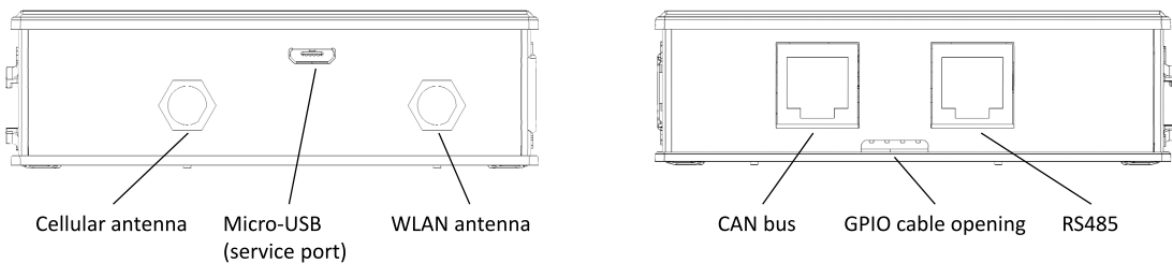
BSP	Full Board Support Package and ready-to-run images
OS Support	Raspbian Linux and Ubuntu Core Supports Microsoft Azure IoT and AWS Greengrass

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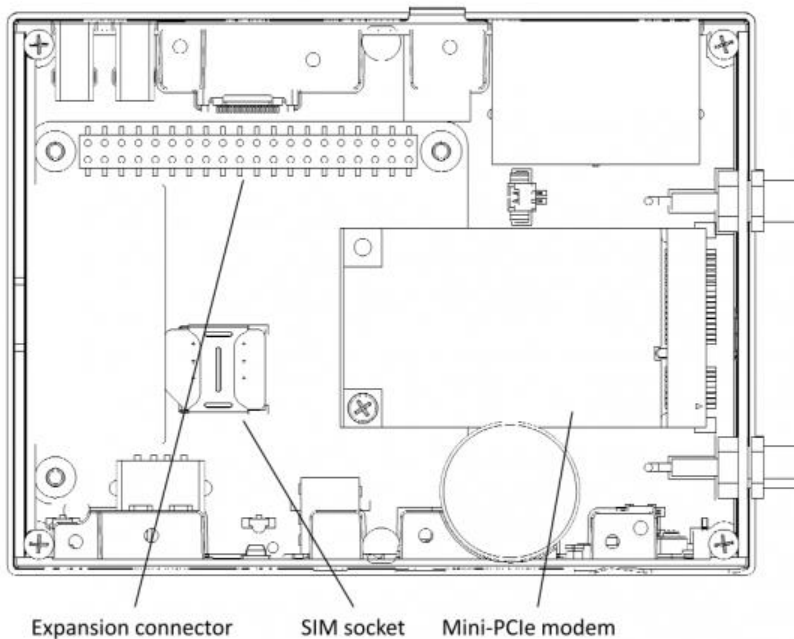
Front and Rear Panels



Left and Right panels (with FCSD add-on)





Service bay



IOT-GATE- RPi

Mounting Options

Option	Description
	<p>Wall / VESA mounting bracket A highly versatile bracket for mounting IOT-GATE-iMX8 on a surface</p>
	<p>DIN-rail mounting kit Snap-on DIN-rail mounting bracket for installing IOT-GATE-iMX8 in equipment racks and cabinets</p>

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IOT-GATE-RPi Evaluation Kit

Hardware

- IOTG-RPI-N16-WB-FCSD-PS-XL
- Serial port cable
- HDMI to DVI adapter
- USB cable
- RJ11 to DB-9 cable
- WiFi antenna
- DIN-rail mounting bracket
- Wall mounting bracket
- DC Y-cable

Technical Support

- Technical support for 12 months.
- 45-day trial period. Evaluation Kit will be accepted for refund if the user finds the product not suitable for their needs.

