Intwine Connected Gateway - ICG-200

Product Features

- **Multi-Protocol LAN**
- **Powerful Application Processor**
- **Flexible Linux Development Environment**
- **Customizable Application Code**
- **Global 4G LTE and 3G (GSM) Certifications**
- **FCC, UL, IC, CE, PTCRB certifications**
- **Wide Operating Temperature (-20 to +70°C)**

The Intwine Connected Gateway (ICG-200) is a networking product that provides lower-level, physical layer gateway functionality and upper-level application functionality. The platform was designed with a wide array of physical interfaces and a powerful application processor to enable customers to seamlessly add Machine-to-Machine (M2M) communications to their products and support a wide range of connected applications. The ability to deploy, monitor, control, and automate heterogeneous networks becomes a reality using the ICG.

The features of the ICG-200 separate it from other single purpose networking devices that only provide routing and basic connectivity. A fleet of deployed ICGs can be controlled and monitored using the Intwine Remote Management Portal. This web-based application is a one-stop location that enables users to view device status, monitor the cellular connection, configure alerts, and much more.

Standard Hardware

With applications across multiple industries, the ICG is built for plug and play simplicity and is used to connect local devices to the Internet and/or an intranet.
The integrated 802.11 a/b/g/n/ac solution allows the gateway to serve as a Wi-Fi access point (AP) or as a client to an existing Wi-Fi infrastructure, and the 4G LTE WAN can be configured as the primary WAN or as a network backup to an existing infrastructure.

Standard configuration includes:

- 1.8GHz 6-core ARM processor
- 2GB RAM and 16GB eMMC
- Dual-SIM for multi-carrier fallback
- Two 10/100/1000 Ethernet ports
- Three USB 2.0 host ports
- Embedded 4G LTE Cat.6 cellular radio
- Integrated MIMO Wi-Fi 802.11 a/b/g/n/ac 2.4GHz/5.0GHz, and BLE v2.1/3.0/4.2/5.0 Bluetooth Low Energy radio technologies
- A locally hosted configuration page for customization of LAN and WAN interfaces
- Supports all North American cellular carriers, worldwide capability available in alternate SKUs

Software

The ICG offers a flexible development environment that enables the creation of a platform customized to your products' specific requirements. In order to provide long-term security and availability, the ICG Operating System is based on Debian "Stretch" 9 which utilizes version 4.4 of the Linux Kernel.
The standard software load consists of a complete IP networking stack including configurable firewall, port forwarding, and dynamic/redundant WAN configuration. This capability is complemented by the Intwine EdgeBUS™ software application layer. This system allows for the rapid development and deployment of Python software agents that can be used for IoT and edge computing applications.
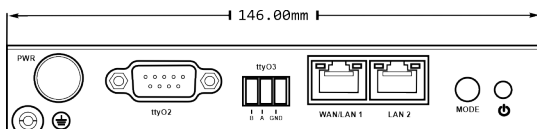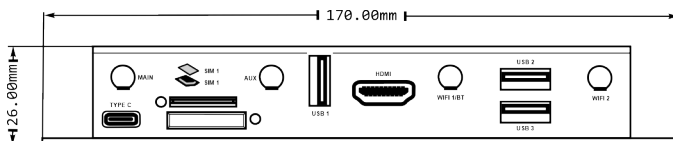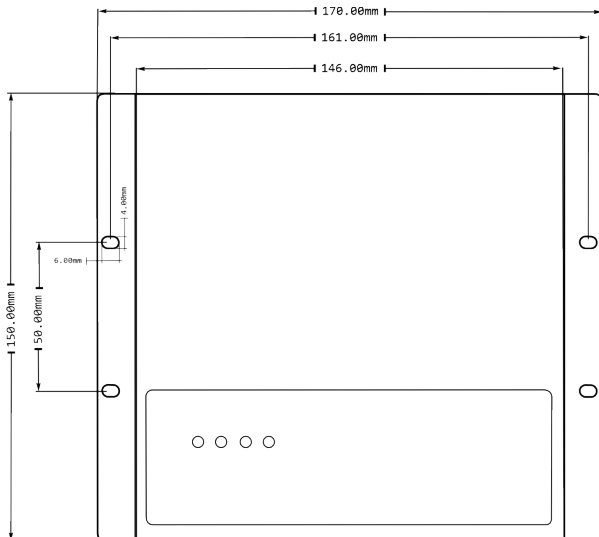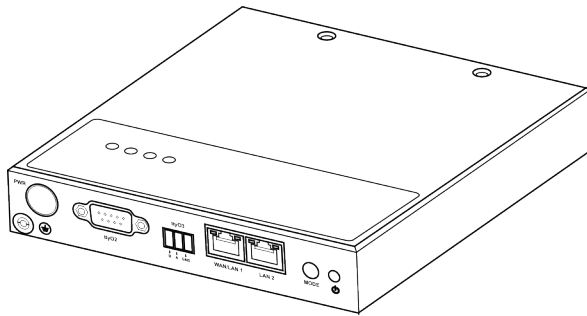
Many standard interfaces are already complete including: MQTT, OPC-UA, BACnet, Modbus.
The data from these sources can be processed locally, actions taken, and the resulting information can be sent to Intwine's CloudBUS system or any AWS IoT Core, Azure IoT Hub, or IBM Watson IoT instance.

Dimensional Drawings

Specifications

Platform	
OS	Debian "Stretch" 9
Processor	ARM Dual-Core Cortex A-72 @1.8GHz ARM Quad-Core Cortex A-53 @1.8GHz
Flash Memory	16GB eMMC (128GB available)
DRAM Memory	2GB DDR3

Interfaces	
Ethernet	10/100/1000Mbps (2 ports)
Wi-Fi	802.11 a/b/g/n/ac (2.4GHz/5.0GHz)
USB	2.0 Type- A (3 ports)
SIM	Standard/Mini/2FF (2 SIM Slots)
Serial	RS485
Bluetooth	Bluetooth Classic and BLE v2.1/3.0/4.2/5.0

Power	
Source	12 VDC
Consumption	< 5 Watts – Typical, < 15 Watts - Peak

Mechanical	
Dimensions	170 x 150 x 26mm
Enclosure	Metal, IP40, fanless
Temperature & Humidity	-20 to +70°C Operating -40 to +85°C Storage 5-95% humidity (non-condensing)
Certifications	FCC Part 15B and C, UL 60950, IC, CE, Verizon 4G LTE, PTCRB, AT&T 4G LTE and 3G

Cellular Radio: Quectel EP06 Family	
EP06-A	North America
Penta Band LTE	700/700/850/AWS (1700/2100)/1900 MHz; FDD-Band (B2/B4/B5/B7/B12/B13/B25/ B26/B293/B30/B66)
Carrier Aggregation	2xCA Supported
Tri Band UMTS (WCDMA)	850/AWS (1700/2100)/1900 MHz; FDD-Band (B2/B4/B5)
Quad Band GSM/GPRS/EDGE	850/900/1800/1900 MHz
EP06-E	EMEA/APAC/Brazil
EP06-LA	Latin America