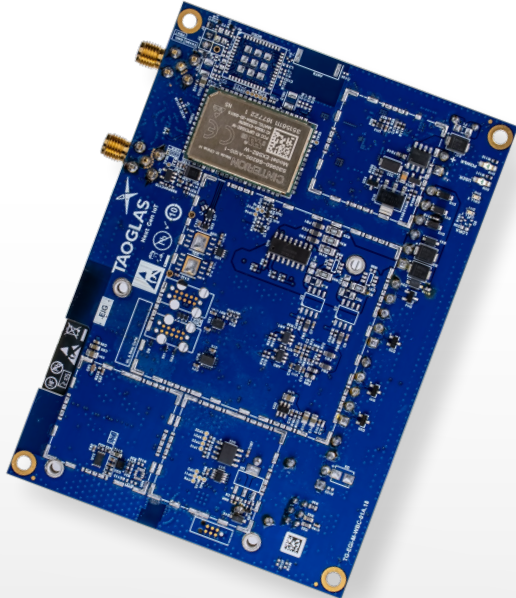# DATASHEET
Taoglas EDGE™ IG25 System-on-Module
Compact Multi Sensor with Wi-Fi Connectivity SOM

Fully integrated, pre-certified, technology stack of hardware, firmware and cloud platform. Cut time-to-market by up to 80%.

The **Taoglas EDGE™ IG25** is an industrial multi-sensor Industrial SoM with cellular, Wi-Fi 802.11b/g/n, Bluetooth and GNSS, Modbus and CANbus connectivity with ultra-low power consumption in a small form factor. It features a dual core processor, optimized firmware/OS RTOS, validated applications libraries (Real Time Performance) and comes with an advanced on-board analytics engine. The Taoglas EDGE IG25 offers the ultimate degree of flexibility and scalability while saving costs and time-to-market for OEMs and enterprises. Developed by industry experts and with proven commercial solutions across healthcare, industrial, transportation, agriculture and smart city applications, you can be up and running with the Taoglas EDGE IG25 pre-certified SoM in minutes.

The solution is supported by **Taoglas Insights™** - a cloud management platform - which provides a scalable end-to-end solution for easy control and management of connected devices.

Key Features

- Small Form Factor
- Ultra low power consumption
- Secure architecture
- Cost-effective end-to-end System-on-Module with cellular 4G, GNSS, Wi-Fi, Bluetooth, NB-IoT possible and on-board movement sensors
- Plug-and-play with fast-time-to value for a variety of of Industrial IoT applications
- Device, data, SIM and sensor management via **Taoglas Insights™** platform
- Secure provisioning and certificate management
- Over The Air (OTA) firmware updates and device diagnostics
- Deployment lifecycle control
- Easy 3rd party machine vision AI/sensor interfacing
- Pre-certified

4G CAT-1 3G 2G NB-IoT LTE CAT-M Wi-Fi	GPS GLONASS Galileo BeiDou	BLE 5.1 BLE4.2

Key Benefits

- Can help you build your IoT prototype in minutes
- OEM boards can be customized and purchased separately for new product introductions
- Reduce the cost and complexity of introducing IoT strategies into enterprises avoiding lengthy design, development, integration, testing, data services and customization spend with fast time-to-value
- Provides sensor and positioning data and can enable real-time intelligence from the EDGE instantly

Typical Applications

| Energy Monitoring Control | Industrial Chillers | Predictive Maintenance | Industrial Boilers | Intelligent Renewables Monitoring | Building Management Systems | Network Hub for Smart Cities | Industrial Generators |

Taoglas EDGE™ IG25 System-on-Module

Hardware Specifications

System	Processor	ESP32 - Xtensa® dual-core 32-bit LX6 microprocessor, up to 240 MHz
	RAM	520 KB
	Flash	16 MB
	Firmware/OS	FreeRTOS + Applications Libraries (Real Time Performance) Cloud Mutual authentication
	Security	-Hardware root of trust -Secure key storage
Radios	Cellular Modems	Optional SKU's (CAT-M and CAT-1)
	Cellular Antenna	External Antenna Options via SMA
	GNSS	GPS/GLONASS/Galileo/BeiDou (use external antenna)
	Wi-Fi	802.11b/g/n
	Bluetooth	Standard BLE 4.2 and optional BLE 5.1 (internal antenna)
	Expansion Options	LoRa (internal or external antenna)
Sensors	Accelerometer	Range: up to ± 16g Accuracy: up to 16384 LSB/g with 16 bit resolution
	Gyroscope	Range: up to 2000°/s Accuracy: up to 262.4 LSB/°/s with 16 bit resolution
	Magnetometer	Range: ±1300µT (x, y-axis), ±2500µT (z-axis) Accuracy: ~0.3µT
Expansion	External Connector	22 Pin Screw On Connector
	USB	Micro USB B connector (Charging Only)
Physical	Dimensions	145 x 90 x 42mm
Power	Voltage	5.5V - 55V (External Power supply)
	Current	2A – 3A
	Power Consumption - Sleep	≈ 60 uA
	Power Consumption - Idle / Stand by	≈ 30 mA
	Power Consumption - Running	up to 3A in peak
	Battery	Various Battery Options/Capacities Available - Rechargeable and Non-Rechargeable, Lithium Polymer or Lithium Ion
Communications		RS485 MODBUS and CANBus + RS-232
Signal Aquisition / Generation	Analog Inputs	2x (0V to 10V)
	Digital Inputs	2x Isolated (3.3V - 55V DC)
	Digital Outputs	2x Isolated
Environment	Operating Temperature	-10C to 60C
	Operating Humidity	85% non-condesing
	Storage Temperature	-10C to 60C
	Storage Humidity	85% non-condesing
Warranty		1 Year
Ordering information	IG25B	Industrial Gateway Standard Model SOM (CAT-1)
	IG25L	Industrial Gateway Standard Model SOM (CAT-M)

Taoglas Insights™
Real-time analytics

Taoglas Insights™ is your cloud-based software platform that allows for flexible, reliable and efficient gathering of data and life cycle management of EDGE devices from one dashboard.

- Device management
- Sensor management
- Security management
- Connectivity management
- Application platform

It enables real-time insights and intelligence that drive optimization, cost savings, compliance and new revenue opportunities for our enterprise customers.

Taoglas Insights™ provides everything to securely connect and manage your sensors, machines and devices remotely, removing complexity and allowing your organization to focus on today's business applications.