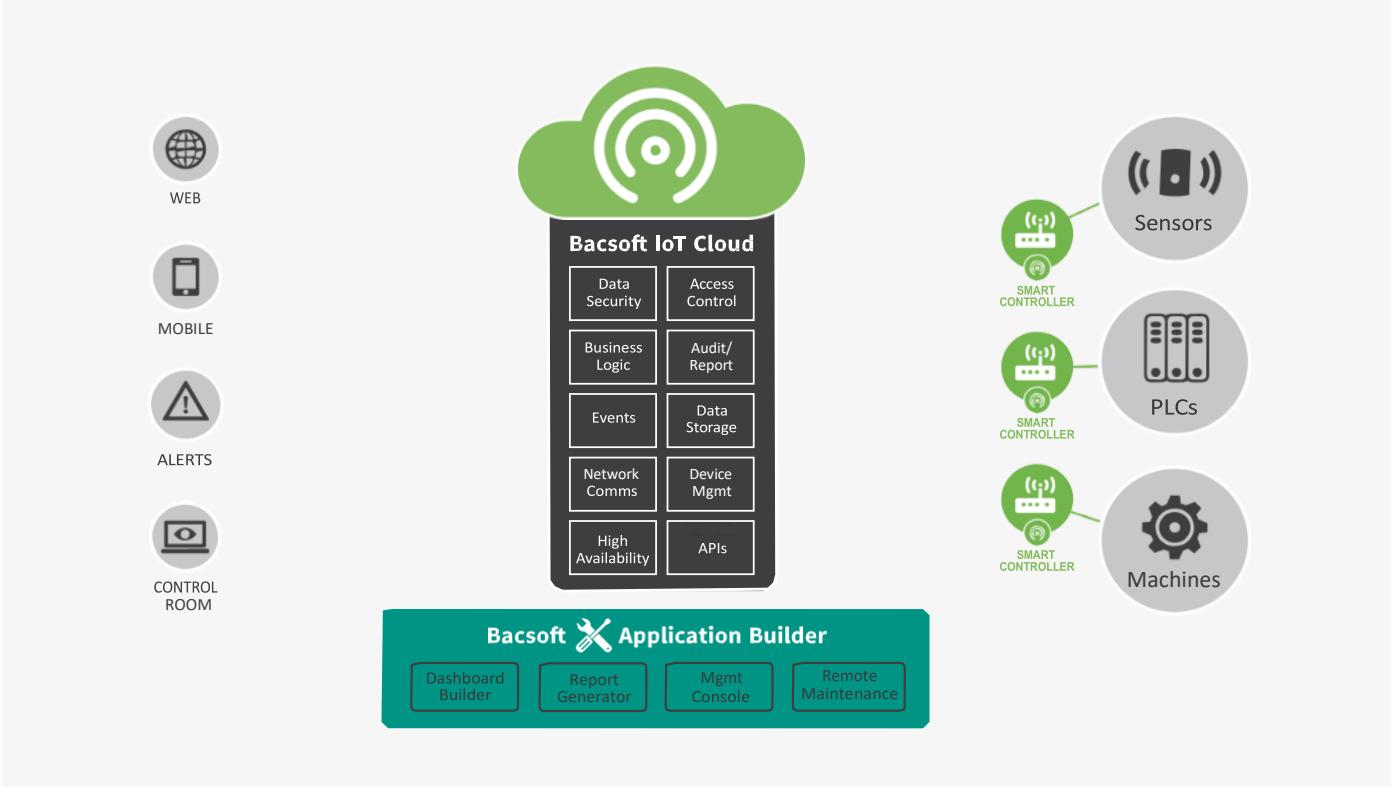
BACSOFT B-CONNECT 4G
SMART COMMUNICATIONS CONTROLLER

BACSOFT IOT PLATFORM

The Bacsoft platform is an end-to-end solution for building and managing advanced IoT and M2M applications. Using Bacsoft, companies can rapidly connect their legacy infrastructure to the Industrial Internet and build applications to remotely monitor and control their operations.

Bacsoft reduces the complexity of IoT projects with a combination of robust and reliable remote connectivity, simple and rapid application development, and scalable cloud services. The platform features:



M2M COMMUNICATIONS:

Bacsoft B-Connect 4G Smart Communications Controllers offer built-in support for a wide variety of devices, interfaces and protocols. Designed to operate reliably under all kinds of conditions, the B-Connect 4G Smart Communications Controller is cost-effective and easy to deploy.

IOT CLOUD:

The Bacsoft IoT Cloud handles all aspects of communications, application execution, data storage, security and auditing. It easily scales to support thousands of connected devices.

APPLICATION BUILDER:

Rapid development tools enable integrators and IT organizations to easily build tailored IoT applications without coding and deploy them for mobile, web and control rooms.

BACSOFT B-CONNECT 4G SMART COMMUNICATIONS CONTROLLER: ETHERNET AND 4G CONNECTIVITY FOR LEGACY NETWORKS

The Bacsoft B-Connect 4G Smart Communications Controller provides Ethernet connectivity as well as bi- directional cellular communications over 4G networks. Through extensive experience with networks around the world, Bacsoft has developed technology to ensure reliable M2M communications at any site and under all conditions.

Each device manages the connectivity to the server and can adapt to field conditions by initiating communications, performing self-recovery and more. A hardware-based external watchdog ensures that the communications software is running properly at all times, and, in case of an error, reboots the controller.

Bacsoft secures M2M communications with optional TLS 1.2 encryption, along with the option to install private, self-signed certificates. To further increase security and eliminate the need for a fixed IP address, the controller identifies and verifies the server during each connection.

The 4G Smart Communications Controller can be used to manage virtually any device. It includes built-in support for Modbus and Melsec and is easily adapted to work with any proprietary protocol, binary or ASCII. Where appropriate, one controller can manage a series of devices through a serial RS485 interface or Ethernet communication, simplifying deployment and eliminating multiple SIM cards.

FEATURES

- Plug & Play Connectivity (easy setup, all wireless)
- Always On - refresh rate of data read and data write is around 1 seconds both ways
- Includes external hardware watchdog for fail-safe operation
- Very Low Data Usage (a few megabytes per whole month 24/7 connectivity)
- Various Analog and Digital Interfaces:
  4 Analog Inputs (-)10 - 10V / 4-20mA
  4 Digital Inputs / Hardware Counter
  2 Digital Outputs
- 2 * RS232
  1 RS485
  1 Ethernet RJ45
- Logging Capabilities
- Debug and setup using standard SMS messages
- OTAP (Over the Air Provisioning) support for software updates
- Optional SSL Version 3 with embedded server certificate for secure applications
- Option to open a raw tunnel directly to remote equipment

APPLICATIONS

INDUSTRY APPLICATIONS

Multi PLC Control
All Types of Sensors Readings (Analog/Digital/ASCII/Binary)

ENVIRONMENTAL APPLICATIONS

Temperature, Humidity, CO2 (etc) Monitoring
Forest Fire Detection
Meteorology Station and Monitoring
Early Earthquake Detection
Snow Level Monitoring
Air Pollution
More

SMART CITY APPLICATIONS

Parking Control
Smart Lighting
Traffic Control
Waste Control
More

METERING APPLICATIONS

Tank Level (Oil/Gas/Fuel)
Silos Material Measurement
Electric/Water Meter Reading

WATER APPLICATIONS

Remote Control of Valves
Leak Detection
Valve Control
Water Meters (Pulses, Binary, ASCII)
Water Leakage
River Height and Flood Alerting
Swimming Pool Monitoring

AGRICULTURE APPLICATIONS

Green Houses
All Type of Irrigations Controllers
Low-Energy Sensors (Tensitometers etc)
Hen House / Cowshed Control

SECURITY APPLICATIONS

Transformer Theft Alarm
All Types of Security Sensors (Entry, Step-on, etc.)
Access Control

CELLULAR SPECIFICATION

Twelve Bands FDD-LTE: 700, 800, 850, 900, 1700/2100 (AWS), 1800, 1900, 2100, 2600 MHz
Seven Bands UMTS (WCDMA/FDD): 800, 850, 900, 1700/2100 (AWS), 1800, 1900 and 2100 MHz
Quad Band GSM: 850, 900, 1800 and 1900 MHz

SYSTEM SPECIFICATIONS

POWER REQUIREMENTS

Supply Voltage Range	12-24 VDC

CURRENT CONSUMPTION

Server communication mode	170 mA (Avg) at 12 VDC
Maximum momentary	250 mA (Avg) at 12 VDC

MEMORY CHARACTERISTICS

Type	Read Write
Max Storage Capacity	Up to 90000 Measurements (in off mode)

ENVIRONMENTS

Operating Temperature	-20°C to 70°C
Automatic Turn Off	80°C
Storage Temperature	-35°C + 75°C
Operating Humidity	5% to 85%

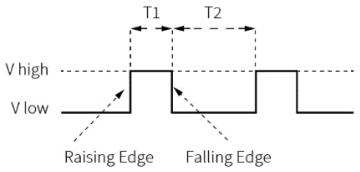
DIMENSIONS/WEIGHT

Dimensions	122 x 96 x 58mm
Weight	250g

INTERFACES

4 Analog Input
4 Digital Inputs (can be configure as Hardware Counters)
2 Digital Outputs

Counter:
T1 minimum is 20MS and maximum unlimited.
T2 minimum is 20MS also and maximum unlimited.
The counter is 32 bits.



2 Serial RS-232 1 Serial RS-485 1 Ethernet - RJ45	Full Duplex Half Duplex
Antenna Connector	SMA Male
2 SIM card socket	Push type
17 LED Indications	
Communication Port Signal Strength Digital Input Digital Output	RX/TX, System Status
Power Supply Socket	Terminal Block

ADVANCED TECHNICAL INFORMATION

DIGITAL INPUT CHANNEL SPECIFICATION

Input Range - On	3 - 30V (“1”)
Input Range - Off	0 - 1V (“0”)
Input Resistance	280Kohm
Over Voltage Protection	50V

Digital inputs can be configured to act as digital counter for use with sensors that generate pulses

DIGITAL OUTPUT CHANNEL SPECIFICATION

Type	Relay - Dry Contact
Switching Power	60W (DC) 62.5VA (AC), 2A / 30Vdc, 0.5A / 125V ac

ANALOG INPUT CHANNEL SPECIFICATION

Current:	
Input Range	4-20ma
Input Impedance	77MΩ
Measure type (Optional)	Relay activation
Resolution	24bit
Voltage:	
Input Range	(-) 10-10VDC
Input Impedance	2MΩ
Measure type (Optional)	Relay activation
Resolution	24bit