

# Cube SGC

**Total Data Integration. Ultimate Grid Control.**

## The Universal Communications Platform

The Cube SGC smart grid controller is the ultimate solution for integrating legacy control and automation schemes into one communications platform. It enables translation of virtually any grid comms protocol into another including IEC 61850 for integration into a modern digital environment.

Modular. Scalable. Simple to fit. Making complex, data-intensive environments an easy to automate reality is now possible.

### Plug & Play

Cube SGC's modular hardware allows multiple configurations of I/O and communication modules, to manage multiple application scenarios.

The powerful software is built on a multi-tasking real-time operating system. It can handle various communication protocols and I/O modules.

Its integrated programmable logic controller delivers wide ranging communication and automation solutions.

### Extremely Versatile

The built-in library of communications protocols includes IEC 61850, IEC 60870-5-101/103/104, DNP3 and Modbus.

Cloud interface options are based on standard JSON data format and MQTT exchange.

### Easy Configuration

The Cube SGC can be configured using our eNode Designer tool. The IEC 61131 compliant development tool OpenPCS is also integrated into the configuration tool.

By linking the ICD Designer tool to the eNode Designer, implementing IEC 61850 capability becomes a simple and easily achievable engineering task.

### Up to 4 Cube SGC Cells, 2 Modules per Cell



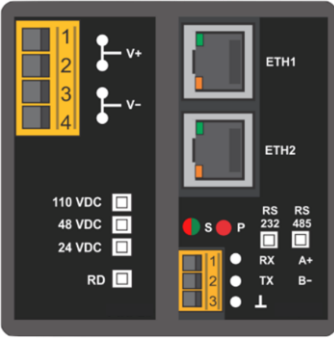
### Applications

The Cube combines client and server communication protocols, IoT, cloud interfaces with IEC 61131 programmable controller features. This makes the Cube SGC ideally suitable for:

- Substation control
- Transformer and asset management
- Micro grid control and automation
- Data gateway application
- Protocol conversion
- IoT and cloud service interfacing

## Cube SGC Modules

Base Configuration



1 Cube SGC cell with:

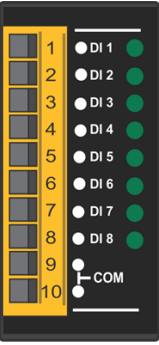
- 32-bit ARM processor and power supply (12V / 48V / 110V DC)
- 2 x Ethernet 100 Base T ports
- 1 x SD card holder, Realtime clock
- 1 x Client and Server licence IEC 60870-5-101/103/104, DNP3 Modbus Master

Option: 1 x RS-485 2-wire or RS-232 TX/RX

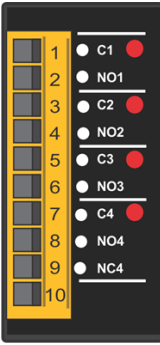
+

**Up to 6 extension modules;  
2 per Cube SGC cell**

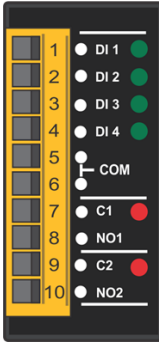
Extension Modules



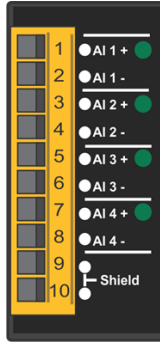
**DI8**



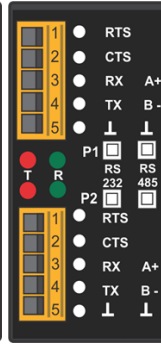
**3DO-1CO**



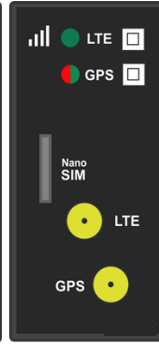
**DI4-2DO**



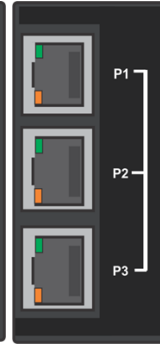
**4AI**



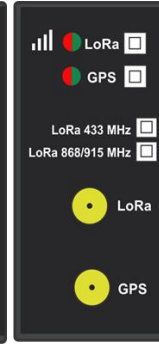
**2SER**



**CELL (GPS)\***



**3ETH\***



**LoRa (GPS)\***

**Field Input / Output Modules**

**Communication Modules**

<p>8 Digital Input Channels</p> <p>Supports SDI &amp; DDI</p> <p>1 msec time stamp</p>	<p>4 Digital Inputs (support SDI &amp; DDI) + 2 Digital Outputs</p> <p>Supports simple &amp; enhanced security commands</p>	<p>4 Digital Control Outputs</p> <p>3 Normally open contacts</p> <p>1 Change over contact</p> <p>Supports security commands</p>	<p>4 x Analogue DC Inputs</p> <p>4 ± 20mA or ± 10V DC channels</p> <p>Deadband reporting</p> <p>High/Low alarm reporting</p> <p>Over/Under Range Detect</p>	<p>2 Port Serial Communications</p> <p>Modbus master</p> <p>DNP3 client &amp; server</p> <p>IEC 60870-5-103 client &amp; server</p>	<p>Cellular / LTE Communications</p> <p>Cell phone network interface</p> <p>Could communication interface</p> <p>VPN connectivity</p>	<p>3 port Ethernet Switch for Extended Communication</p> <p>IEC 61850 client &amp; server</p> <p>IEC 60870-5-104 client &amp; server</p> <p>DNP3 client &amp; server</p>	<p>LoraWAN Cloud IoT Sensor</p> <p>JSON / MQTT</p> <p>Secured VPN</p> <p>Cloud API</p>
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\*Module in development

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