

# Product Catalog



[www.stcontrol.com](http://www.stcontrol.com)

**Power System  
& Transmission** Division



## ST Control Co., Ltd.

Establishment : November 1996  
No. of Employees : 100 Persons  
Authorized Capital : 50 MB



### Head Office Address

84/1 Soi Ramkhamhaeng 9 (Tararom), Ramkhamhaeng Road, Phlapphla Subdistrict, Wang Thonglang District, Bangkok 10310 Thailand

### About Us

ST Group fundamentally is an Engineering and Design based Group for delivering state of art products and solutions for Automation to OEM machine makers as well as components supply that we have provided and serve the market in an early period of establishment.

Over two decades passed by, STG has already moved forward business into three pillars sectors, Engineering Design, Trading and Contractors accordingly.

Asides from the Private sector, STG has been moving into the Government sector, like, Military, MWA, PWA & SRT for serving the market into another array as Turnkey Contractors.

In order to fulfill clients' needs, our engineering team is formed with experienced engineers and technicians who possess several years of local and overseas experiences.

With modern management and traditional values, our company can be trusted as your contracting partner for all turn-key projects.

Our Core Values define who we are and what we stand for as a company.

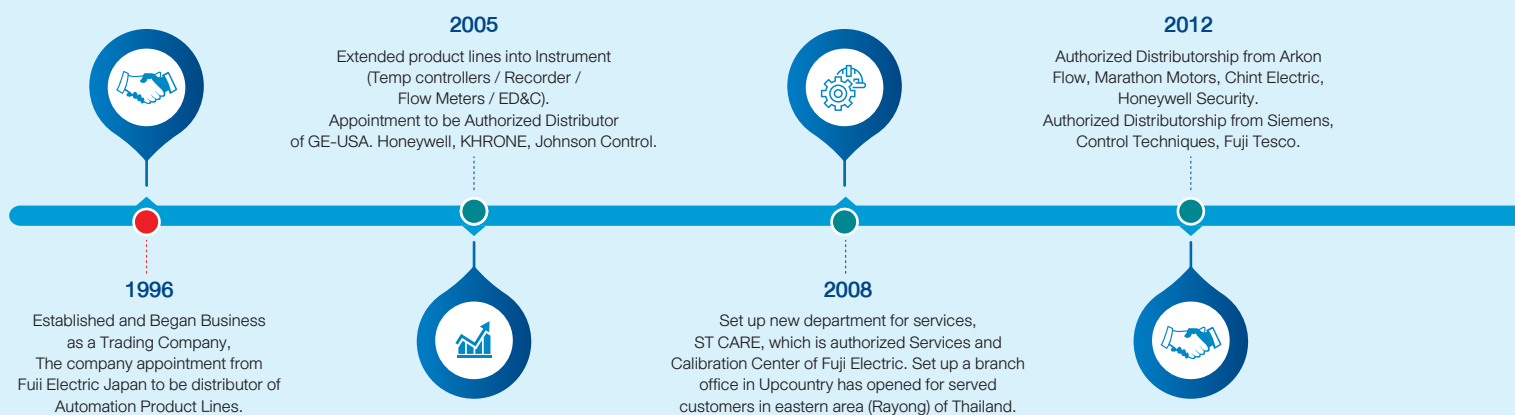


### ได้รับการรับรองมาตรฐาน ISO 9001:2015

จาก Management System Certification Institute (Thailand) : MASCI

การให้บริการอย่างมีมาตรฐานถือเป็นหัวใจหนึ่งของ บริษัท เอส.ที. คอนโทรล จำกัด เพื่อความเป็นระบบบริหารงานคุณภาพตามมาตรฐานสากล (Quality Management System) ในทุกส่วนงานบริการ บริษัทฯ ได้ผ่านการรับรองระบบมาตรฐาน ISO 9001:2015 จาก สถาบันรับรองมาตรฐานไอเอสโอ (สรอ.) (MASCI) เป็นที่เรียบร้อย และยังคงมีการประเมินทุกๆ ปีอย่างต่อเนื่อง

### Company History



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## ST Group Vision

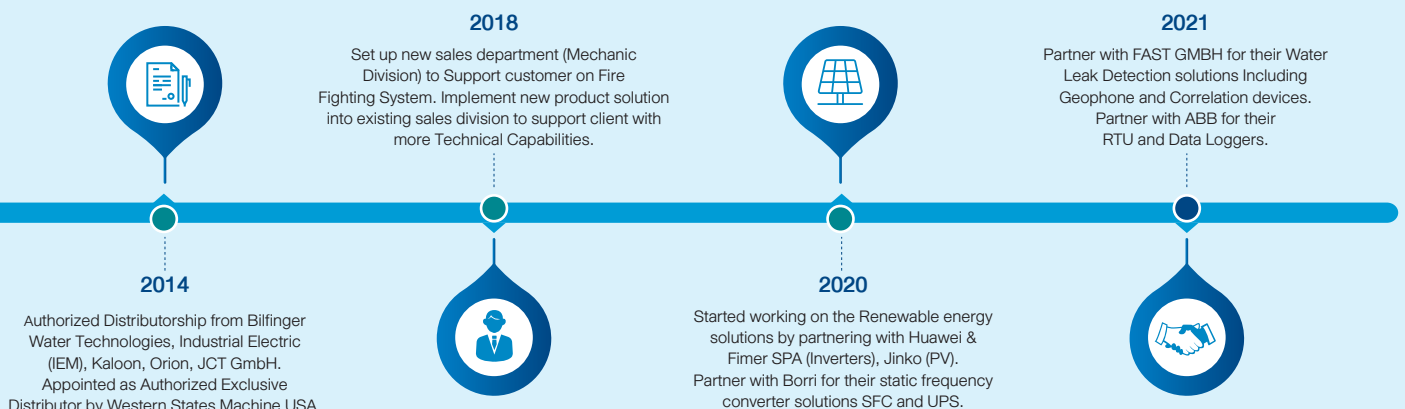
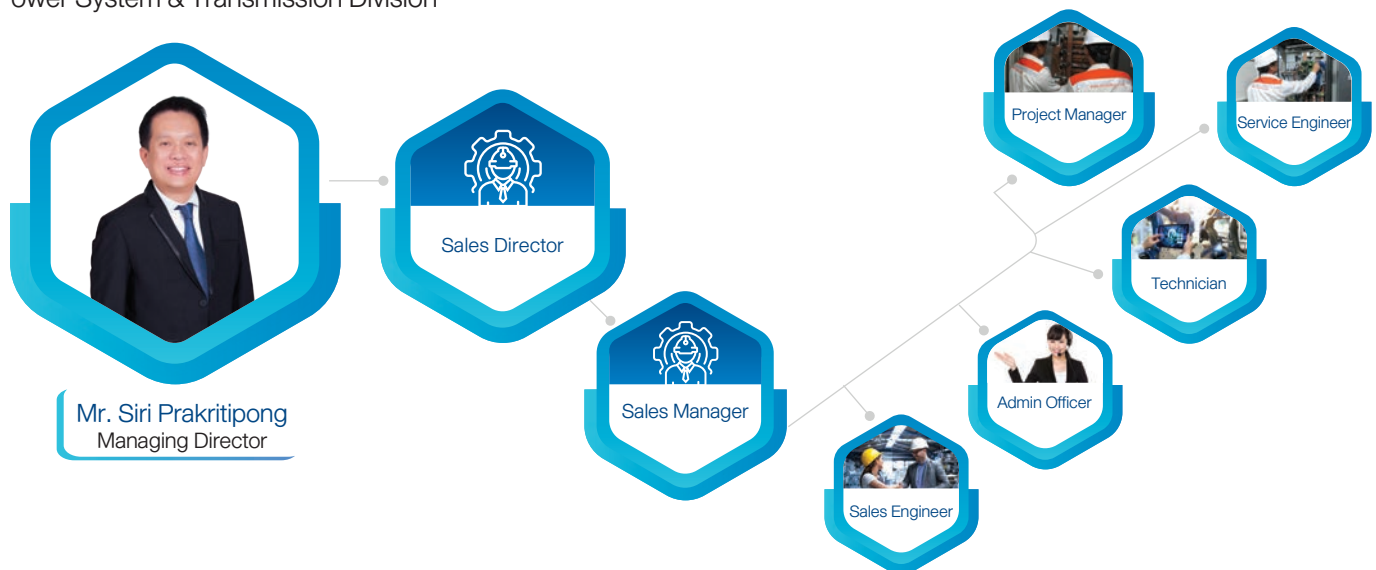
To be among the most preferred (EPCM) Companies in Thailand through innovative engineering and timely delivery of services to our clients with complete satisfaction.

## ST Group Mission

To provide the highest standard of our professional services to all our clients, and to exceed the expectations of our clients by ensuring Quality, Reliability, Safety and Timely Completion of projects through continual improvement in our operation system.

## Organization chart

Power System & Transmission Division



## ELECTRICAL ENGINEERING

### Description :

S.T. Control have two decades of experience in carrying out the full spectrum of electrical contracts help us grown as one of the leading organization in electrical engineering field, providing high quality engineering products and services to our client in Thailand and SEA Market.

We have a significant presence in the field of power transmission and distribution, offers a comprehensive range of products and services to local industries such as site surveys. feed and details deign work, procurements, project execution, testing & commissioning with a complete doc control system. Our highly trained motivated and experienced engineers, technicians and management team operate from our Bangkok Head Office.

To ensure that our supplied technology and products are user friendly, we impart comprehensive training & focus on developing skills & knowledge of the people who would use them. we are committed to meeting the needs of customers by providing services that set standards in the region. Stringent quality control and supervision ensure that services confirm to the highest standards of quality and reliability.

#### ◎ Sub station solutions

- Air Insulated Switchgear
- Gas Insulated Switchgear

#### ◎ Switchgear & Ring Main Unit

- M-Cube Switchgear, Panel Boards & Enclosures
- Ring Main Unit Medium Voltage Distribution Networks.

#### ◎ Transformer (Power, Distribution, Cast Resin)

- Power Transformer, Rectifier Transformer,
- Arc Furnace Transformer
- Small, Medium & Large Distribution Transformer

#### ◎ Power Equipment's

- Voltage & Current Transformer (LV/MV/HV)
- Capacitor, Power Meter, Protection Relay

#### ◎ Main Distribution Board / Motor Control Centre

- Low Voltage Distribution Boards, Sub-Boards,
- Floor Stand Boards,
- Low Voltage Motor Control & Power Distribution Units

#### ◎ Electrical Distributions & Controls (LV/MV)

- Low voltage equipment up to 600 volts
- High voltage equipment Up to 36kV

#### ◎ Variable Speed Drives (LV/MV)

- LV Variable Speed Drives, Frenic Series
- Medium Voltage direct output inverters

#### ◎ Soft & Liquid starter

- Liquid Starter, Blade/Ring Electrode System,
- Oil-cooled resistance starter
- Soft Starters, Range from LV up to 12,000kW / MV up to 1500kW

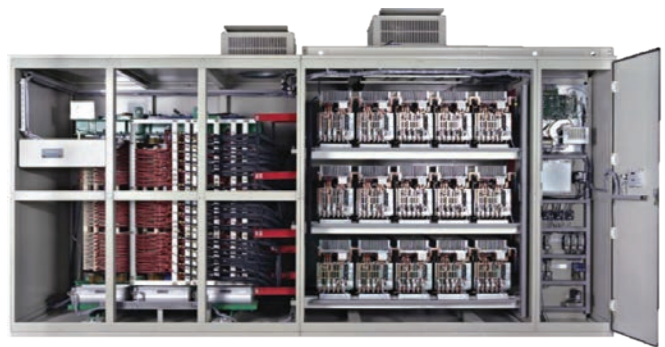




Switchgear / Transformer



Main Distribution Board / Motor Control Centre



Variable Speed Drives (LV/MV)



Soft & Liquid starter

## SOLAR PV SOLUTION



ST Control is fully focused towards providing cost-effective and reliable Solar Power Solutions to residential customers, commercial organizations and industries, as well as providing an alternative source of power generation for the grid. We supply outstanding products which are made to the highest standards, quality and design all the while being affordable.

### Engineering Expertise

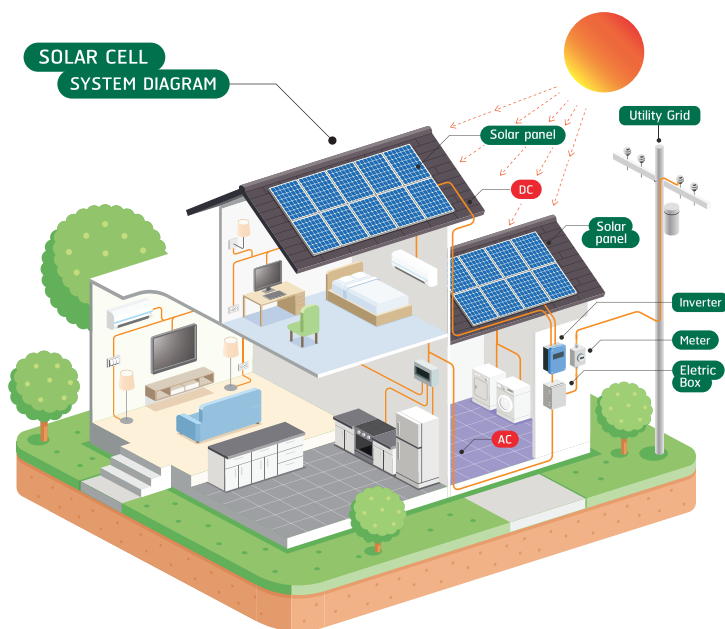
Our expert engineers have decades of experience and skills, We are also in a collaboration with the leading manufacturing company Growatt New Energy to provide flawless design, deployment and maintenance solutions. Most of our design done by Pvsyst Software. Pvsyst presents results in the form of a full report, specific graphs and tables, and data can be exported for use in other software.

### Customer satisfaction

Customer satisfaction is a our core value. We cover all power needs from small residential systems to commercial roof-based installations and large solar power plants on land, lakes or even the open sea.

### Our Vision

Our Vision is to make clean, reliable, and affordable energy available to the developing world through energy innovation.

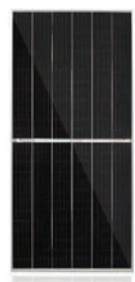


## Solar PV Solutions



Solar Panel

Tiger Pro PV Module



Tiger Neo PV Module



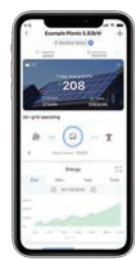
Solar inverter

Solar On-Grid Inverters & Off-Grid Inverters



Solar monitoring system

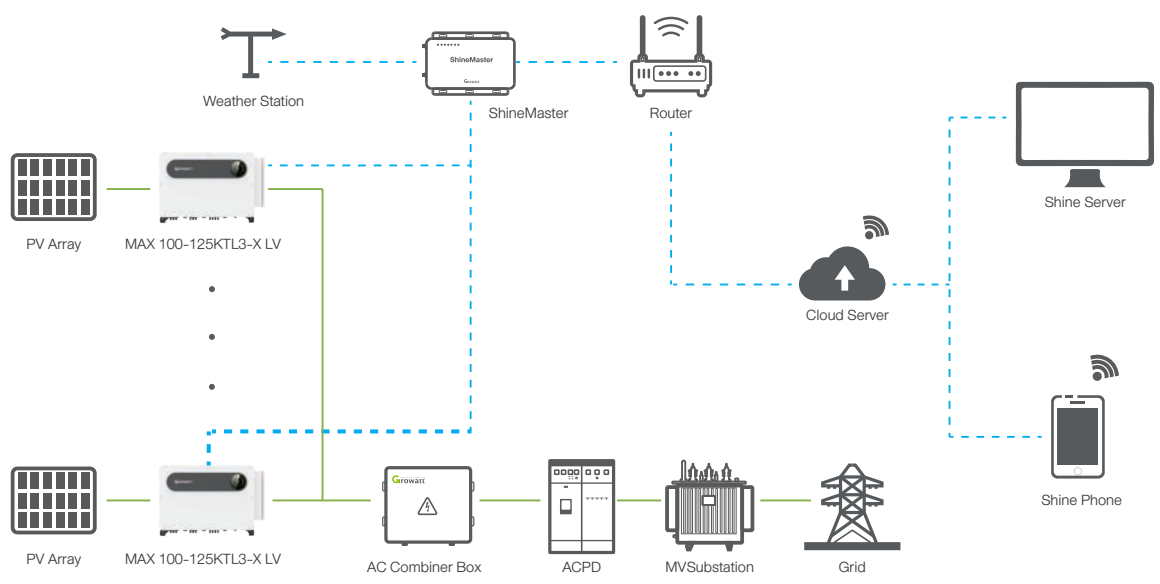
ShinePhone



ShineServer



System Block Diagram



## ENERGY STORAGE SOLUTIONS (RESIDENTIAL ESS, C&I ESS, UTILITY ESS)



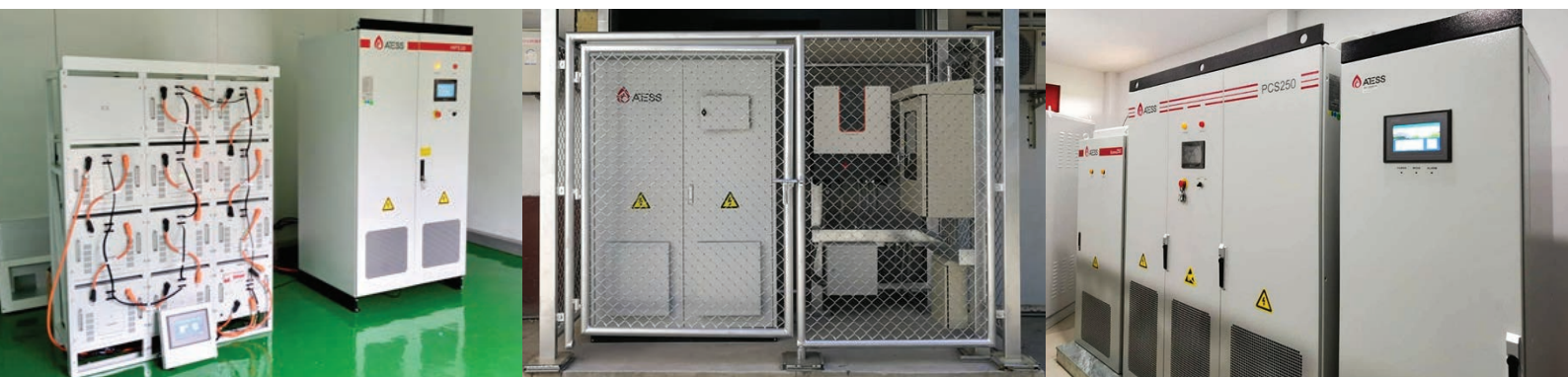
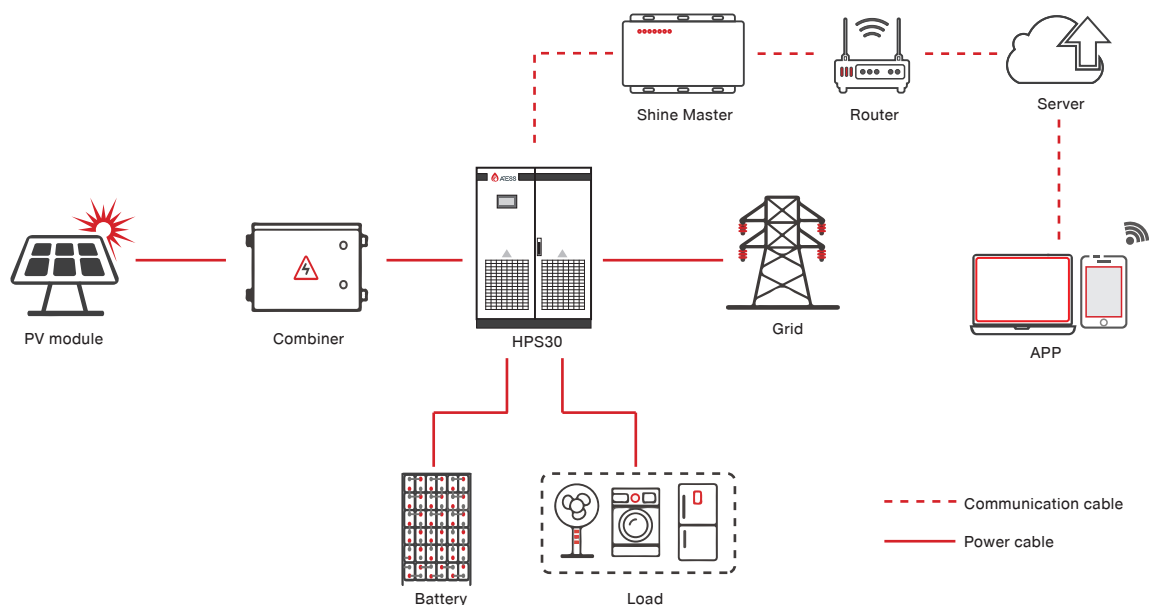
Whether you need a single-phase system or a three-phase system, whether you need a new system or update an old system, we can provide you the right solution. Of course, in order to deal with some special needs, such as use single phase inverter in three-phase system, expand the capacity of the photovoltaic system by adding energy storage or not using the PV only to use the grid to store energy, we can also provide the best solution.

The ATESS solutions include all-in-one hybrid inverters, battery inverters and lithium battery solutions. Inverters range from 5 kW up to 1MW, covering both residential, commercial and utility application scenarios.

### Smart Online Service System (OSS)

Growatt Online Smart Service (OSS in short) system is a smart customer service platform, which can offer a quick support for service, lowering service costs for both Growatt installers and distributors. With the help of Growatt OSS, service engineers almost can handle 60%+ problems by remote configuration and FW updating without on-site service.

### System Block Diagram





**HYBRID INVERTER**  
ATESS HPS

- **All in one hybrid inverter**  
Battery, load, grid, solar connection all supported
- **Programmable working mode**  
Peak-shaving, back-up, use the system however you want it



**BATTERY SOLUTIONS**

PCS250 STATION

- **Cost effective**
- **plug and play**
- **Highly integrated**
- **Easy installation and maintenance**



**SOLAR CHARGE CONTROLLER**

PBD250

- **Flexible Configuration**  
Configured with solar charge controller, bypass cabinet or stand alone
- **Programmable working mode**  
Peak-shaving, back-up, use the system however you want it
- **Scalable**  
Applicable in MW level system by paralleling multiple units
- **Touchscreen LCD**  
More convenient for parameter setting and maintenance
- **Dry contact output**  
Supports remote control of DG



**BATTERY INVERTER**

PCS100/  
250/500/630

- **Flexible Configuration**  
Configured with solar charge controller, bypass cabinet or stand alone
- **Programmable working mode**  
Peak-shaving, back-up, use the system however you want it
- **Scalable**  
Applicable in MW level system by paralleling multiple units
- **Touchscreen LCD**  
More convenient for parameter setting and maintenance
- **Dry contact output**  
Supports remote control of DG



**MONITORING AND ACCESSORIES**

EnerView Mobile phone app available on both IOS and Android to access EnerClo ATESS monitoring cloud platform for different applications including residential, commercial and utility



**BYPASS CABINET**

ATESS bypass cabinet is designed to be used together with bidirectional battery inverter and PV inverter to realize seamless transfer between on and off grid mode automatically

## EV CHARGERS



### Electric Vehicle Supply Equipment (EVSE)

S.T. Control is dedicated to providing the best Electric Vehicle Supply Equipment (EVSE) and services in the industry. We work with you from the design stage through installation, as well as funding assistance, permitting, signage, training, and maintenance after the sale.

For contractor and other installers ST Control EV Charge Solutions also offers complete management services utilizing our controlled access solutions and a dedicated administrative team. We have partnered with leading manufacturers and contractors to provide you with a trouble-free experience.

### Turnkey Charging Infrastructure

S.T. Control EV Charge Solutions provides turnkey charging infrastructure hardware, software, and integration services for each EV charging application, including fleet, public, retail, commercial, and residential.

In addition to providing AC and DC quick chargers, we offer a full range of sustainable charging infrastructure, including solar and BESS and on and off-grid solutions. With our full menu of charging infrastructure, management systems, access control products, and payment options, we can design a custom system to fit your budget and sustainability goals.



### Let us do all the work

Our solutions are designed with you in mind. We handle everything from installation and billing to network management.





## AC CHARGER

INPUT & OUTPUT	ATESS EVA-07S-S	ATESS EVA-22S-P	ATESS EVA-44S
Input voltage	230V AC	400V AC	400V AC
Input frequency	50Hz	50Hz	50Hz
Output voltage	230V AC	400V AC	400V AC
Max. output power	7.3kW	22kW	44kW
Max. output current	32A	32A	63A
Charging interface type	IEC 62196-2, Type 2	IEC 62196-2, Type 2	IEC 62196-2, Type 2
Connection	Plug	Plug	Plug
Cable Length	5m	5m	5m



## DC CHARGING STATION

INPUT & OUTPUT	ATESS EVD-40S	ATESS EVD-60D	ATESS EVD-150D
Input voltage	260~530V AC	260~530V AC	340~460V AC
Rated input voltage	400V AC	400V AC	400V AC
Frequency	50Hz/60Hz	50Hz/60Hz	50Hz±1
DC plug type	CCS Type 2	CCS Type 2(default), CHAdeMO(opt), double plugs	CCS Type 2,double plugs
Output voltage range	150~750V DC	CCS(150~750V), CHAdeMO(150~500V)	200~850V DC
Max. output power	40kW	60kW	150kW
Max. output current	80A	CCS 150A, CHAdeMO 125A	Single connector MAX:200A
Voltage accuracy	<±0.5%	<±0.5%	±0.5%
Current accuracy	≤±1% (at 20%~100% of rated power)	≤±1%(at 20%~100% of rated power)	≥30A:≤±1% ; <30A:≤±0.3A
Voltage-regulating accuracy	≤±0.5%	<±0.5%	±0.5%
Current-regulating accuracy	≤±1%	≤±1%	≤±1%
Ripple coefficient	RMS: ≤±0.5%; Peak: ≤±1%	RMS: ≤±0.5%; Peak: ≤±1%	RMS: ≤±0.5%; Peak: ≤±1%
Metering accuracy	0.50%	0.50%	0.50%
Efficiency	≥95.2%	≥95.2%	≥94%
Cable Length	5m	5m	5m



## DC/AC COMBO CHARGING STATION

INPUT & OUTPUT	ATESS EVC-AC22S/DC60D	ATESS EVC-AC44D/DC150D
Input voltage	260V~530V AC	340~460V AC
Rated input voltage	400V AC	400V AC
Frequency	50Hz/60Hz	50Hz±1
	IEC 62196-2, Type 2, Plug*1(default)	IEC 62196-2, Type 2, double sockets
AC connection	IEC 62196-2, Type 2, Socket*1(opt)	
AC output voltage	400V AC	400V AC
Max. AC output current	32A	32A*2
Max. AC output power	22kW	22kW*2
DC connection	CCS(default), CHAdeMO(opt), double plugs	CCS Type 2,double plugs
DC output voltage	CCS(150~750V), CHAdeMO(150~500V)	200~850V DC
Max. DC output current	CCS 150A, CHAdeMO 125A	Single connector MAX:200A
Max. DC output power	60kW	150kW
Voltage accuracy (DC)	<±0.5%	<±0.5%
Current accuracy (DC)	≤±1% (at 20%-100% of rated power)	≥30A:≤±1% ; <30A:≤±0.3A
Ripple coefficient (DC)	RMS: ≤±0.5% Peak:≤±1%	RMS: ≤±0.5%; Peak: ≤±1%
Metering accuracy	0.50%	0.50%
Efficiency (DC)	≥95.2%	≥94%
Cable Length	5m	5m

## UPS AND SFC SOLUTIONS



### Industrial Power AC & DC UPS

Power protection solutions for Oil & Gas, transportation, power generation and utilities. Industrial projects need reliable and uninterrupted power to secure several mission- critical applications mainly in extreme environments. High quality engineered custom made systems protect plant and the safety of your team. Borri's custom engineered industrial AC and DC UPS's and solutions continuously supply and protect your industrial systems against a full range of power problems, even in hazardous locations. Besides our products we are geared up to provide complete project support and services for a smooth and easy project execution. Borri's industrial power solutions meet the most stringent international standards to guarantee power supply to mission-critical applications in the up, mid and downstream segments of the Oil industry.

### Our Service

Customer's expectation defines Borri's priority from the early analysis of the project requirements to a worldwide commissioning and service. Many thousands of systems have been successfully installed and maintained globally;

with continuous support from a highly trained team of expert, certified technicians and engineers. From the professional set-up of Borri's training centre or on site, the training and service team stand ready to provide support and contribute to tailored training at Borri or on site. You can be assured of Borri support to the highest standards no matter where in the world you are.

- ⦿ Planning, installation, commissioning
- ⦿ Analytical tests
- ⦿ Repair & spare parts
- ⦿ Maintenance
- ⦿ Battery tests
- ⦿ Training
- ⦿ Remote monitoring

### Applications



**Oil & Gas**



**Power generation and water treatment**



**Power transmission & distribution**



**Marine**



**Transportation**



**Chemical, Mining and Metallurgy**



**Process Industry**



**E-Mobility**



## INGENIO MAX

**highest online efficiency in its class for a wide range of high power critical applications.**

Borri range of Static Frequency Converters are designed and built for the harshest conditions and to provide high reliable power supply converting 50 Hz supply to 60 Hz equipment and to different voltages.

Using state-of-the-art IGBT technology with DSP (Digital Signal Processors) controls we convert the input AC power through a IGBT PFC sine-wave rectifier to DC and then to an AC sine-wave IGBT inverter to produce a full sine-wave output at the new frequency and voltage.

### INGENIO MAX technical data

Rating (kVA)	200	250	300	400	500
N Nominal Power (kW)	200	250	300	400	500
UPS dimensions WxDxH (mm)*	880x970x1978			1430x970x1978	
UPS weight (kg)*	530	745	675	1080	1250
Battery configuration	External 360 to 372 cells, VRLA (other options)				



## INGENIO MAX XT

**scalable, flexible and efficient solution for both data centre and critical applications.**

Scalable, high efficiency UPS system supplying reliable uninterrupted quality power to all critical applications. High efficiency operating modes and easy hot maintenance allow for lowest Capex and OpenX. Flexible configuration and positioning make it totally adaptable to your facility and business.

### INGENIO MAX XT technical data

Rating (kVA)	750	900	1000	1200	1250	1500	1800	2100
N Nominal Power (kW)	750	900	1000	1200	1250	1500	1800	2100
N+1 Nominal Power (kW)	500	600	750	900	1000	1200	1500	1800
MPM module size (kW)	250	300	250	300	250	300	300	300
UPS dimensions WxDxH (mm)*	4090x970x2100		4970x970x2100	5370x970x2100	6250x970x2100		7580x1200x2100	8460x1200x2100
UPS weight (kg)*	3150	3300	4000	4250	4900	5200	6400	7300
Battery configuration	External 360 to 372 cells, VRLA (other options)							

## CONNECTING YOU TO THE INTERNET OF THINGS

The Internet of Things is all about connecting devices and harnessing the power of data. The integration of digital and physical systems can fundamentally transform a manufacturing business, improving visibility, increasing efficiency and adding flexibility.



**"The best IIoT (Industrial Internet of Things) solution to easily, securely and efficiently access your machines while enabling information & insights"**

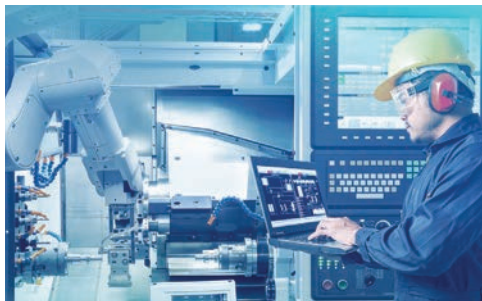


### Ewon gives you easy access to remote connectivity

If you want to easily start the digitalization of your machines or your factory, Ewon's secure remote connectivity solution will help you implement it in a straightforward way, without any IT skill needed. Simply connect an Ewon gateway to your machine's PLC and register it for free to prepare your equipment for IIoT. Installation only takes a few minutes and you can then enjoy the benefits of remote access & monitoring.

### Powerful Solutions for your Organization

#### Advantages:



#### Manage the remote connectivity of your automation equipment

Keep control of your supplier's connectivity, Reduce downtime by providing your external partners with a secure remote access to your automation equipment.

- Speed up issue resolutions
- Improve first time fix rate
- Reduce the impact of emergencies
- Maximize machine uptime
- Control who has access to machine
- Modernize the existing machine fleet

#### Monitor your assets from any device

Equipment monitoring at your fingertips Check on your assets at any time, from anywhere and from any device.

- Monitor and understand machine performance to improve operational efficiency



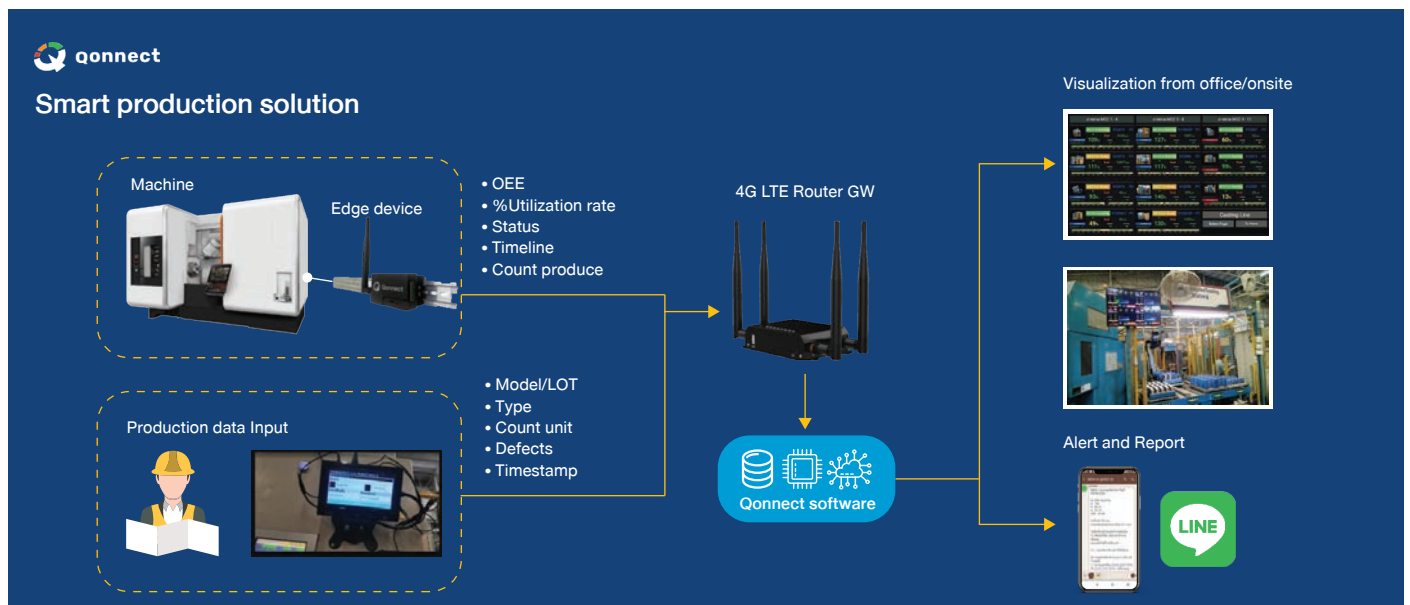
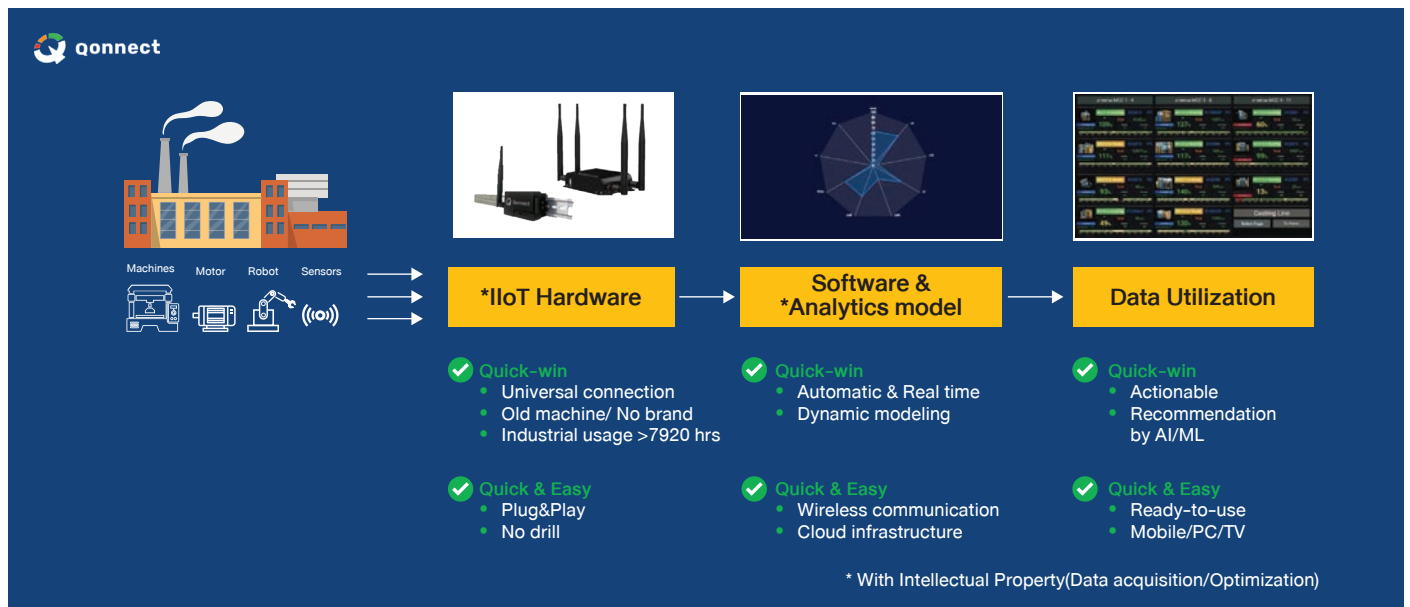
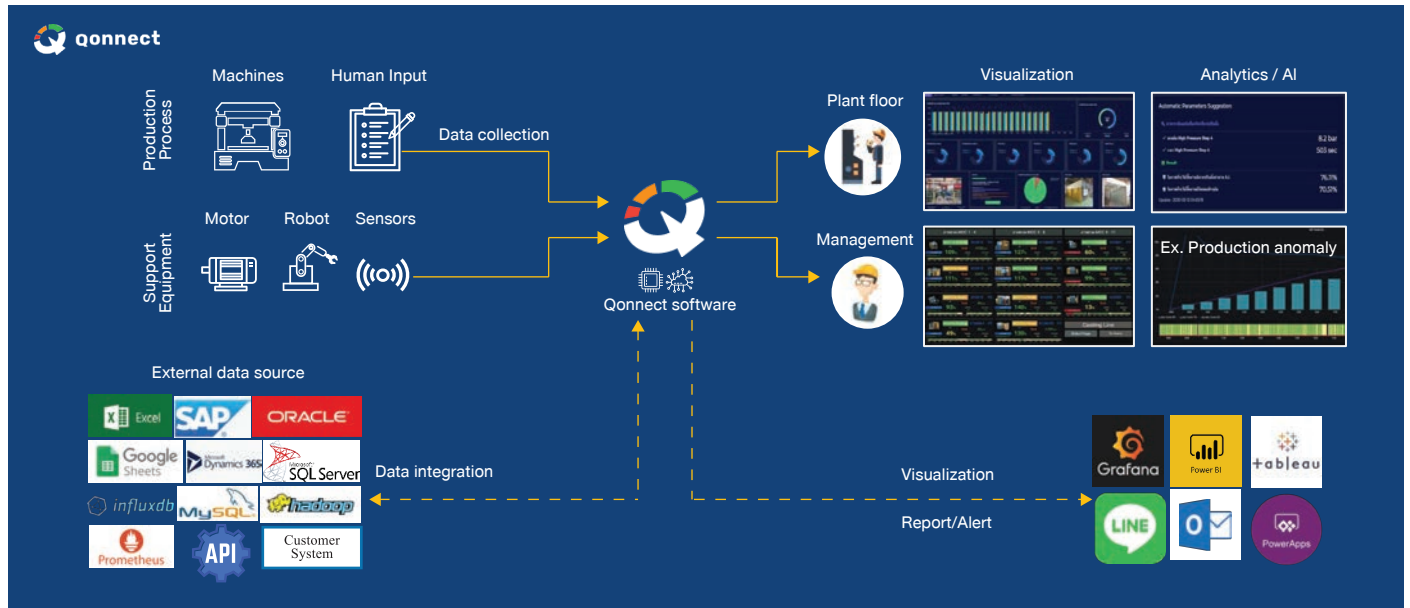
#### Connect PLCs to your factory software using OPC UA

Secure and easy remote connectivity for your factory

- With Ewon's IIoT solution, easily harmonize and manage all connectivity in your factory,
- To achieve a better productivity and greatly reduce your maintenance costs.
- Talk2M, Ewon's leading remote connectivity platform, provides you with the capacity of granting your teams and external partners a secure remote access to your automation equipment

## SMART FACTORY SOLUTIONS

Enable data driven decision making on the plant floor and across the management



## ENGINEERING DESIGN



S.T Control is at the forefront of the escalating solar industry, and is considered a leading consulting company in the renewable energy field providing photovoltaic design and engineering services. No matter how complex or expansive your project is, our team of experts have the management skills required to ensure your project is completed on time and on budget.

Our Field Supervisors & Construction Managers utilize the latest management software and cloud computing for project tracking and reporting to enable real time liaison with the all project team members and decision makers. We take a systematic approach to develop comprehensive engineering solutions for our clients; guiding projects from conception through site acquisition, engineering & construction.

We focus on collaboration and communication throughout the process to achieve mutual success for our clients and our firm.

### A Full Service Engineering Solutions Provider

#### Our Services

- Conceptual Design and Feasibility
- Energy Usage Analyses
- Energy Production Estimates
- PV Design & Layout
- Request for Proposal (RFP) Preparation
- Electrical Engineering
- Project Engineering-Investigation, Analysis & Design
- CAD Drafting
- Construction Administration
- Project Management
- Civil & Environmental Engineering
- Commissioning Support
- Independent Engineer Review
- Permitting & Applications



#### Our Mission

We are committed to achieving the mutual success of our clients, vendors, and staff through engineering excellence, responsiveness, and organized systems.



## PREVENTIVE MAINTENANCE SOLUTIONS



Our job really starts once your system is installed and commissioned. From routine PME to media replacement or system upgrades and retrofits, Our team of technicians is ready to keep your system up to specifications and functioning properly. Our service team and international partners are trained to troubleshoot, maintain and repair our systems and those by other OEMs, whether it be a mechanical, structural, controls, instrumentation or programming issue.

Our technicians can handle this task quickly and efficiently, either on-site or at one of our local service centres. Each of our service locations is fully equipped with state-of-the-art calibration and testing equipment to help you up and running.

### Repair & Troubleshooting

From technological clearance to continuing activities and system upgrades, our resources will help you optimize the lifetime benefit of your system. Our technicians may inspect the system, find areas for improvement, and perform any necessary maintenance. We'd be glad to help if you need some technical information or are having trouble with your setup. We will assist you in troubleshooting a problem or serve as a liaison between you and the vendor if you have a warranty question.

### Types of Maintenance

A solar PV system, like any other power plant, necessitates the following forms of maintenance.

#### Preventive Maintenance (PM)

is the routine inspection and servicing of machinery that aids in the prevention of breakdowns and the reduction of energy yield losses. PM is normally a pre-planned operation.

#### Corrective Maintenance (CM) or Failure Maintenance (BM)

is normally reactive and involves the replacement of broken down machinery.

#### Condition-Based Monitoring (CBM)

entails real-time monitoring of system condition and system activity and addressing possible problems at an early stage to avoid downtime. This necessitates the use of a reliable plant output management device.



### Benefits working with ST Control

Our growth and success have been a result of our decades of experience and total commitment to supporting our customers.

#### Peak performance with preventive maintenance

Pre-planned, periodic maintenance provides cost control with complete trust that your equipment is achieving:

- Consistent, accurate results
- Extended equipment life
- Safe and reliable operation
- The best performance possible

#### Equipment reliability you can depend on

Our service provides you with periodic, preventive maintenance, including activities required to ensure continuously accurate and reliable operation, such as:

- Inspection and cleaning
- Testing and adjustment
- Documenting equipment condition
- Improvement recommendations



*Your Partner in Factory Solutions*

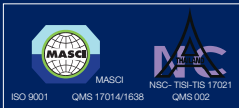
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