ORIGIN

Industrial automation & production line solutions

www.origin-es.com

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ABOUT US

ORIGIN

ORIGIN Group :

Origin was established in 2017,specialises in industrial solutions.
We are an engineering firm that develops, desigs, sources and installs engineering systems & solutions .we supply worldwide premium brands to ensure sustainable productivity, high quality and reliability.

Our Vision :

Our Vision is to be a brand for the design and implementation of innovative engineering solutions that offer the best performance at the lowest cost.

Our Mission :

Providing a better solution, we continuously strive to improve quality and productivity of all customers by introducing the right solutions with an optimum combination of customer needs, well-trained staff, and new fit technology.

HARDWARE

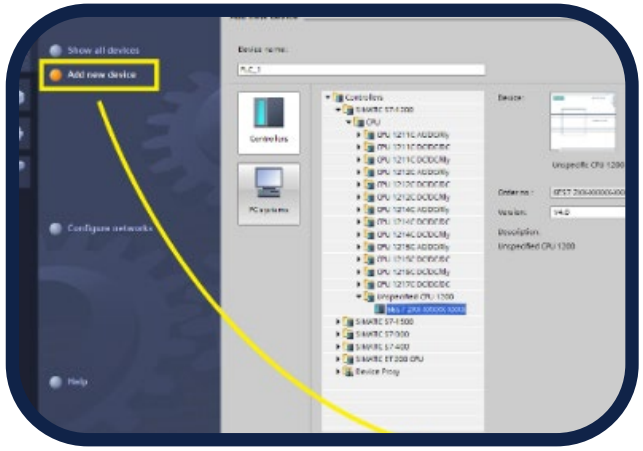
ORIGIN

Industrial automation solutions (Hardware) :

1. Hardware configuration and BOM

- Hardware configuration is the system resource settings assigned to a particular device.

- According to IBM, hardware configuration allows you to define I/O (input/output) configurations for both the software and hardware from a single, interactive surface.



Industrial automation solutions (Hardware) :

2. Design cabinet layout and component sizing

- The best source for industrial control panel manufacturing is one with a dedicated facility, team, and equipment, Our purpose-built team of panel assemblers can build-to-print or recommend improvements to your design.

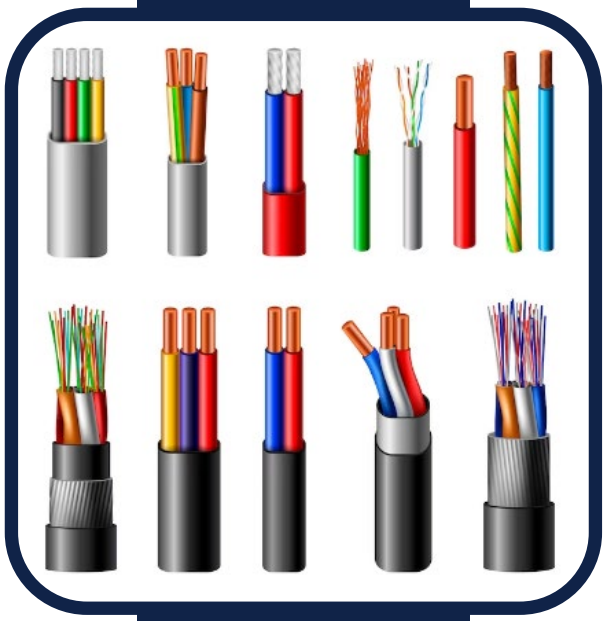
- We can build a few control panel prototypes or supplies hundred of plug-and-play assemblies every month.

Industrial automation solutions (Hardware) :

3. Terminals and Cable sizing

- Cable sizing is fairly simple; it is a function of the W to the appliance, and the current (amperage) that will flow through it.

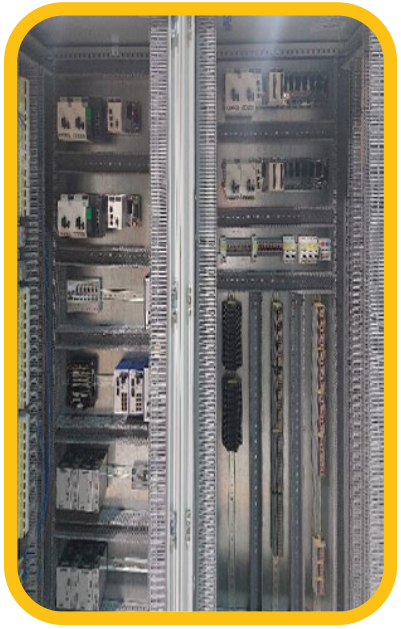
- The longer the cable, or the higher the amperage, the bigger the cable must be to avoid unacceptable voltage losses.



Industrial automation solutions (Hardware) :

4. Panel builder :

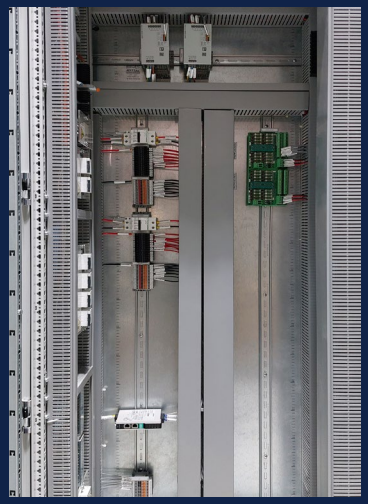
- PLC integration cabinets using Modicon PLC.



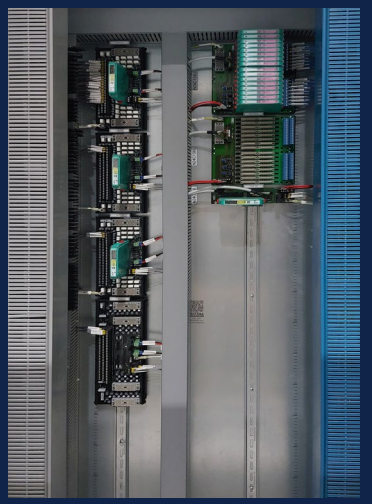
Industrial automation solutions (Hardware) :

4. Panel builder :

- Emergency Shutdown (ESD) integration cabinets using Triconx PLC.



ESD (Front)



ESD (Rear)

Industrial automation solutions (Hardware) :

4. Panel builder :

- DCS integration cabinets (marshalling).

Industrial automation solutions (Hardware) :

4. Panel builder :

- DCS integration cabinets (system).

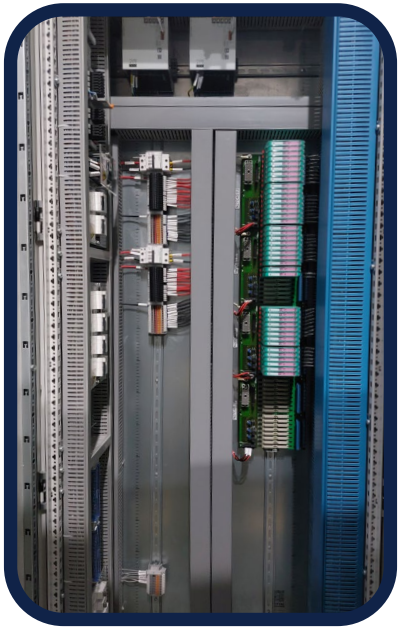
DCS (Front)

DCS (Rear)

Industrial Automation Solutions (Hardware) :

4. Panel builder :

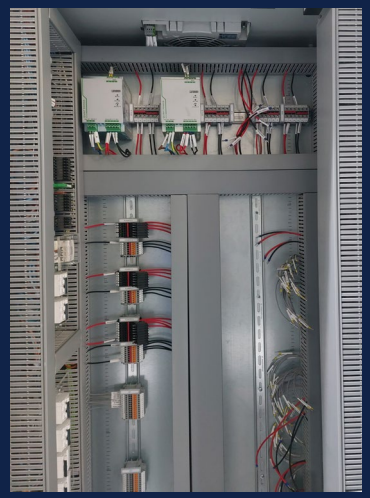
- Fire Gas System (FGS) cabinet integration.



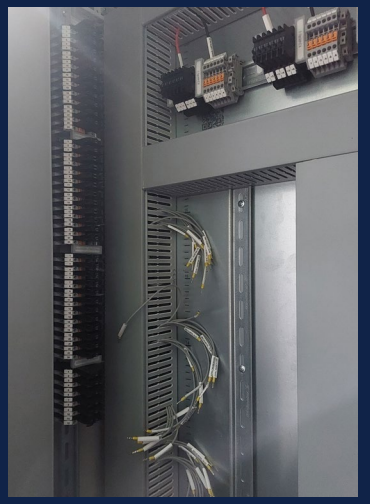
Industrial Automation Solutions (Hardware) :

4. Panel builder :

- Power Distribution Panel (PDP) Cabinet integration.



PDP (Front)



PDP (Rear)

Industrial Automation Solutions (Hardware) :

4. Panel builder :

- Interposing Relay Panel (IRP) cabinet integration.

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Industrial automation solutions(Hardware) :

4. Panel builder :

- Server integration cabinets.

Industrial automation solutions (Hardware) :

4. Panel builder :

- Communication integration cabinets.

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Industrial Automation Solutions (Hardware) :

4. panel builder :

- Control integration cabinets.

Industrial automation solutions (Hardware) :

5. Test procedure FAT & SAT :

What is FAT ?

PRE-FAT checks data sheets user manual spare parts list as-built drawings callibration weld checks component inspection slope and dimensions material of construction functional tests certificates punch list.

What is SAT ?

Onsite installation component inspection P& ID , flow diagrams utility verification interlock verification functional tests safety device check systems I/O process controls automation verification monitoring devices operator training punch list startup procedure SAT.


SOFTWARE

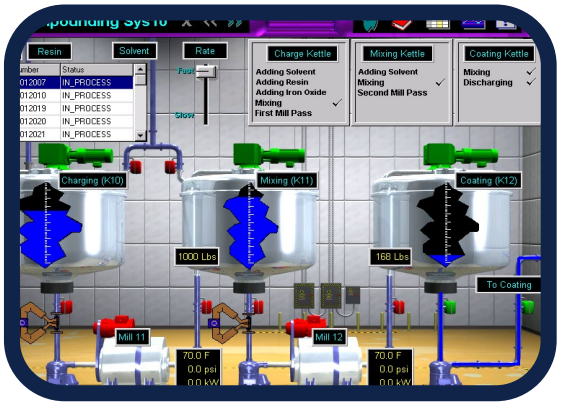
Industrial automation solutions (Software) :

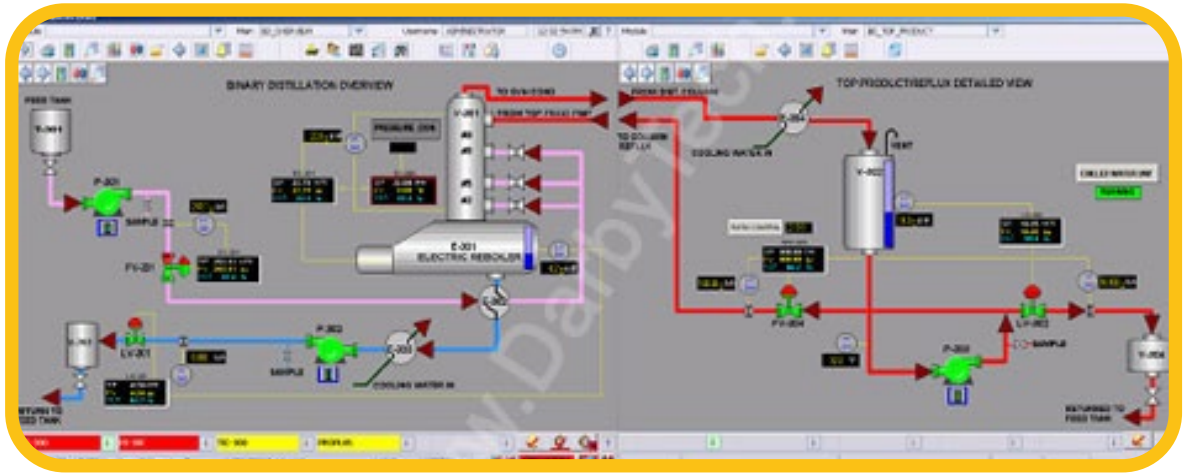
1. Power & Control Application using PLC :

- Many automation systems have been installed by Origin in numerous process industrial units.
- These well-known Process Control Systems manufacturers DCS, PLC, and SCADA systems have been fully developed, programmed, FAT tested, and operationalized by our talented automation engineers.
- partnerships with companies including Mitsubishi, Schneider, Siemens, and ABB.

Industrial automation solutions (Software) :

2. HMI & SCADA system applications :





Industrial automation solutions : (Software) :

3.Instruments calibration & commissioning

- Origin has a wealth of experience in the instrumentation field, which includes installation, testing, calibration, loop checking, and commissioning of the entire system, as well as the provision of primary sensor, field transmitter, controller, indicator, ducts, trays, cables, etc. for carrying out full control and instrumentation works.

Industrial automation solutions : (Software) :

4. Motors & VFD applications :

- We at Origin are your go-to experts for controlling AC and DC motors. We work with some of the best, highest-quality D/C and A/C variable frequency drivers.

- We have created full-featured drives for your simple, low-cost sub-fractional applications that require complex machine control.

BMS AND LIGHT CURRENT SOLUTIONS

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BMS and Light Current Solutions :

1. Instrumentation installation and calibration.

There are many measuring devices used in BMS applications, where the devices are divided into :

- Pressure transmitter.
- Flow transmitter.
- Transmitter level.
- Temperature transmitter.
- Energy meter.
- Smoke detector.
- Analyser transmitter.

BMS and Light Current Solutions :

2. Control operations by using direct digital controller.

- The automated control of a process using computers and microprocessors equipped with sensors is referred to as DDC.

- Building owners have more control over their mechanical and electrical systems thanks to direct digital control systems. The trending analysis tool is also included in the most recent systems. DDC features are different from one vendor to another.

- Schneider, ABB, and Siemens are the common brands using different DDC series in building management system applications.

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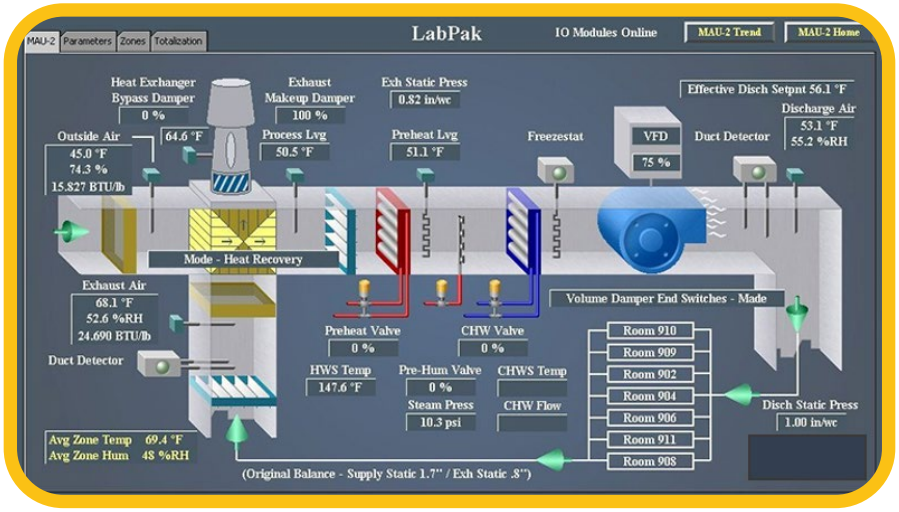
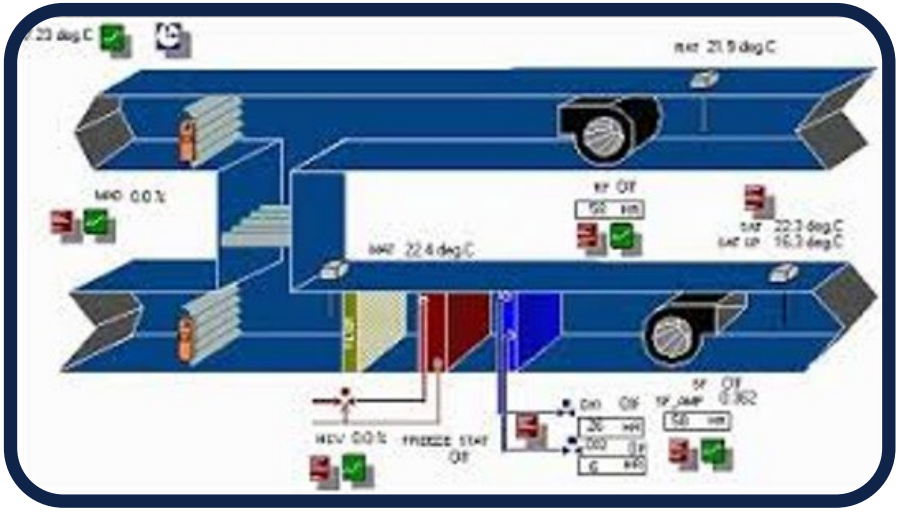
BMS and Light Current Solutions :

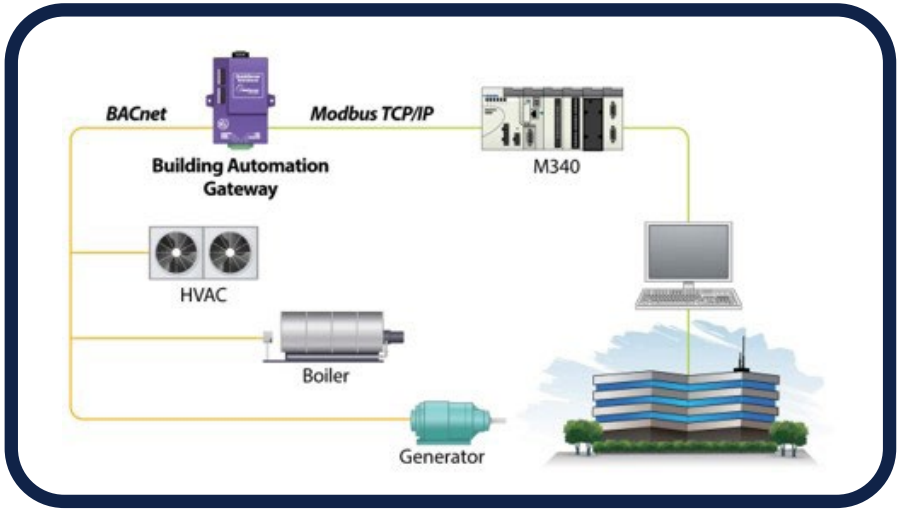
3. Monitoring all applications by using SCADA system.

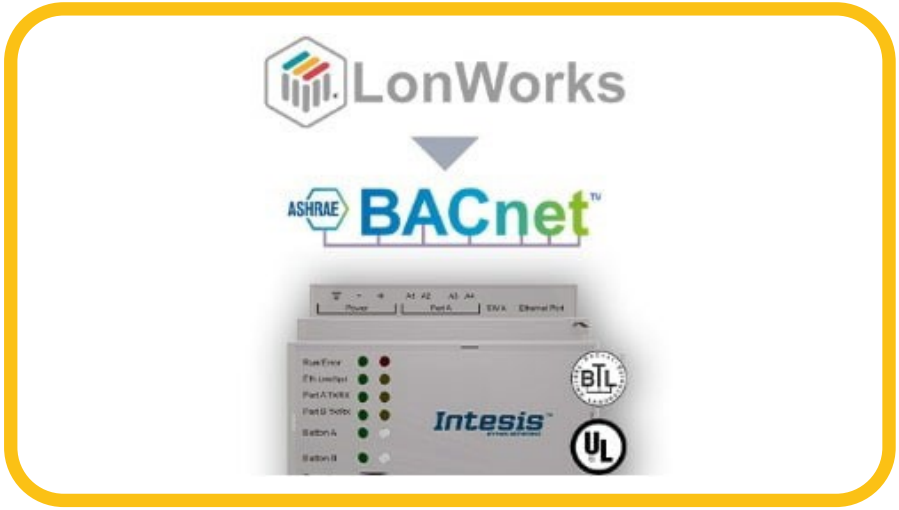




BMS and Light Current Solutions :

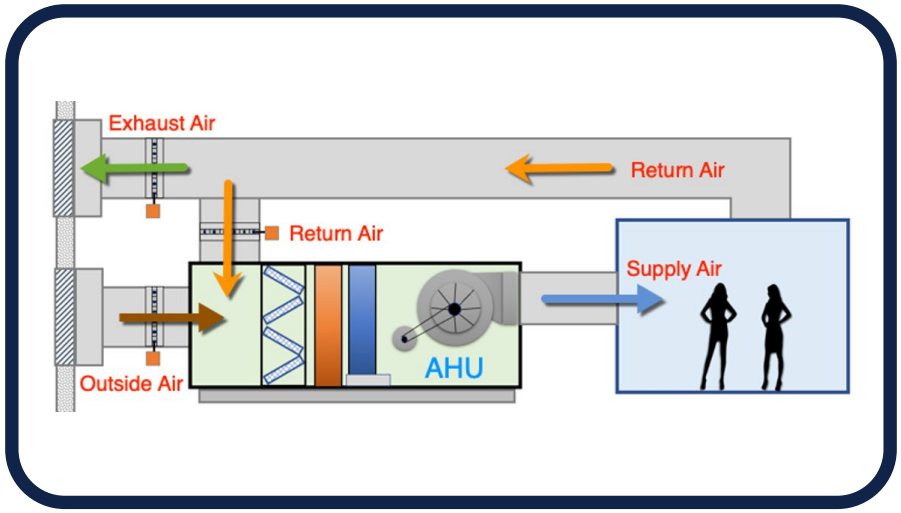
4. Establish I/Os network by using Modbus ,LonWorks ,BACnet and Ethernet.

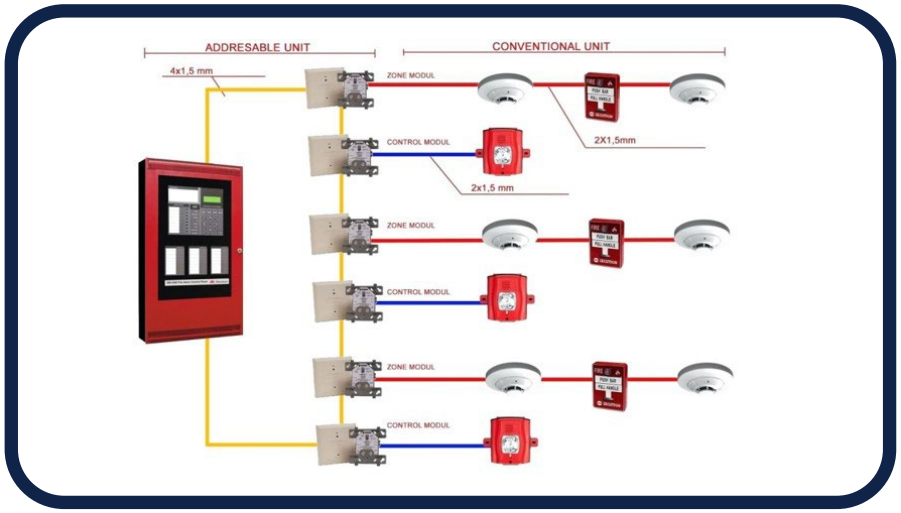




BMS and Light Current Solutions :

5. Applications such as Lighting , fire alarm ,HVAC, AHU, Exhaust fan and security.





PRODUCTION LINE SOLUTIONS

Production lines solutions (Software) :

1. Design and control assembly line :

- We at Origin are your go-to experts for designing and controlling production lines like rotating table lines, automatic material handling lines, assembly lines, and testing lines.

Production lines Solutions (Software) :

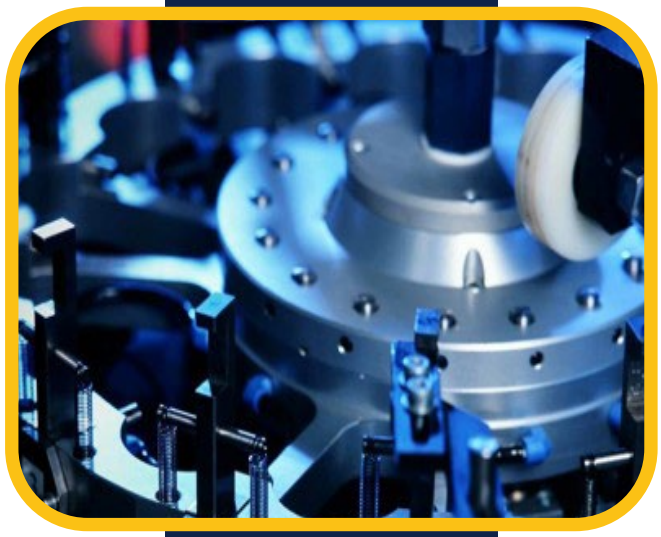
2. Automatic Material handling lines :

- We at Origin are your go-to experts for controlling AC and DC motors. We work with some of the best, highest-quality D/C and A/C variable frequency drivers.

Production lines solutions (Software) :

3. Rotating table machines :

- We at Origin are your go-to experts for designing and controlling production lines like rotating table lines, automatic material handling lines, assembly lines, and testing lines.



Spare parts supplier :

1. Mechanical equipments :

- Pistons.
- Valves.
- Pumps.
- compressors.
- Motors.

ORIGIN

Spare parts supplier :

2. Electrical equipments :

- Sensors.
- Transmitters.
- Controllers (PLC).
- HMI.
- UPS.
- Transformers.

OUR PROJECTS

ZOHR DEVELOPMENT PROJECT :

ZOHR ONSHORE - PHASE 01 :

1. Oil & Gas :

- **Description :**
- ZOHR project is one of the standard oil & gas fields in Egypt,It is divided into two branches offshore and in-shore.
- **Our scope :**

1. Revise electrical drawing power & signal.
2. Prepare BOM for the required items.
3. Cable sizing.
4. Panel integration.
5. Testing and validation (Power - continuity).
6. Software testing (I/O`s check).

El-GAMIL ESD Upgrading Project :

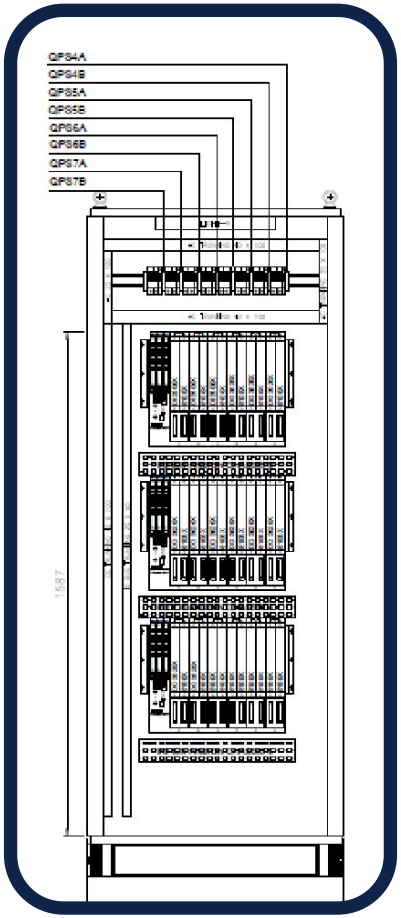
1. Oil & Gas :

- **Description :**

- EL-GAMIL project is one of the standard ESD upgrading projects in Egypt. It is divided into two branches Marshalling and system cabinets.

- **Our scope :**

1. Revise electrical drawing power & signal.
2. Prepare BOM for the required items.
3. Cable sizing.
4. Panel integration.
5. Testing and validation (Power - continuity).
6. Software testing (I/O`s check).



Assiut Hydrocracking Complex: Tank Farm & Waste Water ICSS (ANOPC) Project :

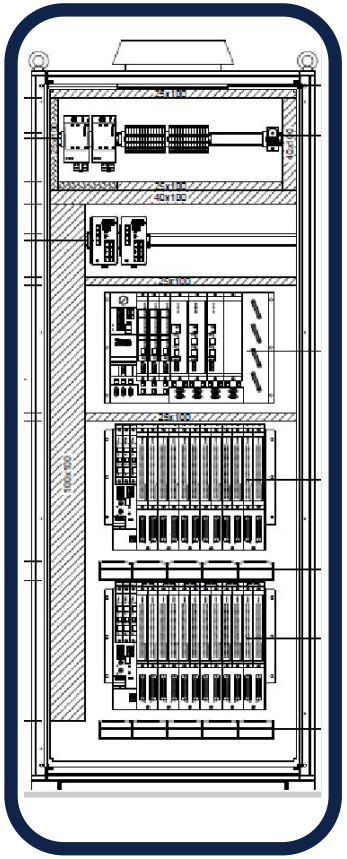
1. Oil & Gas :

- **Description :**

- The ANOPC project is one of the complex tank farm and wastewater projects. It is divided into two branches: Marshalling and System/Cabinets.

- **Our scope :**

1. Revise electrical drawing power & signal.
2. Prepare BOM for the required items.
3. Cable sizing.
4. Panel integration.
5. Testing and validation (Power - continuity).
6. Software testing (I/O`s check).



Schneider Electric
Schneider Electric Systems Egypt
ANOPC
ETROJET

Tengizchevroil (TCO) project:

1. Oil & gas :

- **Description :**

- The TCO KTL Switchgear Upgrade in Kazakhstan modernizes systems to boost efficiency in oil and gas operations, enhanc ing power distribution and water management.

- **Our scope :**

1. Create electrical drawing power & signal.
2. PLC programming and modification using modicon M241.
3. Cable sizing.
4. Panel integration.
5. Testing and validation.
6. Software testing (I/O`s check).
7. FAT with customer.

SonelGas project :

1. Oil & gas :

- **Description :**
- Our goal is to mass produce Junction boxes for a large-scale project in Algeria, involving over 5,000 RTU cabinets, to meet high demand and ensure efficient delivery and installation.
- **Our scope :**

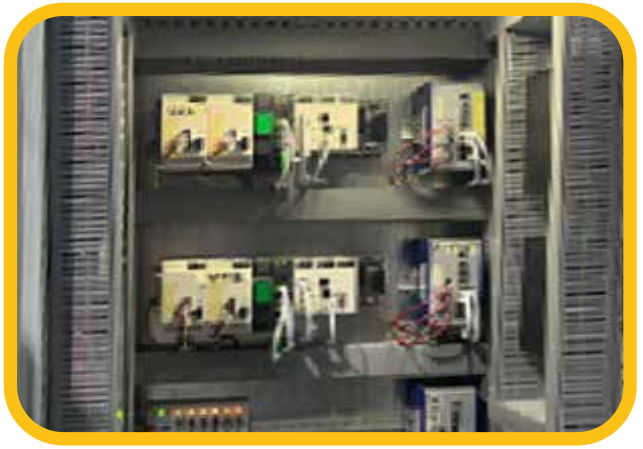
1. Create electrical drawing power & signal.
2. Prepare BOM for the required items.
3. Cable sizing.
4. Panel integration.

Baraka project :

2. Water treatment :

- **Description :**
- Baraka project is one of the standard RO Desalination plant in Oman,it includes Modi-con controller.
- **Our scope :**

1. Create electrical drawing power & signal.
2. PLC programming and modification using Modicon M580.
3. Cable sizing.
4. Panel integration.
5. PLC & Scada system programming.
6. Software testing (I/O's check).
7. FAT with customer.



UGDC project :

2. Water treatment :

- **Description :**
- Upgrade DCS Foxboro system: transform power distribution processor cabinet to enhance efficiency and performance in industrial control systems.

- **Our scope :**

1. Create electrical drawing power & signal.
2. PLC programming and modification using Modicon M580.
3. Cable sizing.
4. Panel integration.
5. PLC & Scada system programming.

CPS-09 project :

2. Water treatment :

- **Description :**
- The CPS-09 400V E-House Substation is a modular, pre-fabricated unit designed for safe and efficient power distribution and control in industrial environments.

- **Our scope :**

1. Create electrical drawing power & signal.
2. PLC programming and modification using Modicon M580.
3. Cable sizing.
4. Panel integration.
5. PLC & Scada system programming.

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RO-Unit project :

2. Water treatment :

- **Description :**
- Control RO unit (water treatment station) to ensure the specs of the water which be included in the medicine industry. So, the water must have accurate specifications.

- **Our scope :**

1. Create electrical drawing power & signal.
2. PLC programming and modification using Mitsubishi.
3. HMI (Schneider) and SCADA software using AVEVA Edge 1500 tag
4. Panel integration.
5. Testing and validation (FAT & SAT).

Develop production line project :

3. Factories :

- **Description :**

- The cement production line in Egypt uses PLC, HMI, and motor control in three steps: raw material, patch mixing, and cement bricks.

- **Our scope :**

1. Create electrical drawing power & signal.
2. Prepare BOM for the required items.
3. Panel integration.
4. Software application for PLC (Siemen – S7400).
5. Software application for SCADA (Intouch).
6. Software testing and validation .

Overhead Conveyor project :

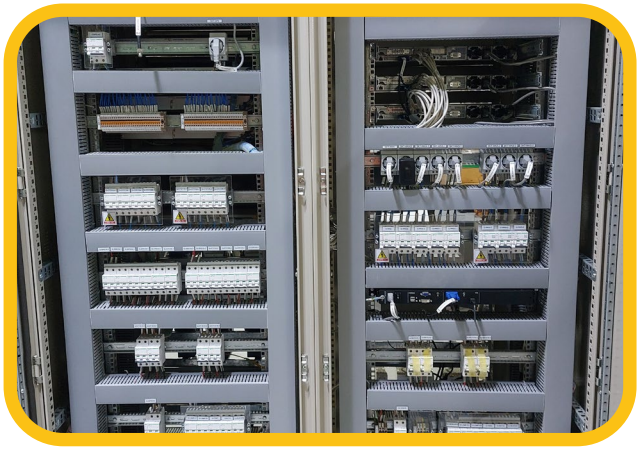
3. Factories :

- **Description :**

- Control the 3 km factory overhead conveyor with sensors, scanners, HMI, PLC, and SCA-DA systems for efficient operation.

- **Our scope :**

1. Create electrical drawing power & signal.
2. Panel integration.
3. Software application for PLC (Schneider – Mod-icon - M221) & HMI Schneider.
4. Software for SCADA (Siemens WinCC flexible 2008–3000 tag).
5. Software testing and validation.



Ice-cream production line project :

3. Factories :

- **Description :**

- Control Nestlé’s new ice cream production line with patch control, allowing flavor monitoring and adjustments via the HMI.

- **Our scope :**

1. Panel integration.
2. Software application for PLC (Siemens S7400 & HMI Schneider).
3. Software for SCADA (Aviva edge–3000tag)
4. Software testing and validation.

Sugar Factory project :

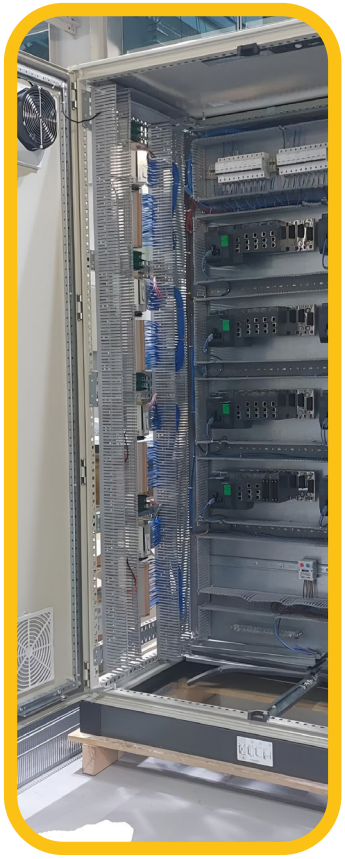
3. Factories :

- **Description :**

- Replace the Schneider system with ABB using ABB Control Builder software and SCADA system for improved control and monitoring.

- **Our scope :**

1. Change Schneider material to ABB.
2. Components.
3. Replace Schneider software to ABB software by using control builder.
4. Testing and validation the system.



Petroleum Building system project :

4. BMS :

- **Description :**

- Automate HVAC, lighting, and safety systems with sensors, centralized BMS, cloud control, and renewable energy for efficiency.

- **Our scope :**

1. Automated HVAC and sensors.
2. Centralized BMS for control and surveillance.
3. Cloud-based BMS for remote adjustments.
4. 24/7 support and automated fire alarms.

City gate Irrigation system – Water treatment project :

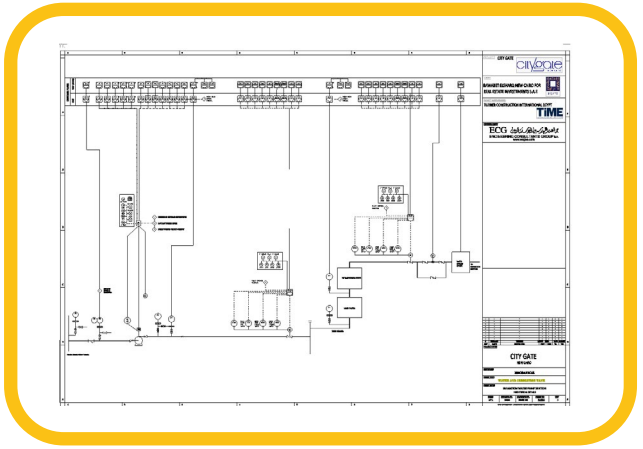
4. BMS :

- **Description :**

- Automate HVAC, lighting, and safety systems with sensors, centralized BMS, cloud control, and renewable energy for efficiency.

- **Our scope :**

1. Automated HVAC and sensors.
2. Centralized BMS for control and surveillance.
3. Cloud-based BMS for remote adjustments.
4. 24/7 support and automated fire alarms.



HVAC & Fire Alarm system project :

4. BMS :

- **Description :**

- Automate HVAC, lighting, and safety systems with sensors, centralized BMS, cloud control, and renewable energy for efficiency.

- **Our scope :**

1. Automated HVAC and sensors.
2. Centralized BMS for control and surveillance.
3. Cloud-based BMS for remote adjustments.
4. 24/7 support and automated fire alarms.

Smart Building at SonelGas project :

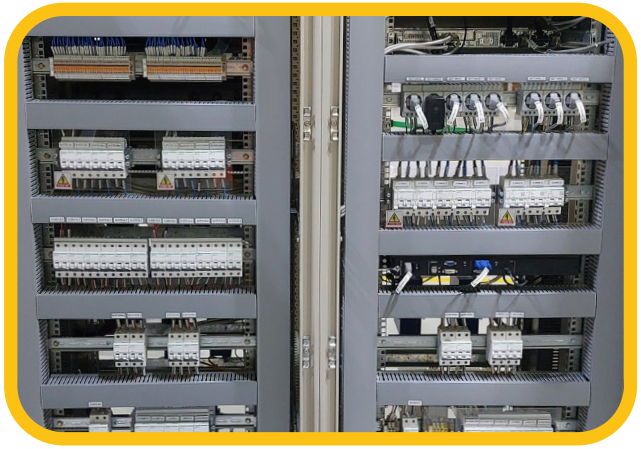
4. BMS :

- **Description :**

- Automate HVAC, lighting, and safety systems with sensors, centralized BMS, cloud control, and renewable energy for efficiency.

- **Our scope :**

1. Automated HVAC and sensors.
2. Centralized BMS for control and surveillance.
3. Cloud-based BMS for remote adjustments.
4. 24/7 support and automated fire alarms.



Different projects

SCADA System in FAT

APS Material installation

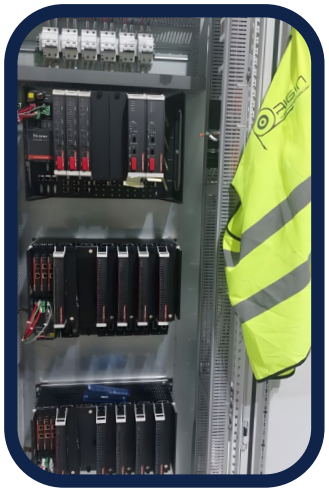
One day before FAT

I/O Test check

At the end of Baraka project

Different projects



Origin engineers and technicians in different sites

Different projects

Hardware and software FAT

Our Contributors

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ORIGIN

Origin Electric Company specializes in Panel integration and provides control and monitor software by using PLC, HMI, and SCADA systems in different fields such as oil , gas, BMS , and water treatment.