

CONTROL AND AUTOMATION

OUR INDUSTRIAL AUTOMATION SERVICES:

We offer wide range and essential Industrial Automation Engineering Services for various systems like PLC, DCS, HMI, SCADA, Safety, Drives, etc.

We have Independent Engineering Service ability across Siemens, Rockwell Automation, ABB, Schneider Electric etc.

- PLC-Programmable Logic Controller
- HMI-Human Machine Interface
- SCADA-Supervisory Control and Data Acquisition
- DCS-Distributed Control System
- Variable Frequency Drives / Variable Sequence Drives
- Internet of Things(IOT) Modules

PRODUCTS:

1. PLC-PROGRAMMABLE LOGIC CONTROLLER:

We work with major OEM like Allen Bradley, SIEMENS, ABB, & Schneider.

International Standards IEC 61131 deals with basic software architecture and programming languages of the control program within PLC. It defines three graphical and two textual programming language standards:

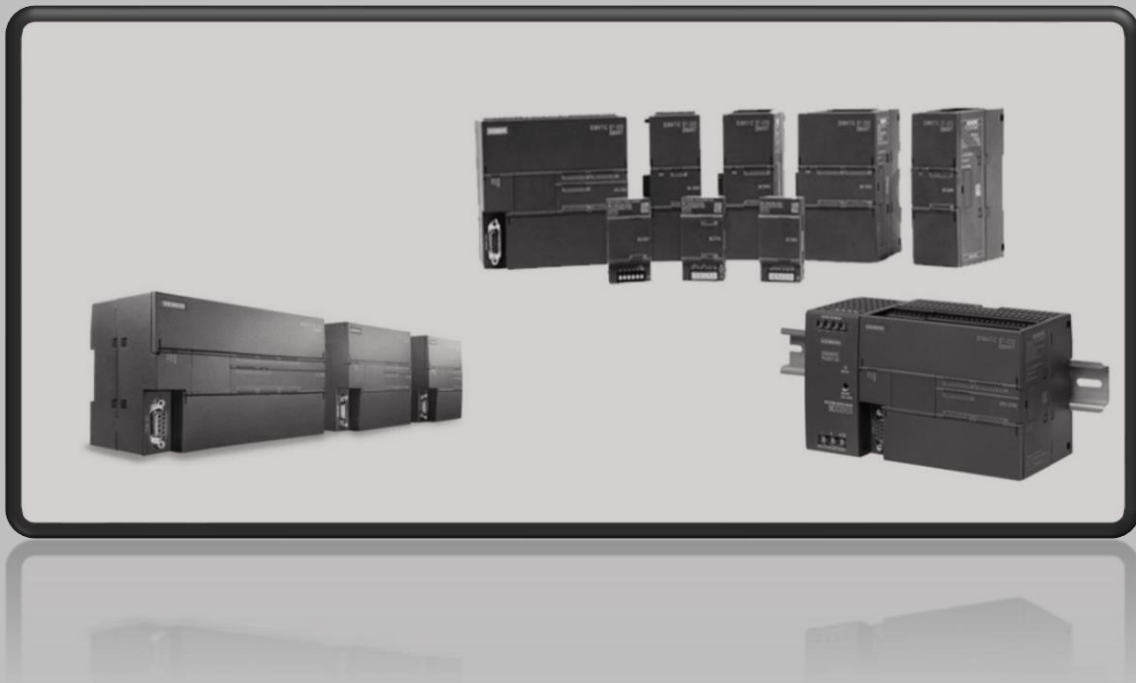
- Function block diagram (FBD), graphical
- Structured text (ST), textual
- Instruction list (IL), textual
- Sequential function chart (SFC), has elements to organize programs for sequential and parallel control processing, graphical.

1.1. SIEMENS:

- S7-200 smart
- S7-1200
- S7-300
- S7-400/400H/400F/H
- SIMATIC-ET-200

1.1.1. ITEM CODE: S7-200 SMART

SIMATIC S7-200 SMART PLC is designed to suit the needs of developing markets that have higher pressures of price and demands on performance. Providing an excellent performance-to-price ratio, SIMATIC S7-200 SMART PLC when combined with other SMART drive products from Siemens helps in building extremely cost effective efficient automation solutions.



1.1.2. ITEM CODE: S7-1200

SIMATIC S7-1200 Basic Controllers are the ideal choice when it comes to flexibly and efficiently performing automation tasks in the lower to medium performance range. They feature a comprehensive range of technological functions and integrated I/Os as well as an especially compact and space-saving design.



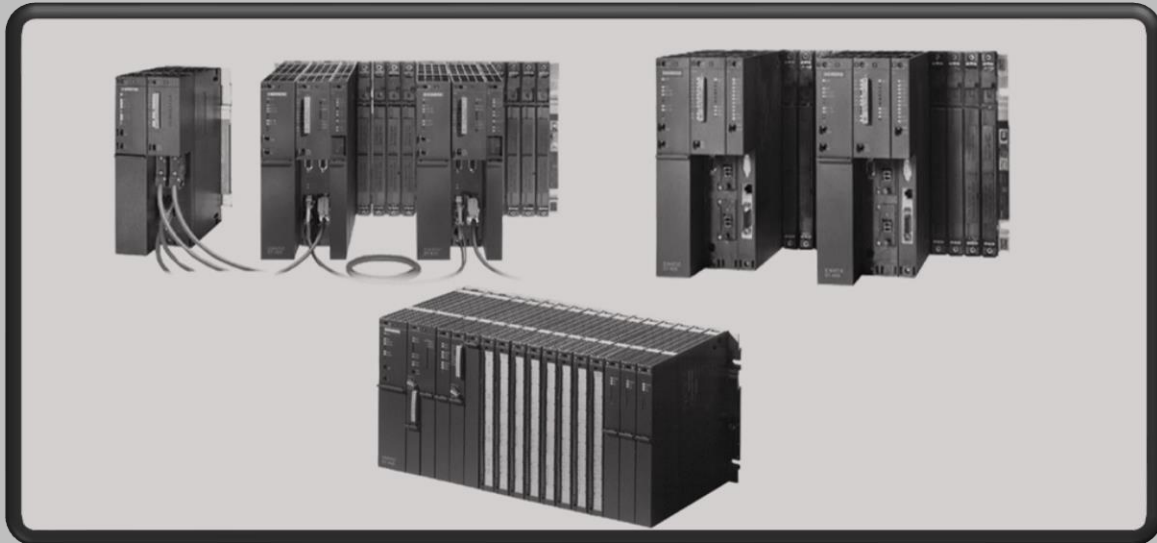
1.1.3. ITEM CODE: S7-300

The SIMATIC S7-300 is used in many applications worldwide and has been proven successful millions of times. The SIMATIC S7-300 universal Controllers saves on installation space and features a modular design. A wide range of modules can be used to expand the system centrally or to create decentralized structures according to the task at hand.



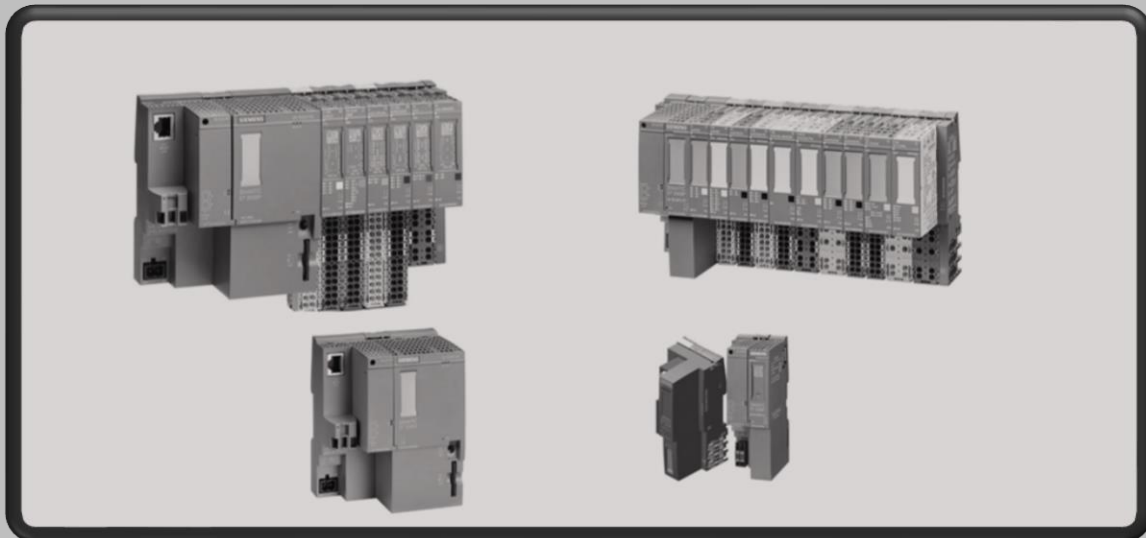
1.1.4. ITEM CODE: S7-400

Part of the SIMATIC process controller series, the S7-400 has been designed for system solutions in the fields of manufacturing and process automation. This process controller is ideal for data-intensive tasks that are especially typical for the process industry.



1.1.5. ITEM CODE: SIMATIC-ET-200

The innovative I/O system SIMATIC ET 200SP convinces through maximum usability, particularly compact design, and impressive performance. Thanks to our constant exchange with users from all over the world and all sectors.



1.1.6. SIEMENS PLC ENGINEERING SOFTWARES

- LOGO! Soft Comfort
- STEP7 – Micro/Win Smart
- Total Integrated Automation Portal (TIA V14, TIA 15, TIA 15.1)
- STEP7 – Simatic Manager

1.2. ALLEN BRADLEY:

- Large Control Systems - ControlLogix 5580/5570 Controllers
- Small Control Systems - CompactLogix 5480/5370/1769 -L3x Controllers, SmartGuard 600 Safety Controllers with Safety, SLC 500 Controllers
- Micro Control Systems – Micro 870/850/830/820/810/800 Programmable Logic Controller Systems, MicroLogix 1400/1200/1100 Programmable Logic Controller Systems

1.2.1. ITEM CODE: CONTROLLOGIX 5580/5570

The ControlLogix and GuardLogix 5580 family of controllers use the Studio 5000 design environment as the standard framework that optimizes productivity, reducing time to commission.



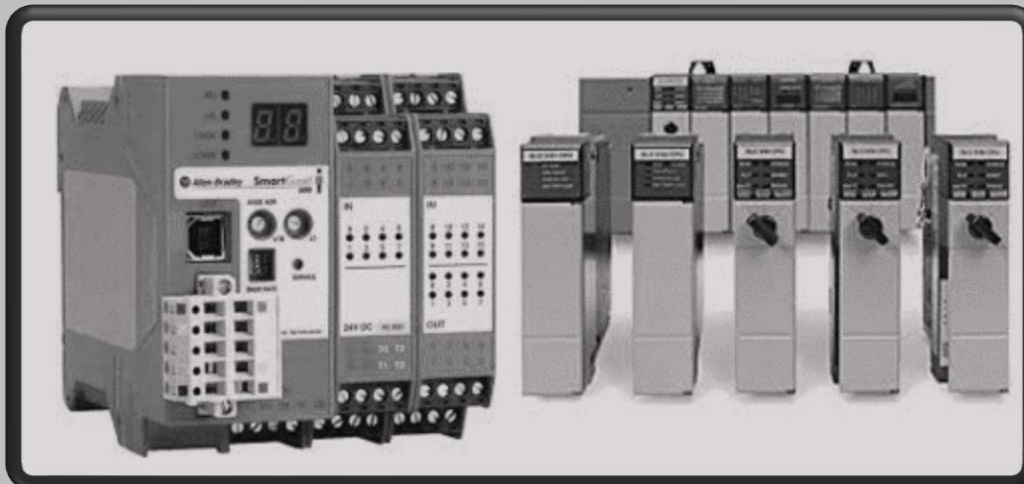
1.2.2. ITEM CODE: COMPACTLOGIX 5480/5370/1769 -L3x

CompactLogix 5480/5370/1769 – L3x Controllers are part of the Integrated Architecture system. These controllers include integrated safety, and use the same programming software, network protocol, and information capabilities as all Logix controllers.



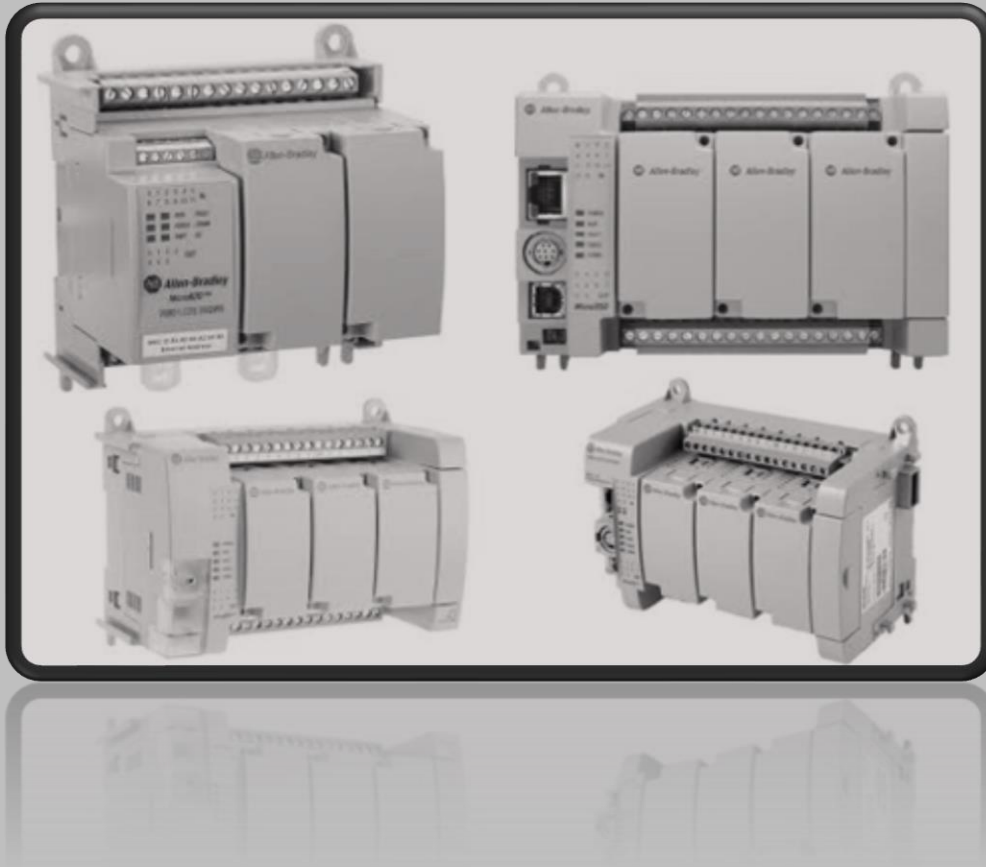
1.2.3. ITEM CODE: SMARTGUARD 600/SLC 500

1752 SmartGuard 600 Controllers with Safety feature 16 safety-rated inputs, 8 safety-rated outputs, 4 pulse test sources and an optional EtherNet/IP port. Each controller also includes a DeviceNet connection to support both standard CIP and CIP safety.



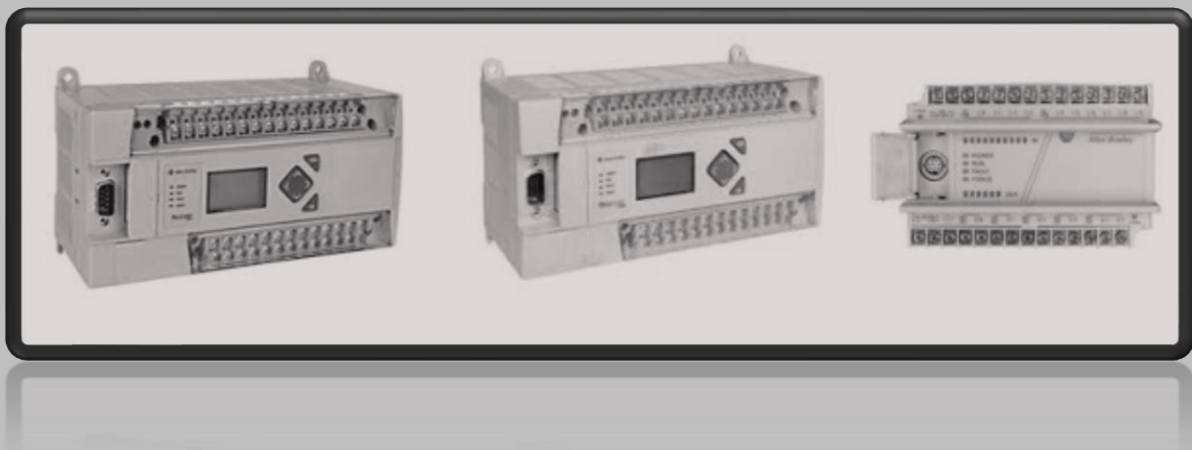
1.2.4. ITEM CODE: MICRO 870/850/830/820/810/800

Micro870/850/830/820/810/800 Programmable Logic Controllers are designed for large standalone machine control applications that require flexible communications and greater I/O capabilities



1.2.5. ITEM CODE: MICROLOGIX 1400/1200/1100

MicroLogix 1400/1200/1100 Programmable Logic Controller Systems build upon critical MicroLogix 1100 features: EtherNet/IP, on-line editing and a built-in LCD panel.



1.2.6. ALLEN BRADLEY PLC ENGINEERING SOFTWARES

- Studio 5000 Logix Designer
- Connected Components Workbench

1.3. ABB:

- ABB AC500/AC500-eCo Controllers
- ABB AC500-S/AC500-XC Controllers

1.3.1. ITEM CODE: ABB AC500/AC500-eCo

ABB AC500 - Our powerful PLC featuring a wide range of performance, communications and I/O capabilities for industrial applications. The ideal choice for complex, high speed machinery and networking solutions.

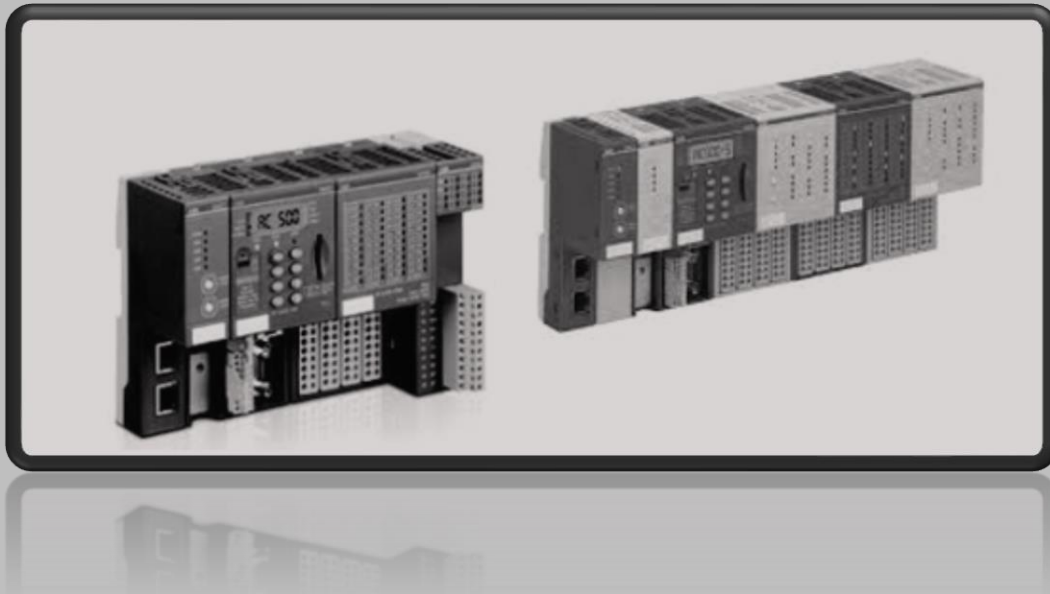
ABB AC500 eCo - This compact PLC is offering optimally suited flexible and economical configurations for automation solutions in smaller applications.



1.3.2. ITEM CODE: ABB AC500-S/AC500-XC

ABB AC500-S - This safety PLC (SIL3, PL e) is designed for safety applications involved in factory, machinery or process automation area. The ideal choice to implement and manage complex safety solutions.

ABB AC500-XC - Extreme Condition PLC variant of the AC500 platform with extended operating temperature, immunity to vibration and hazardous gases, use at high altitudes and in humid environments.



1.3.3. ABB PLC ENGINEERING SOFTWARES

- ABB Automation Builder V2.4, V2.3, V2.2, V2.1.

1.4. SCHNEIDER:

- SCHNEIDER MODICON M171/M172 Controllers
- SCHNEIDER MODICON M221 Controllers
- SCHNEIDER MODICON M241/M245 Controllers
- SCHNEIDER MODICON M340 Controllers
- SCHNEIDER MODICON M580 ePAC Controllers

1.4.1. ITEM CODE: SCHNEIDER MODICON M171/M172

For HVAC and pumping applications - Maximize profitability and energy efficiency through scalable automation control using the Modicon M171/ M172 logic controllers.



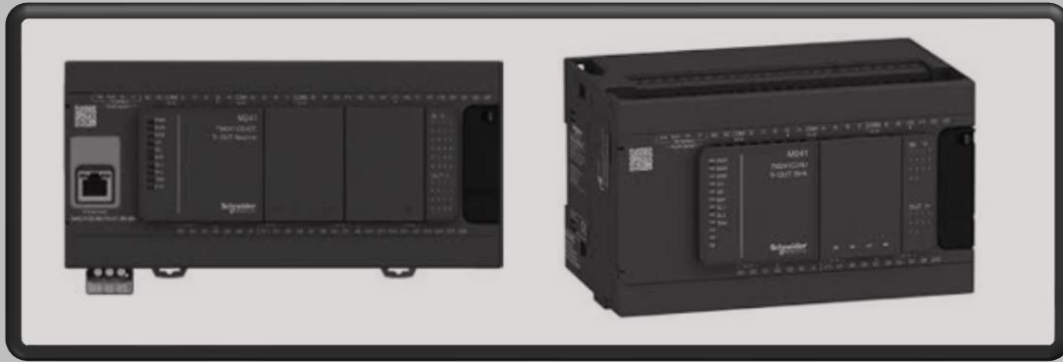
1.4.2. ITEM CODE: SCHNEIDER MODICON M221

For small to medium automated machines Modicon M221 and M221 logic controllers are designed for simple machines.



1.4.3. ITEM CODE: SCHNEIDER MODICON M241/M245

For advanced machine automation Modicon M241 is designed for high-performance compact machines incorporating speed and position control functions.



1.4.4. ITEM CODE: SCHNEIDER MODICON M340

For small to medium process automation The extremely powerful, rugged, and compact Modicon M340 PAC provides cutting-edge features and high-end performance in a small to mid-range applications.



1.4.5. ITEM CODE: SCHNEIDER MODICON M580 Epac

For medium to large process automation Scalable from a single rack system to a plantwide architecture, the Modicon M580 ePAC feature openness, flexibility, robustness, and sustainability.



1.4.6. SCHNEIDER ELECTRIC PLC ENGINEERING SOFTWARES

- SoMachine software
- Unity Pro configuration software

2. HMI-HUMAN MACHINE INTERFACE:

WE WORK WITH THE FOLLOWING OEMS HMI RANGES AT PRESENT:

2.1. SIEMENS:



SIMATIC HMI Basic Panels 2nd Generation - Standard devices

All devices of the SIMATIC HMI Basic Panel family are characterized by the same set of basic functions regardless the chosen size of the device.

- SIMATIC HMI KTP400 Basic
- SIMATIC HMI KTP700 Basic / KTP700 Basic DP
- SIMATIC HMI KTP900 Basic
- SIMATIC HMI KTP1200 Basic / KTP1200 Basic DP

2.1.1. ITEM CODE: SIMATIC HMI KTP400 BASIC

Panel for HMI tasks of limited complexity. 4 inch widescreen Touch panel with color display and 4 function keys. particularly suitable for cramped space conditions directly at the machine especially in combination with SIMATIC S7-1200 controllers but also with other controllers.



2.1.2. ITEM CODE: SIMATIC HMI KTP700 BASIC/KTP 700 BASIC DP

7 inch widescreen touch panel with color display and 8 function keys. Basic Panel for HMI tasks in the lower and medium performance range with SIMATIC S7-1200 controllers but also with other PLCs.



2.1.3. ITEM CODE: SIMATIC HMI KTP900

9 inch widescreen touch panel with color display and 8 function keys. With regard to screen size and resolution the KTP900 meets higher requirements. The KTP900 Basic is only available in a version with an Ethernet interface for the use in PROFINET networks.



2.1.4. ITEM CODE: SIMATIC HMI KTP1200 BASIC/KTP1200 BASIC DP

12 inch widescreen touch panel with color display and 10 function keys. The KTP1200 Basic is the ideal HMI-component for the medium and upper S7-1200 controller systems. With regard to screen size and resolution the KTP1200 meets higher requirements.



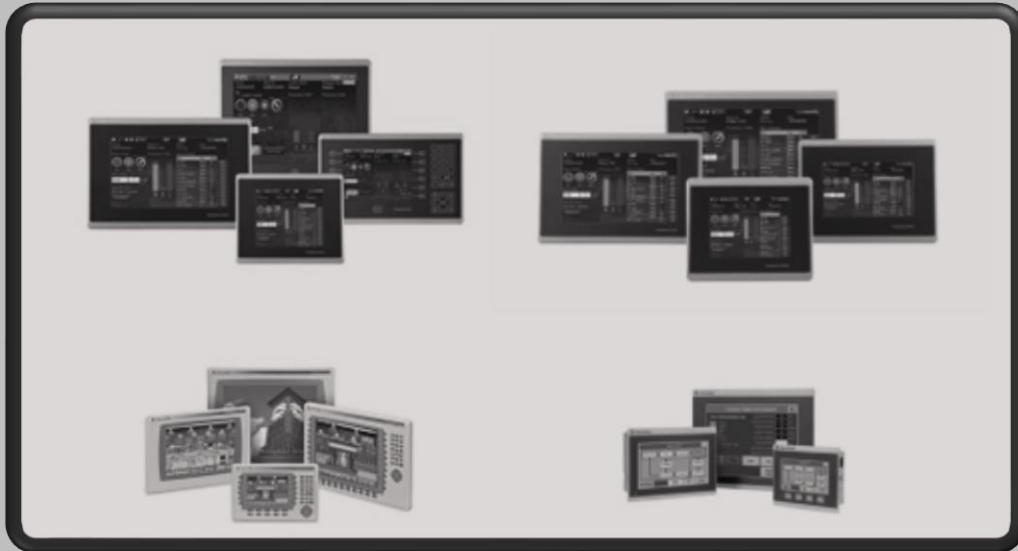
2.1.5. SIEMENS HMI ENGINEERING SOFTWARES

- Total Integrated Automation Portal (TIA V14, TIA 15, TIA 15.1)

2.2. ALLEN BRADLEY:

Graphic Terminals offer rugged electronic interface solutions in a variety of sizes, operator input methods and configurations.

- PanelView 5000 Graphic Terminals
- PanelView Plus 7 Graphic Terminals
- PanelView Plus 6 / PanelView Plus 6 Compact Graphic Terminals
- PanelView 800 Graphic Terminals



2.2.1. ITEM CODE: PANELVIEW 5000 GRAPHIC TERMINALS

PanelView 5000 Graphic Terminals offer an intuitive, modern design and provide enhanced Logix integration that uses Studio 5000 View Designer software. This integration allows engineers to enter configuration information once and use it for the entire automation design.



2.2.2. ITEM CODE: PANELVIEW PLUS 7 GRAPHIC TERMINALS

PanelView Plus 7 Graphic Terminals are available in standard and performance versions and offer display sizes from 4...19 in. with widescreen options.



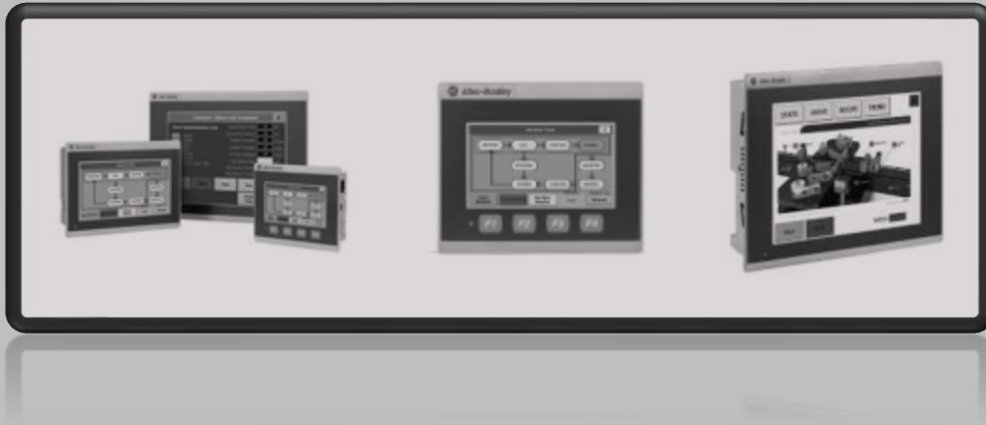
2.2.3. ITEM CODE: PANELVIEW PLUS 6 / PANELVIEW PLUS 6 COMPACT GRAPHIC TERMINALS

PanelView Plus 6 Graphic Terminals let you monitor, control, and display application status information graphically. These terminals offer the open-platform flexibility of the Windows CE operating system.



2.2.4. ITEM CODE: PANELVIEW 800 GRAPHIC TERMINALS

PanelView 800 Graphic Terminals are panel-mounted display devices that offer keypad or touch screen options for operator input. These graphic terminals are available in 4...10 in. display sizes and are compatible with micro and small controllers.



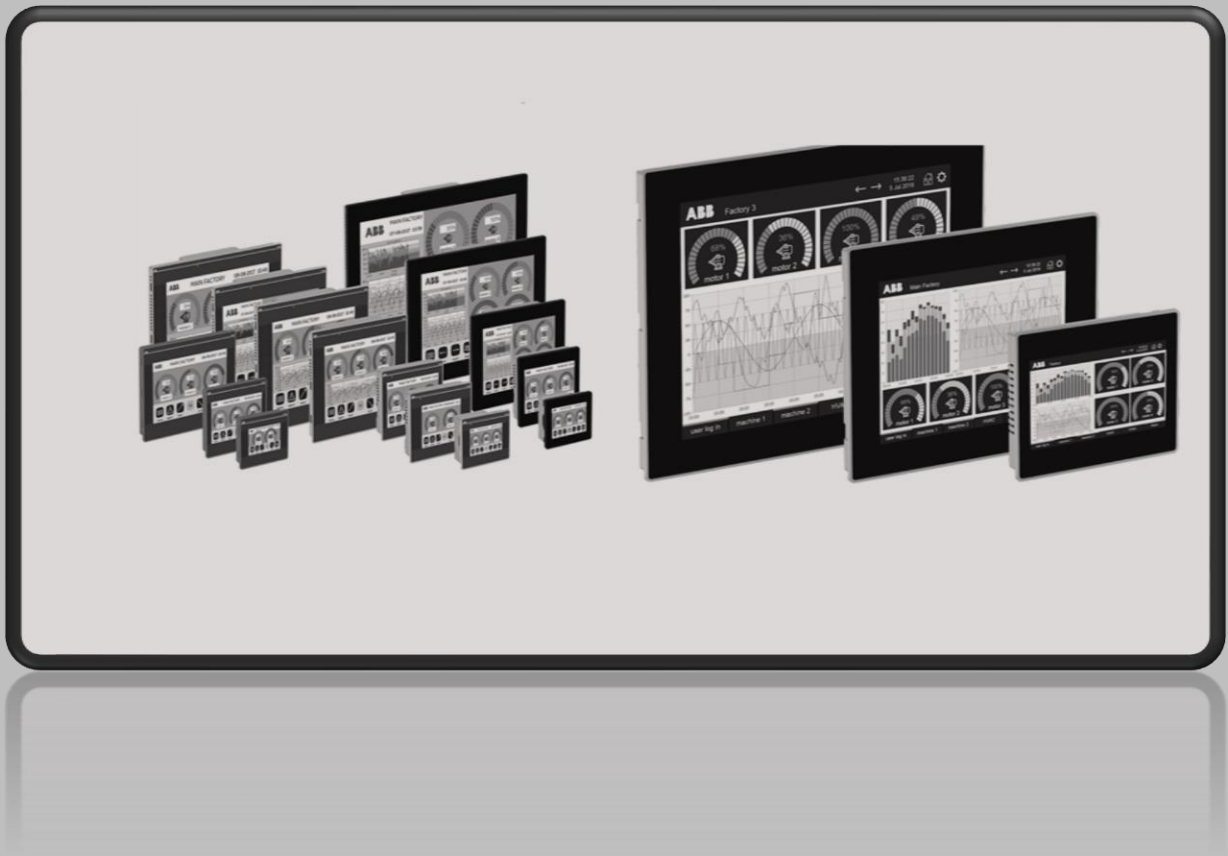
2.2.5. ALLEN BRADLEY HMI ENGINEERING SOFTWARES

- Factory Talk View
- Connected Components Workbench

2.3. ABB

The CP600-eCo, CP600 and CP600-Pro control panels offer a wide range of features and functionalities for tailor-made operability.

- CP600-eCo Control Panel
- CP600 Control Panel
- CP600-Pro Control Panel



2.3.1. ITEM CODE: CP600-eCo CONTROL PANEL

The economical CP600-eCo control panel, with screen sizes from 4.3" to 10.1" widescreen, is aimed for standard functions and high usability for clear interaction with the operation process.



2.3.2. ITEM CODE: CP600 CONTROL PANEL

The robust CP600 HMI, with screen sizes from 4.3" to 15" widescreen or standard aspect ratio, provides high visualization performance, versatile communication and representative design for machines and systems. This range includes 7" control panels in sanitary design, which withstand.



2.3.3. ITEM CODE: CP600-Pro CONTROL PANEL

The CP600-Pro HMI, with screen sizes from 5" to 21.5" widescreen, comes with high end visualization performance, multi-touch operation, versatile trendsetting communication and representative design.



2.3.4. ABB HMI ENGINEERING SOFTWARES

- Panel Builder 600

2.4. SCHNEIDER ELECTRIC

Schneider Electric's new-age HMI panels are perfect for carrying out diagnostics, increasing control, and regulating system settings on basic applications.

- Harmony ST6
- Magelis ST0, STU
- Magelis GTO
- Magelis XBT, N, R, RT



2.4.1. ITEM CODE: HARMONY ST6

Harmony ST6 and STM6, Basic HMI, delivering an intuitive user experience utilizing the latest software and visualization innovations from EcoStruxure Operator Terminal Expert. Harmony STW6, Basic Web HMI, is a complement ready-to-use version available with HTML5 Browser.



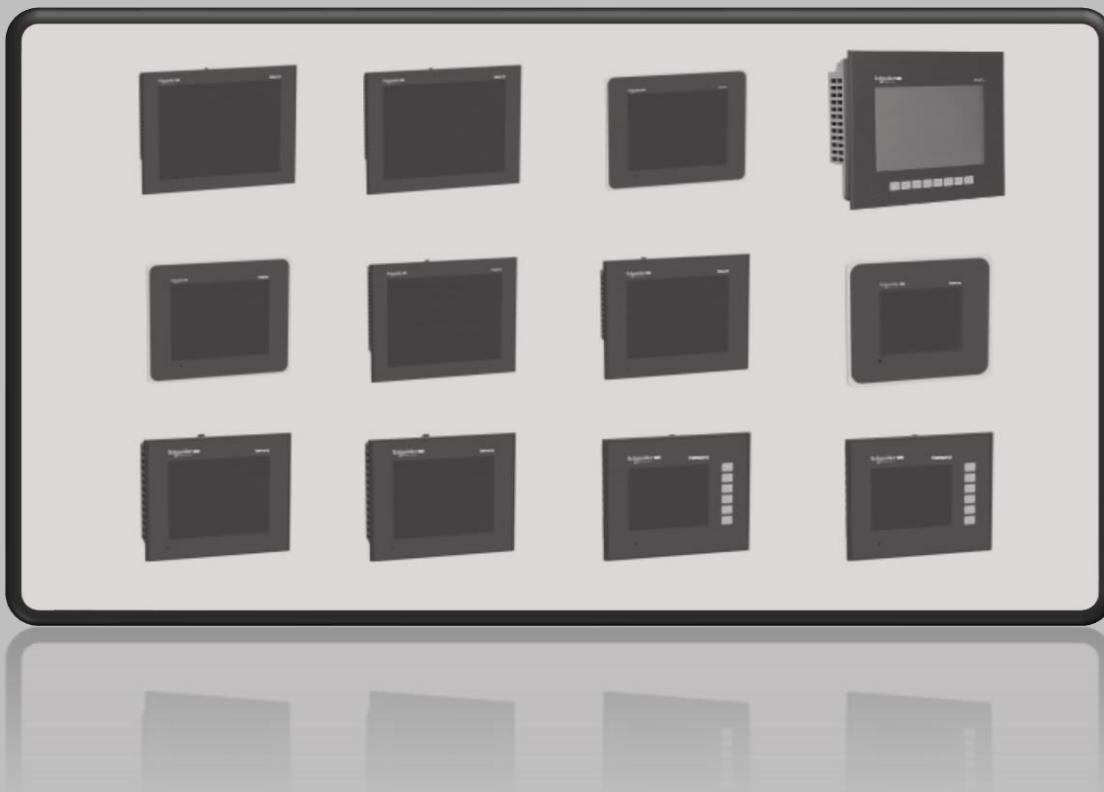
2.4.2. ITEM CODE: MAGELIS STO, STU

The new Magelis STO et STU boost the Magelis Small Panels range : more flexibility, more communication, easy and fast revolutionary mounting system... Powered by Vijeo Designer, bring a cost-effective solution to all machines builders



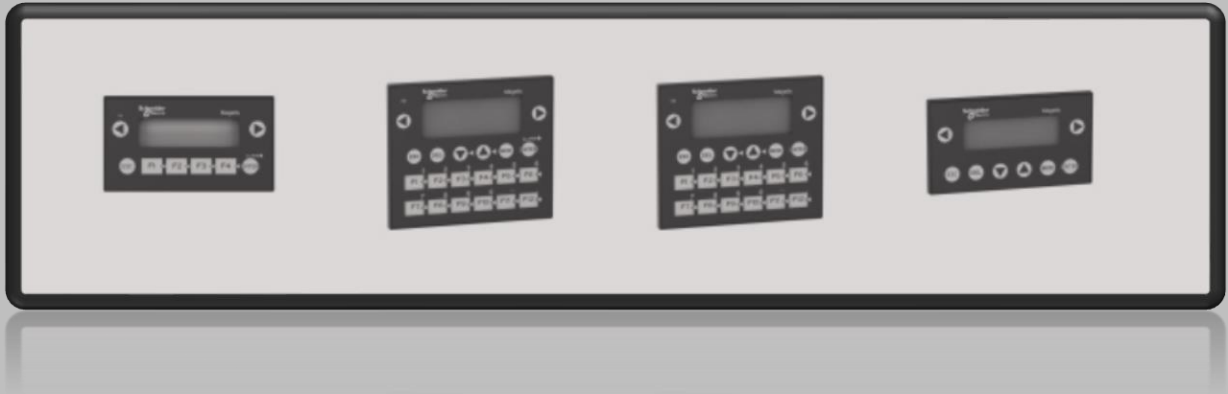
2.4.3. ITEM CODE: MAGELIS GTO

Part of Harmony. HMI panels with optimised features more flexibility, easy and fast revolutionary mounting system.



2.4.4. ITEM CODE: MAGELIS XBT, N, R, RT

Part of Harmony. Compact terminals



2.4.5. SCHNEIDER ELECTRIC HMI ENGINEERING SOFTWARE

- EcoStructure Operator Terminal Expert
- EcoStructure Machine SCADA Expert
- Vijeo Designer

3. SCADA-SUPERVISORY CONTROL AND DATA ACQUISITION:

WE WORK WITH THE FOLLOWING OEMS SCADA RANGES AT PRESENT:

3.1. SIEMENS

3.1.1. Simatic WinCC



WinCC Professional, Siemens offers a SCADA system which is perfectly integrated in the TIA Portal and with which you are optimally prepared today for the requirements of the increasing digitalization of production processes. The PC-based operator control and monitoring system for visualization and operator control of processes; from the single-user station through to distributed multi-user systems and cross-location solutions with web clients. The systems functionality can be further expanded by employing options for WinCC RT Professional, SCADA options or WinCC Add-ons.

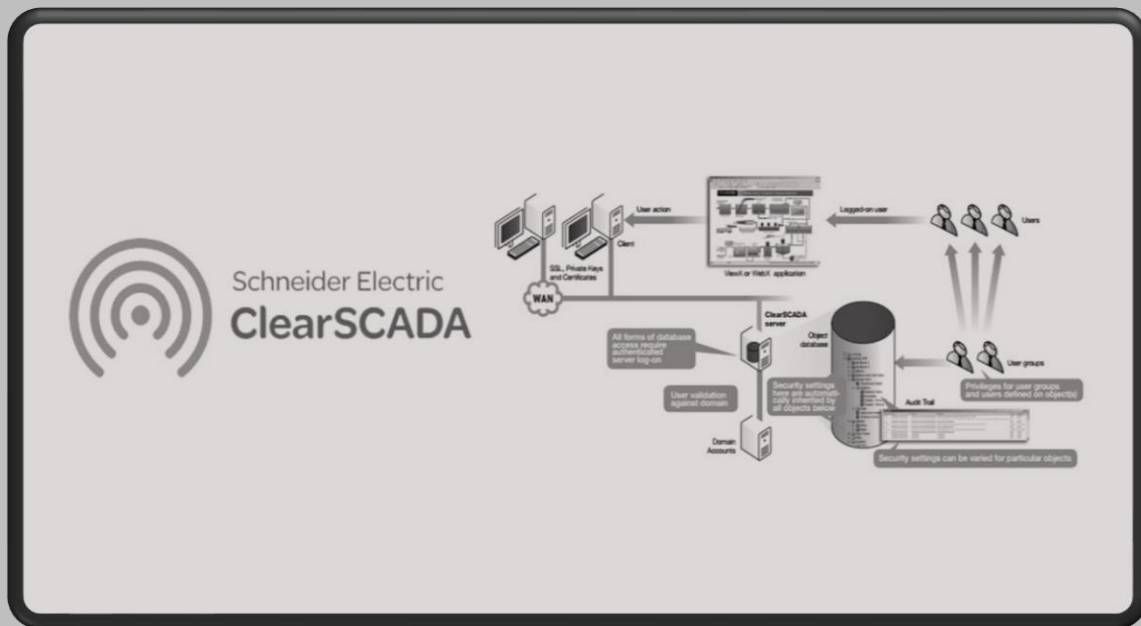
3.2. SCHNEIDER ELECTRIC:

Supervisory Control and Data Acquisition is the process to get the data, process the functioning of the machine equipment and then process the input to map with the output. The main aim is to check if the processes are aligned and introduce corrective measures if the output is not optimised. Operations of SCADA Systems include industrial processes and control supplies an edge over other control programs like wastewater treatment, fitting and functioning of gas pipelines, transmission, and distribution of power in the system etc.

3.2.1. Clear SCADA

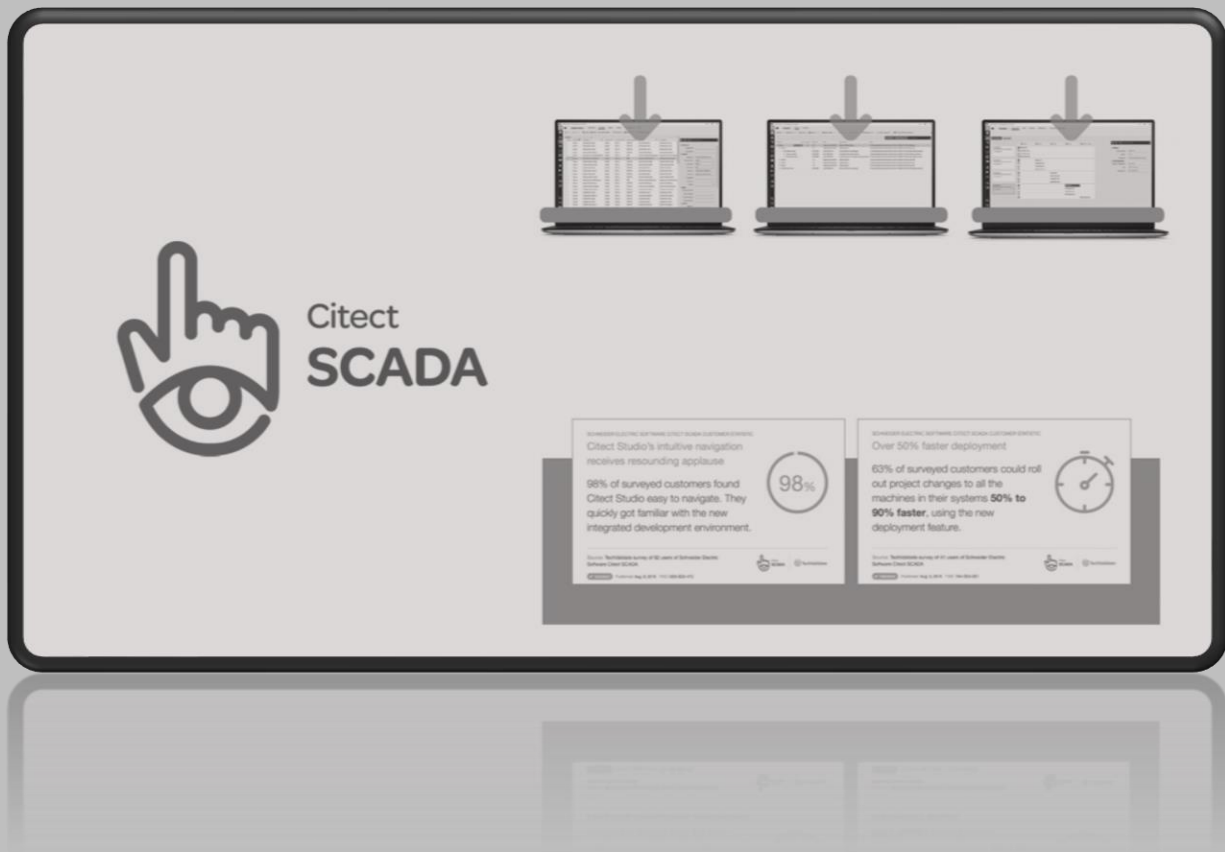
Clear SCADA is an open software platform that supplies powerful features for remote management of critical infrastructure. It is scalable for large enterprise environments and effective for small systems alike. Historical field data is collected by single or redundant servers over dedicated long-distance communication infrastructure and made available to local and remote users via integrated clients and third-party data management applications.

Clear SCADA is designed for telemetry applications commonly found in the water industry such as pump up and pump down control, sewage lift station, tank/level measurement and control, and wireless instrumentation monitoring. Its real-time database and integrated polling engine mean customers do not need to use a separate software package such as an OPC Server or a Master RTU as the data collector to communicate with remote devices. The enterprise software is optimised for low and high bandwidth communication links over public infrastructure, such as mobile networks, WiMAX, and dial-up landlines, and is well-suited for private serial and Ethernet radio network



3.2.2. Citect SCADA

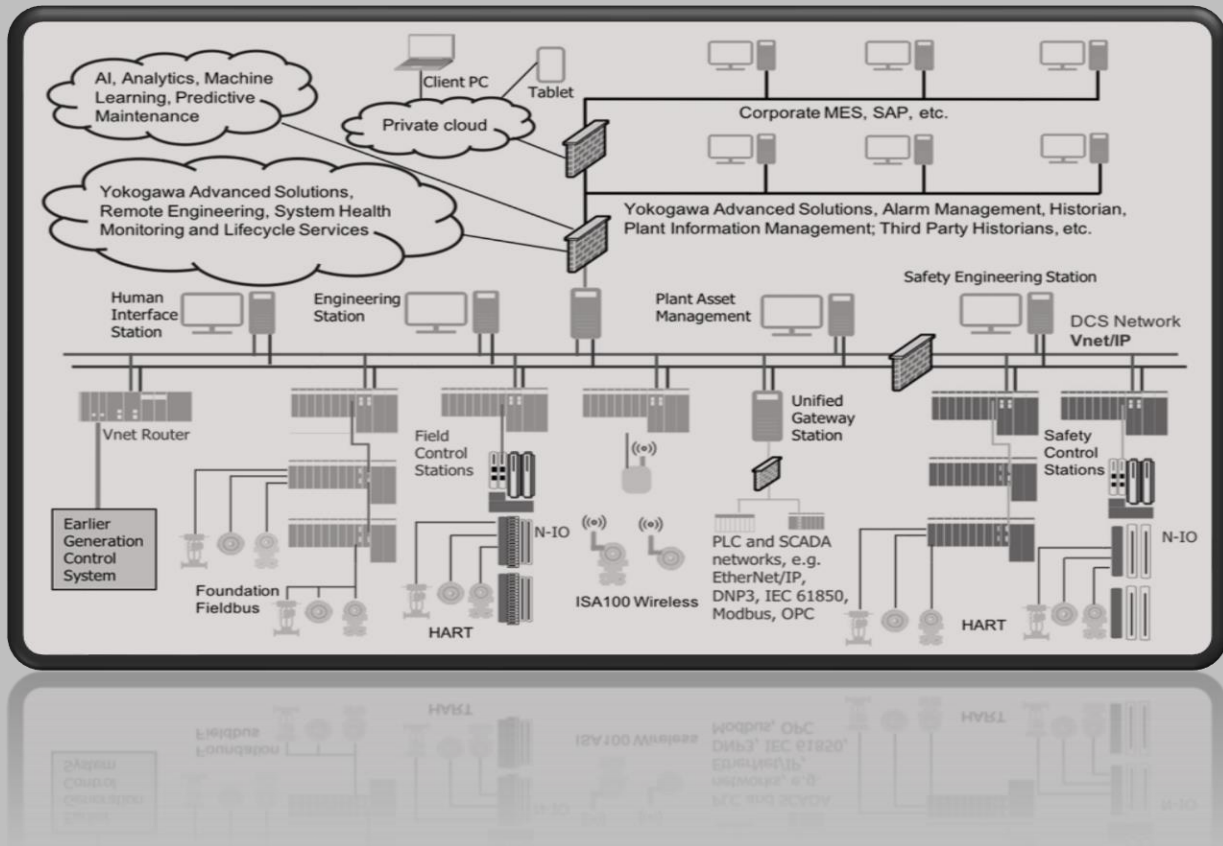
Citect SCADA is a compromising, staunch & high-gearred Supervisory Control and Data Acquisition (SCADA) software solution for industrial process customers. Citect SCADA can be tailored to a wide array of industry rigours and demands, and continuously try to meet the increasing requirements of emerging industry sectors. Citect SCADA is ideal for a variety of industries such as Water and Wastewater, Food & Beverage, Infrastructure, Manufacturing, Mining and Minerals, Metals, Oil & Gas, Automotive, Aerospace and Defence and many more.



4. DCS-DISTRIBUTED CONTROL SYSTEM:

A distributed control system (DCS) is a specially designed automated and computerised control system that consists of geographically distributed control loops over the plant or a control area.

DCS holds multiple autonomous controllers that are distributed throughout a system while PLC has rugged computer controllers. DCS consists of many local controllers found throughout the plant area in more efficient ways to improve reliability of control, process quality and plant efficiency and are connected via a high-speed communication network.



WE WORK WITH THE FOLLOWING OEMS DCS RANGES AT PRESENT

4.1. SIEMENS - PCS7

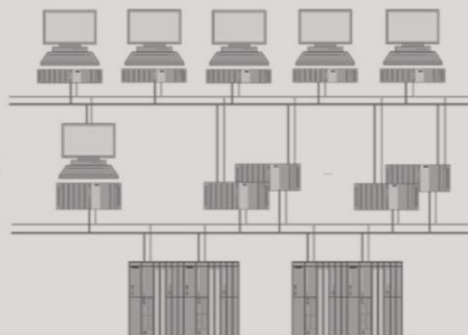
SIMATIC PCS 7 is more than only a DCS; offers you a flexible option for modernising your existing systems, even during runtime. Our innovative process control system SIMATIC PCS 7 consist of a unique, scalable architecture with high performance engineering tools and comprehensive added functions such as Alarm Management, Process Safety or Asset Management, so that you can use your plant more efficiently. It can enhance the availability, reduce the overall cost, and increase the efficiency.

SIMATIC
PCS 7
SIEMENS

Entry level system
(e. g. PCS 7 BOX RTX)



Client/Server system with several servers



5. VARIABLE SEQUENCE DRIVES:

WE WORK WITH THE FOLLOWING OEMS VSD RANGES AT PRESENT

5.1. SIEMENS

5.1.1. ITEM CODE: SINAMICS G120E NEMA 1 or 12 VARIABLE SPEED ENCLOSED DRIVES

SINAMICS G120E is a range of configurable enclosed variable speed drives for a broad spectrum of industrial applications, based on SINAMICS G120 modular drive components. The drives are air-cooled and available in NEMA 1 or NEMA 12 (ventilated) enclosures.



5.1.2. ITEM CODE: SINAMICS G150 VARIABLE SPEED ENCLOSED DRIVES

Siemens SINAMICS G150 is an enclosed, air cooled or water cooled (optional), variable speed drive ideal for applications that do not require regeneration back into the power supply system. All units include a controller (CU320) with PROFIBUS port, an advanced operator panel (AOP30).



5.1.3. ITEM CODE: SINAMICS S120 CM VARIABLE SPEED ENCLOSED DRIVES

configure even the most complex multi-motor common DC bus drive line-ups or highest HP Multi parallel drives up to over 6,000 Hp (4,500 kW) by combining standard enclosed drive modules Available in designs both to IEC and NEMA standards.



5.1.4. ITEM CODE: SINAMICS S150 VARIABLE SPEED ENCLOSED DRIVES

SINAMICS S150 is an enclosed air-cooled AC/AC variable speed drive ideal for high performance applications that require power regeneration back into the power supply system. SINAMICS S150 cabinet units are available for the power range from 100 to 1500 Hp (75 to 1200 kW).



5.2. ALLEN BRADLEY

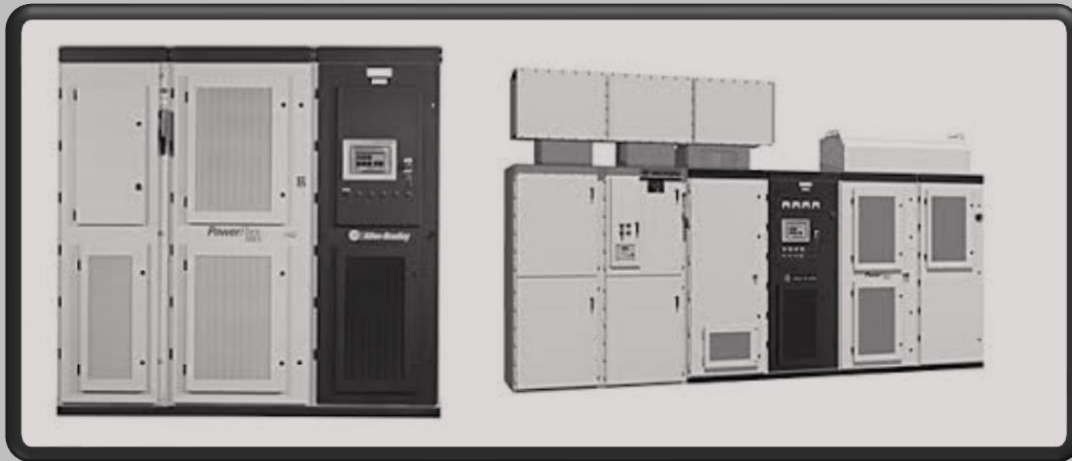
5.2.1. ITEM CODE: POWERFLEX 6000 MEDIUM VOLTAGES AC DRIVES

PowerFlex 6000 Medium Voltage AC Drives allow for flexibility in a variety of applications. Some of these applications include fans, pumps and compressors that require variable speed motor control from 2.3...11 kV. These drives are available in multiple configurations based on motor voltage and regional requirements.



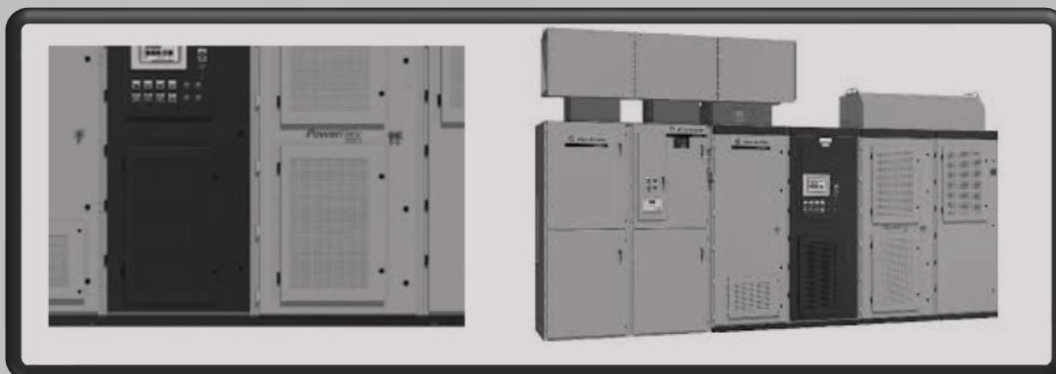
5.2.2. ITEM CODE: POWERFLEX 7000 MEDIUM VOLTAGES AC DRIVES

Our PowerFlex 7000 Medium Voltage AC Drives are air-cooled or liquid-cooled drives available in a broad power range of 200...34000 Hp and supply voltages of 2400...6600V AC.



5.2.3. ITEM CODE: POWERFLEX DRIVE SYSTEM WITH ARCSHIELD TECHNOLOGY

PowerFlex 7000 Drive System with ArcShield technology is the first arc resistant medium voltage drive with full regeneration capabilities.



5.3. ABB

5.3.1. ITEM CODE: ACS800 SINGLE DRIVES SERIES

ACS880 single drives you simplify your world and open all possibilities. You have complete flexibility and capability in wall-mounted or cabinet-built drives.



5.3.2. ITEM CODE: ACS880 DRIVE MODULES

Customize your cabinet simply with unlimited possibilities.

Your own cabinet design and assembly is simplified by the capability, simplicity and ease of use provided by ABB's all-compatible ACS880 drive modules.



5.3.3. ITEM CODE: ACS880 LIQUID COOLED DRIVES

The ACS880 liquid-cooled drives with direct liquid cooling and robust design are an ultimate solution for various applications where space savings. Since the liquid-cooling takes care of 98% of the heat losses, no additional filtered air-cooling is needed. The drive cabinets are totally enclosed with high protection class.



5.3.4. ITEM CODE: ACS880 FLANGES MOUNTED DRIVES

Our flange-mounted industrial drives portfolio includes ACS880-01, -11 and -31 single drives, and -04F and -04FXT drive modules. Flange mounting is especially useful in outdoor cabinet installations and in harsh environment installations where dust and other impurities are present.



5.4. SCHNEIDER

5.4.1. ITEM CODE: ALTIVER PROCESS ATV 600 SERIES

Variable Speed Drive with embedded Services dedicated to process Industry and Utilities for 3 phases synchronous, asynchronous and special motors from 0,75kW to 1,5MW.



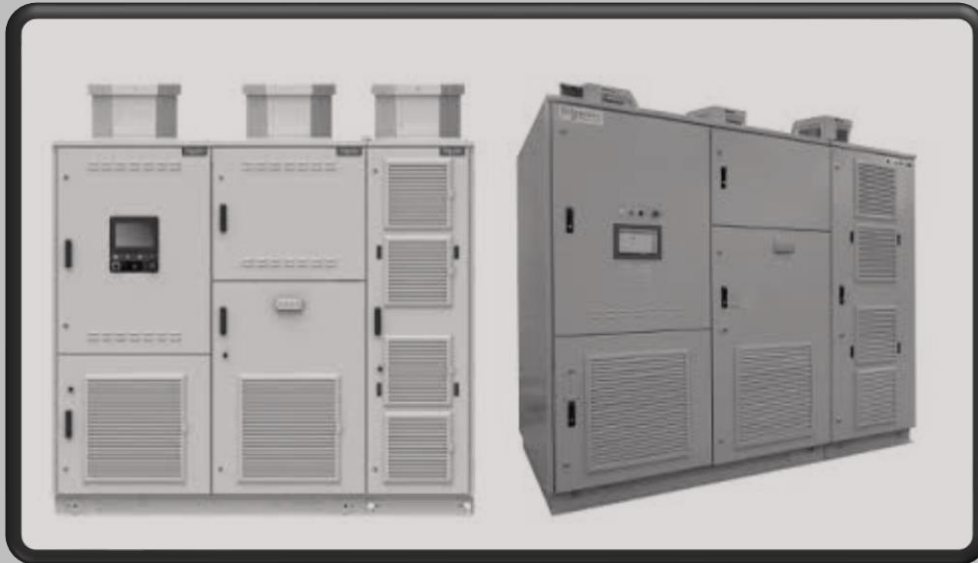
5.4.2. ITEM CODE: ALTIVER PROCESS ATV 900 SERIES

Variable speed drives and drive systems dedicated to maximum productivity with excellent motor control and connectivity capabilities (0.75kW to 800kW)



5.4.3. ITEM CODE: ALTIVER 1200

Medium voltage variable speed drive from 315 to 16,200KVA. Clean and compact MV variable speed drive.



5.4.4. ITEM CODE: ALTIVER 71 PLUS

Drives Low-voltage with high power ratings 90 > 2000 kW.



5.4.5. ITEM CODE: ALTIVER 61 PLUS

Frequency inverters for 3-phase asynchronous motors from 0,75 to 800 kW, variable torque applications.

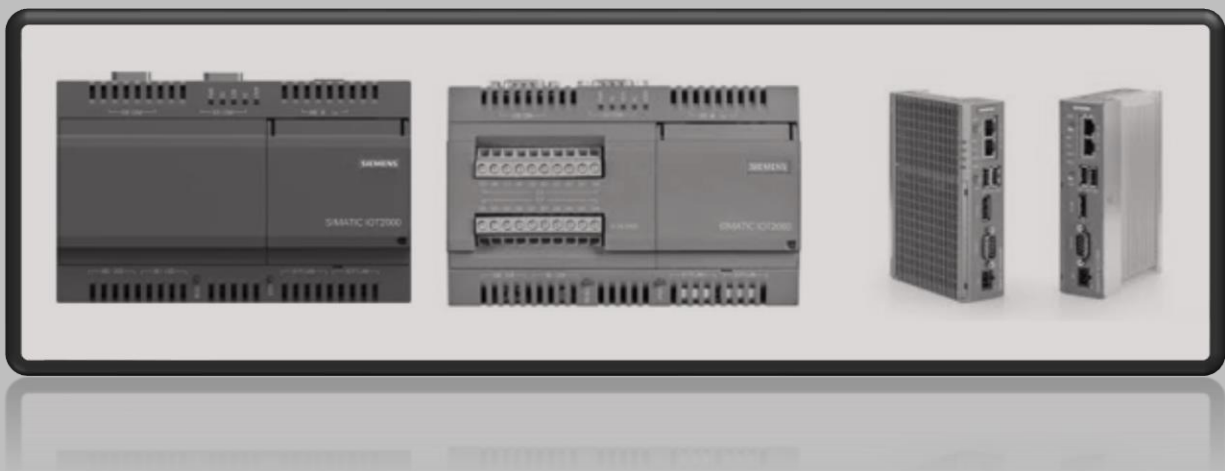


6. INTERNET OF THINGS(IOT) MODULES:

6.1. SIEMENS

6.1.1. ITEM CODE: SIMATIC IOT 2000/2020/2050

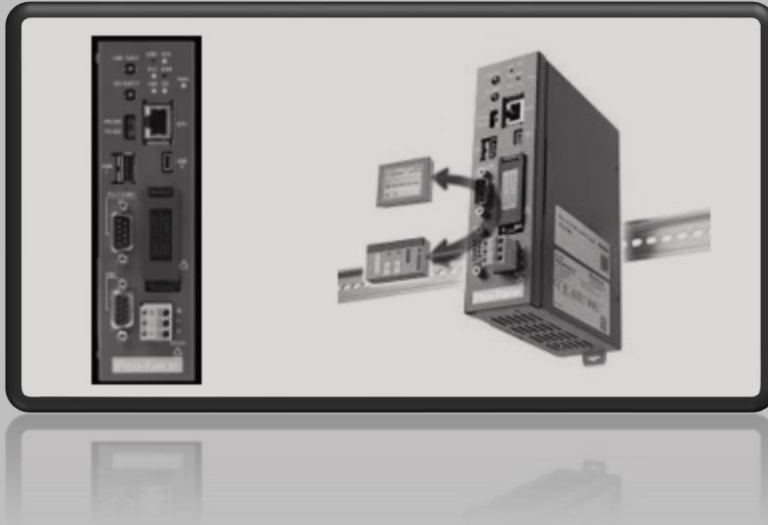
The Internet of Things is changing the world. Siemens' answer: SIMATIC IOT2000. With SIMATIC IOT2050, Siemens offers a solution for open source applications for education – with SIMATIC quality for 24/7 operation. You benefit from the open, expandable hardware (PCIe- and Arduino Uno R3-compatible interface), the Linux based operating system (Debian). SIMATIC IOT2050 is your link to digital dimensions – the smart gateway for cloud connections.



6.2. SCHNEIDER ELECTRIC

6.2.1. ITEM CODE: PROFACE IOT GATEWAY

Pro-face IoT Gateway. Collect data relaying one device to another. No serial port available. Unable to extend. No data collection expected. Here's solution presented. Pro-face IoT Gateway relays data communication between HMI and PLC. No port needs to be available. No need of changing programs. The stable design that retains communication of connected devices even when Pro-face IoT Gateway is powered off.



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