



SOLUTIONS

INNOVATION IN AUTOMATION

INDUSTRIAL AUTOMATION DIVISION

PLC PROGRAMMING



We work with the leading brands:

- Allen Bradley
- Siemens
- Mitsubishi
- Koyo



SOLUTIONS

➤ **Update of electrical diagrams based on field checks.**

The diagram illustrates the electrical power distribution system for a vessel, showing the connection between the main engine (M1) and various subsystems.

Main Engine (M1) Specifications:

- 37 HP
- 480V, 3PH, 6342
- 85 AMP FLA

Power Distribution Components:

- FLOX RE COPIJUCION (100H):** Main distribution point for the engine.
- Circuit Breakers/Switches:** 100L, 100H, 100T, 100U, 100V, 100W, 100X, 100Y, 100Z.
- Relays:** REL-1, REL-2, REL-3, REL-4, REL-5, REL-6, REL-7, REL-8, REL-9, REL-10, REL-11, REL-12, REL-13, REL-14, REL-15, REL-16, REL-17, REL-18, REL-19, REL-20, REL-21, REL-22, REL-23, REL-24, REL-25, REL-26, REL-27, REL-28, REL-29, REL-30, REL-31, REL-32, REL-33, REL-34, REL-35, REL-36, REL-37, REL-38, REL-39, REL-40, REL-41, REL-42, REL-43, REL-44, REL-45, REL-46, REL-47, REL-48, REL-49, REL-50, REL-51, REL-52, REL-53, REL-54, REL-55, REL-56, REL-57, REL-58, REL-59, REL-60, REL-61, REL-62, REL-63, REL-64, REL-65, REL-66, REL-67, REL-68, REL-69, REL-70, REL-71, REL-72, REL-73, REL-74, REL-75, REL-76, REL-77, REL-78, REL-79, REL-80, REL-81, REL-82, REL-83, REL-84, REL-85, REL-86, REL-87, REL-88, REL-89, REL-90, REL-91, REL-92, REL-93, REL-94, REL-95, REL-96, REL-97, REL-98, REL-99, REL-100.
- Fuses:** FUS-1, FUS-2, FUS-3, FUS-4, FUS-5, FUS-6, FUS-7, FUS-8, FUS-9, FUS-10, FUS-11, FUS-12, FUS-13, FUS-14, FUS-15, FUS-16, FUS-17, FUS-18, FUS-19, FUS-20, FUS-21, FUS-22, FUS-23, FUS-24, FUS-25, FUS-26, FUS-27, FUS-28, FUS-29, FUS-30, FUS-31, FUS-32, FUS-33, FUS-34, FUS-35, FUS-36, FUS-37, FUS-38, FUS-39, FUS-40, FUS-41, FUS-42, FUS-43, FUS-44, FUS-45, FUS-46, FUS-47, FUS-48, FUS-49, FUS-50, FUS-51, FUS-52, FUS-53, FUS-54, FUS-55, FUS-56, FUS-57, FUS-58, FUS-59, FUS-60, FUS-61, FUS-62, FUS-63, FUS-64, FUS-65, FUS-66, FUS-67, FUS-68, FUS-69, FUS-70, FUS-71, FUS-72, FUS-73, FUS-74, FUS-75, FUS-76, FUS-77, FUS-78, FUS-79, FUS-80, FUS-81, FUS-82, FUS-83, FUS-84, FUS-85, FUS-86, FUS-87, FUS-88, FUS-89, FUS-90, FUS-91, FUS-92, FUS-93, FUS-94, FUS-95, FUS-96, FUS-97, FUS-98, FUS-99, FUS-100.

Location Information:

- LOCATED ON BALCONY:** A group of components (FUS-1, FUS-2, FUS-3, FUS-4, FUS-5, FUS-6, FUS-7, FUS-8, FUS-9, FUS-10, FUS-11, FUS-12, FUS-13, FUS-14, FUS-15, FUS-16, FUS-17, FUS-18, FUS-19, FUS-20, FUS-21, FUS-22, FUS-23, FUS-24, FUS-25, FUS-26, FUS-27, FUS-28, FUS-29, FUS-30, FUS-31, FUS-32, FUS-33, FUS-34, FUS-35, FUS-36, FUS-37, FUS-38, FUS-39, FUS-40, FUS-41, FUS-42, FUS-43, FUS-44, FUS-45, FUS-46, FUS-47, FUS-48, FUS-49, FUS-50, FUS-51, FUS-52, FUS-53, FUS-54, FUS-55, FUS-56, FUS-57, FUS-58, FUS-59, FUS-60, FUS-61, FUS-62, FUS-63, FUS-64, FUS-65, FUS-66, FUS-67, FUS-68, FUS-69, FUS-70, FUS-71, FUS-72, FUS-73, FUS-74, FUS-75, FUS-76, FUS-77, FUS-78, FUS-79, FUS-80, FUS-81, FUS-82, FUS-83, FUS-84, FUS-85, FUS-86, FUS-87, FUS-88, FUS-89, FUS-90, FUS-91, FUS-92, FUS-93, FUS-94, FUS-95, FUS-96, FUS-97, FUS-98, FUS-99, FUS-100).

HMI DESIGN AND PROGRAMMING



We design and program Human-Machine Interfaces (HMIs) for monitoring and operation of your machine in an operator friendly and understandable way.



INDUSTRIAL NETWORKS



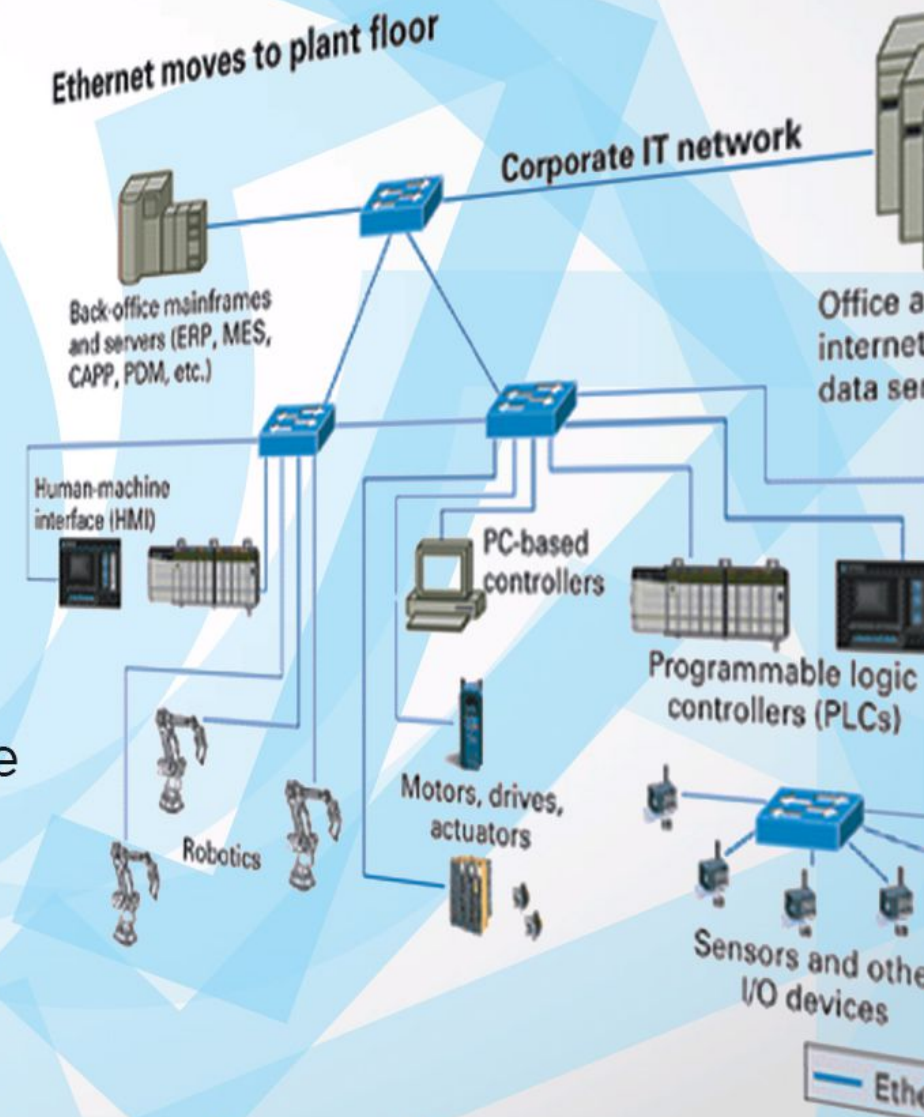
We do design, installation, configuration, commissioning, and programming of the leading industrial networks:

- Ethernet
- DeviceNet
- ControlNet
- Among others

We follow all norms and recommendations that apply to assure your network will work with no communication problems that create dead times on your machine.

Diagnostic

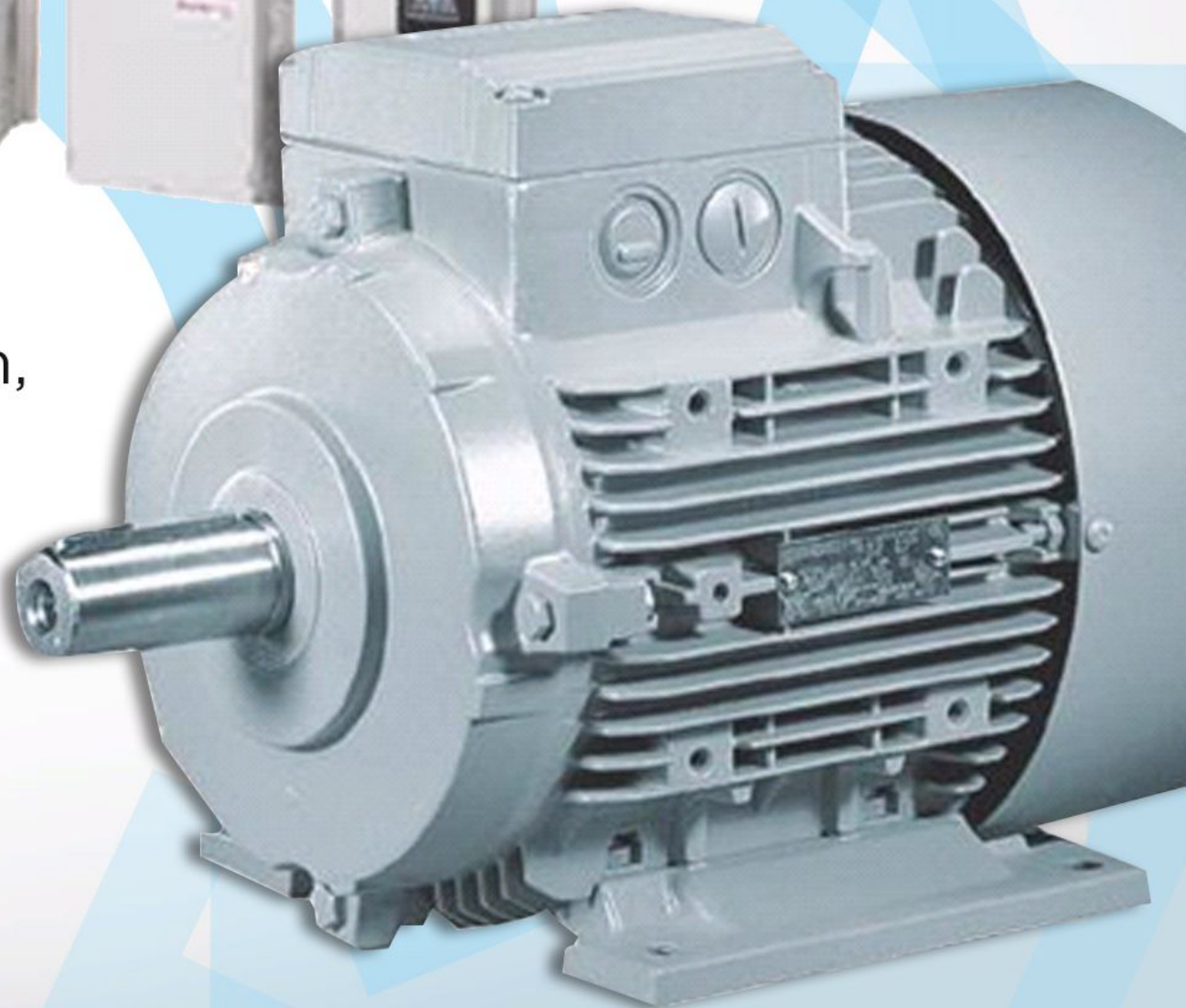
If you have problems with your network, call us and we will realize a complete diagnostic to eliminate these problems.



MOTORS CONTROL



VFD and servos selection,
configuration and
troubleshooting.



SAFETY SYSTEMS



Installation, configuration, programming and startup of safety systems to protect the operator:

- Safety PLCs
- Light curtains
- Emergency stops
- Redundant systems
- Presence detectors with area programming
- Access control to cell or machine
- Etc.



OUTSOURCING



Assignment of qualified personnel for full-time care of your automation needs for:

- Troubleshooting
 - Creation of standards
 - Existent machine revisions
 - Machine checks for possible buying
 - Cycle time reduction
 - Production line improvements
-
- Controls Engineers
 - Electrical and mechanical technicians
 - Translators
 - Security Supervisors

Personnel can be assigned by **hours, days, weeks, months** or as you need.



URGENT ATTENTION TO MACHINE FAULTS



Because we know that production continues during days and nights and dead times have high cost, **we are available 24x7 365 days a year** to help solve your automation problems on any of your machines.

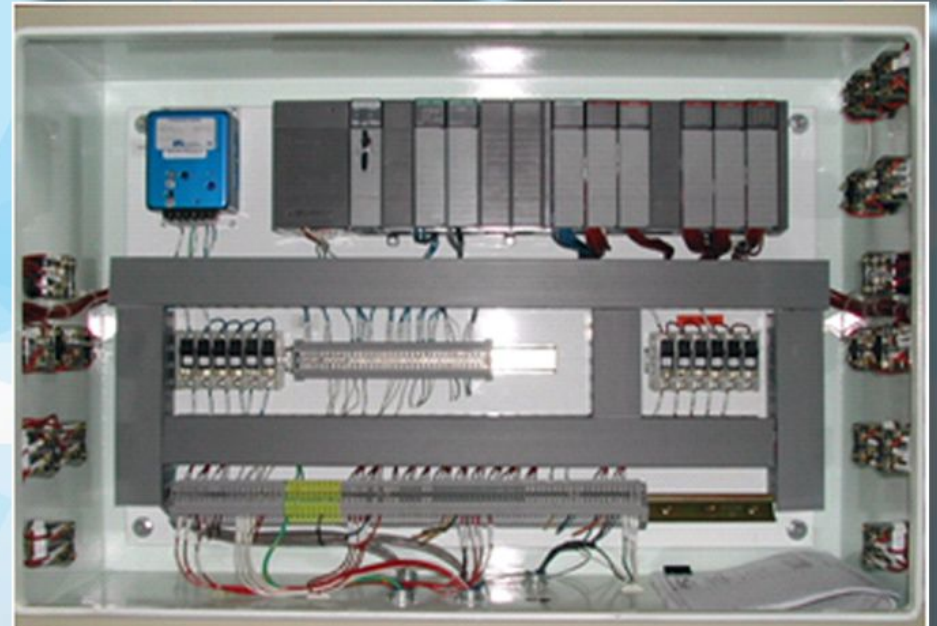
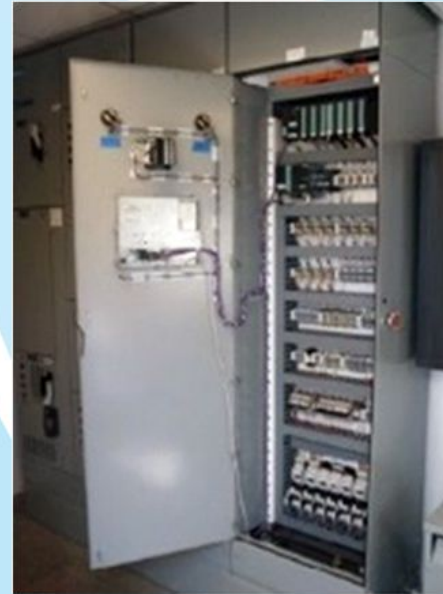


ELECTRICAL PANELS ASSEMBLY



We assemble electrical panels (power and control) following the more exigent quality standards:

- Motor Control Centers
- Control panels with PLC
- Remote I/O panels
- Junction boxes
- Etc.



SPECIAL TRAINING:



General Motors Global standards courses with
Macomb College certification:

- GCCH-1 Global Common Controls Hardware
- GCCS-2 Global Common Controls Software



**Macomb
Community College**

Education • Enrichment • Economic Development

Discover. Connect. *Advance.*SM

We offer courses of:

- PLC programming (leading brands)
- Industrial networks
- HMIs
- AutoCAD
- Electrical Diagrams
(American and European standard)



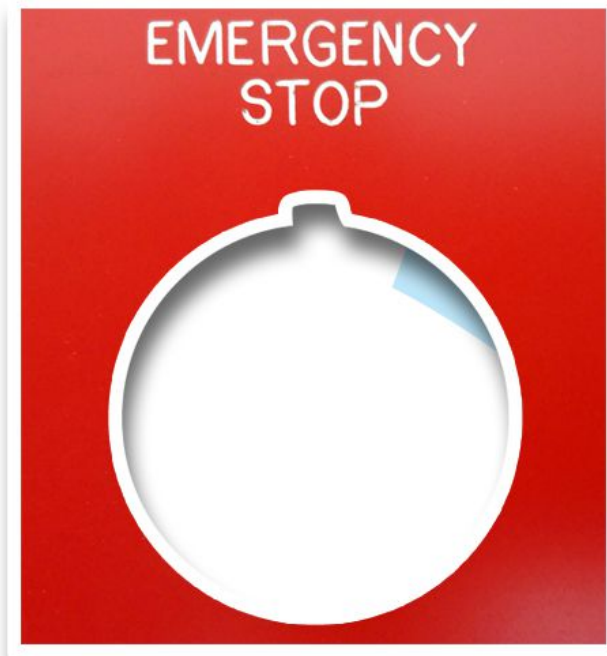
ELECTRICAL INSTALLATION

Electrical systems installation following international norms:

- Electrical panels
- Conduit
- Cable tray
- Cable routing
- Labeling
- Industrial networks
- Equipment connection
- Etc.



LAMICOID LABEL MANUFACTURING



MAINTENANCE



- Presses
- Automation
- Supply of spare parts



INSTALLATION

- Presses and automation
- Hydraulic and pneumatic piping
- Installation of steel structures



MANUFACTURING



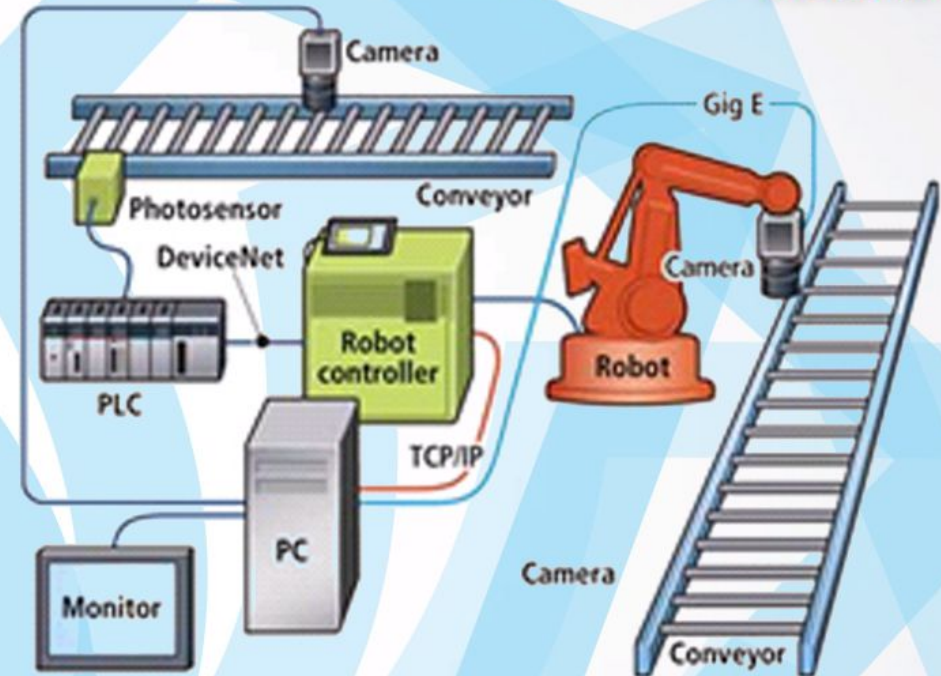
- Production Racks
- Steel structures
- Aluminum profile structures (Bosch)
- Hydraulic tanks
- Fencing and guards
- Quality stations
- Chutes, etc.



EXPERIENCE



- Bodyshop
- Welding control
- Stamping
- Conveyors
- Error proofing
- Safety systems
- Vision systems
- Energy saving
- Motor control
- Servo motor
- Paint shop
- Food and beverage



CUSTOMERS



CS Stamping

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