

# ENGINEERED FOR EXTREMES

Uninterrupted Powerful Control  
for High-End Operations



# Highlighting Features and Applications



## NX-ERA Premium PLC is suitable for Applications like:

Oil & Gas | Machinery | Agroindustry | Power  
Water & Waste-water | Food & Beverages  
Building Automation | Transportation  
Distributed Process

### Advanced Automation System

- Aggregates DCS' typical elements
- Integration with most traditional SCADA systems
- Used for control systems in small, medium and high-end applications

### State-of-the-Art Programmable Controller

- Wide variety of CPUs and I/O modules
- Redundancy of CPUs, power supply and communication modules
- Power supply, monitoring, control field networks

## Unique Feature

### Innovative design features:

- Communication ports: 2x Serial (RS485), 2x Ethernet TCP/IP
- Protocols: Multiple standard protocol
- Bus Expansion: Up to 24
- Integrated power supply: NO
- Memory card: YES
- Redundancy: Redundancy mode for high availability applications.
- LCD in CPU allows direct and easy access to critical information
- System state, redundancy state, serial activities, forcing of variables.

## Electronic tag on display

- Built-in compact graphical LCD display in each module.
- Tags and description of all I/O points accessible directly from the PLC, in real time.



- |        |   |  |
|--------|---|--|
| CE     | - | European directives                            |
| UL     | - | NRAQ category (UL61010-1 and UL61010-2-201)    |
| DNV-GL | - | Type Approval Category for Marine applications |
| EAC    | - | TR004/TR020 Russian directives                 |

## Hot Swapping

### FULL HOT-SWAP SUPPORT

Easy insertion and extraction system without stopping the application (no need for screws or tools)

## Conformal Coating

### PROTECTION AGAINST HAZARDOUS SUBSTANCES IN INDUSTRIAL ENVIROMENTS

- Many industrial environments have hazardous substances on the air for printed circuit boards such as chemical components, air and moisture.
- In the conformal coating process a thin layer of nonconductive material is applied to protect against corrosion, extreme temperatures, sea air, humidity, among others.



## Easy Plug System – EPS

- Practical insertion & extraction mechanism for I/O terminal blocks using a lever on the front of the modules



### On-board Full Documentation

Password management to protect access to the project or controller



## Battery Free Operation

- No battery • Eco-friendly
- Data retention of 20 years
- RTC time backup (up to 15 day)



### IP Protection and Login Password

Low consumption and no moving parts (cooling fans)

## NX-ERA XPRESS

Compact PLC with world-class features for agile, mid-range automation.

DI, DO, AI, AO, HSC, PTO  
Ethernet, USB, RS-485  
CAN I/O | Codesys



**NEXUS**  
OF INDUSTRIAL  
AUTOMATION

#### Applications

- Boiler
- Batching
- AHU

## NX-ERA JET

Modular and scalable PLC for mid-scale applications with strong connectivity.

Modular I/O | High Industrial Ethernet | Remote & Local I/O  
Codesys

#### Applications

- Water Treatment
- Continuous Furnace
- Line Automation

NX-ERA  
CPU  
3003  
3004  
3005  
3008  
3010  
3020  
3030

## PLC PORTFOLIO

I/Os →

80

128

256

512

1024

2048



**A CLASS**  
OF ITS OWN

### XM-PRO-10

Compact and affordable PLC for essential control with IoT capability.

DI, DO, AI, AO, HSC, PTO | RS-485 & Ethernet | MQTT | XMPS-2000 Programming Software

#### Applications

- Drilling & Tapping
- Hydraulic Presses
- Leak Testing

## NX-ERA PREMIUM

Reliable, uninterrupted PLC for mission-critical, high-end operations.

Redundancy | Hot-Swapping of I/O  
Modular & Scalable  
Codesys

#### Applications

- Data Center Chiller Plant
- Singeing Plant Textile
- Rope Dyeing Denim





## NX 3008 Features

### CPU

- 1GHz ARM 64-bit or PowerPC 32-bit processor
- Up to 2 serial interfaces (RS-232 and RS-485/RS-422)
- Up to 3 Ethernet interfaces 10/100/1000 Mbps
- CAN interfaces (NX3008)
- Various communication protocols
- On-board HTTP server for diagnostics



## NX3008 Extended Features

### Cyber security:

- Through the resources available in the processor, at the application level of the Linux kernel and with resources provided by CODESYS
- Firewall
- VPN tunnel support (P2P)
- FTP for file transfer
- "Embedded Linux" functionality, allowing the user to develop applications with direct access to CODESYS libraries, Docker, Python, among others.



## NX 3010

- Communication ports: 2x Serial (RS485), 1x Ethernet TCP/IP
- Protocols: Multiple standard protocol
- Bus Expansion: Up to 8
- Integrated power supply: NO
- Memory card: YES
- Redundancy: NO



## NX-3020

- Communication ports: 2x Serial (RS485), 2x Ethernet TCP/IP
- Protocols: Multiple standard protocol
- Bus Expansion: Up to 24
- Integrated power supply: NO
- Memory card: YES
- Redundancy: NO



## NX3030 Features

- Communication ports: 2x Serial (RS485), 2x Ethernet TCP/IP
- Protocols: Multiple standard protocol
- Bus Expansion: Up to 24
- Integrated power supply: NO
- Memory card: YES
- Redundancy: Redundancy mode for high availability applications.



## NX3030 CPU – High Availability

### SOLUTION FOR CRITICAL AND HIGH AVAILABILITY APPLICATIONS

- Redundant CPUs are located in different racks (half clusters)
- In case of failure on the active CPU, the standby CPU switches over automatically (with an up-to-date data context)
- Easy to set up - no special programming is needed
- Automatic program synchronization and transfer between half clusters
- Support to online changes and I/O expansion without stopping the process
- Critical processes are not affected by simple failure events
- Designed to deliver
  - Increased productivity
  - Minimized process down times
  - Low maintenance and repair times (MTTR)

# Applications

## Water Treatment Plant

- Reduce physical losses, operational and input costs.
- Improve the quality of the water.
- Optimize power consumption.

## Data Centers

- Ensure zero downtime with redundant architecture
- Ensure uptime with automated failover controls
- Manage power, cooling, and safety in real time

## Building Management Systems

- Enable centralised, energy-efficient SCADA monitoring
- Automate HVAC, lighting, and safety systems
- Optimise energy use through centralised control

## Textile Singeing

- Uniform finish through real-time flame and speed sync
- Fewer rejections with automated precision control
- Safer operations via integrated safety systems

# Communication Protocols

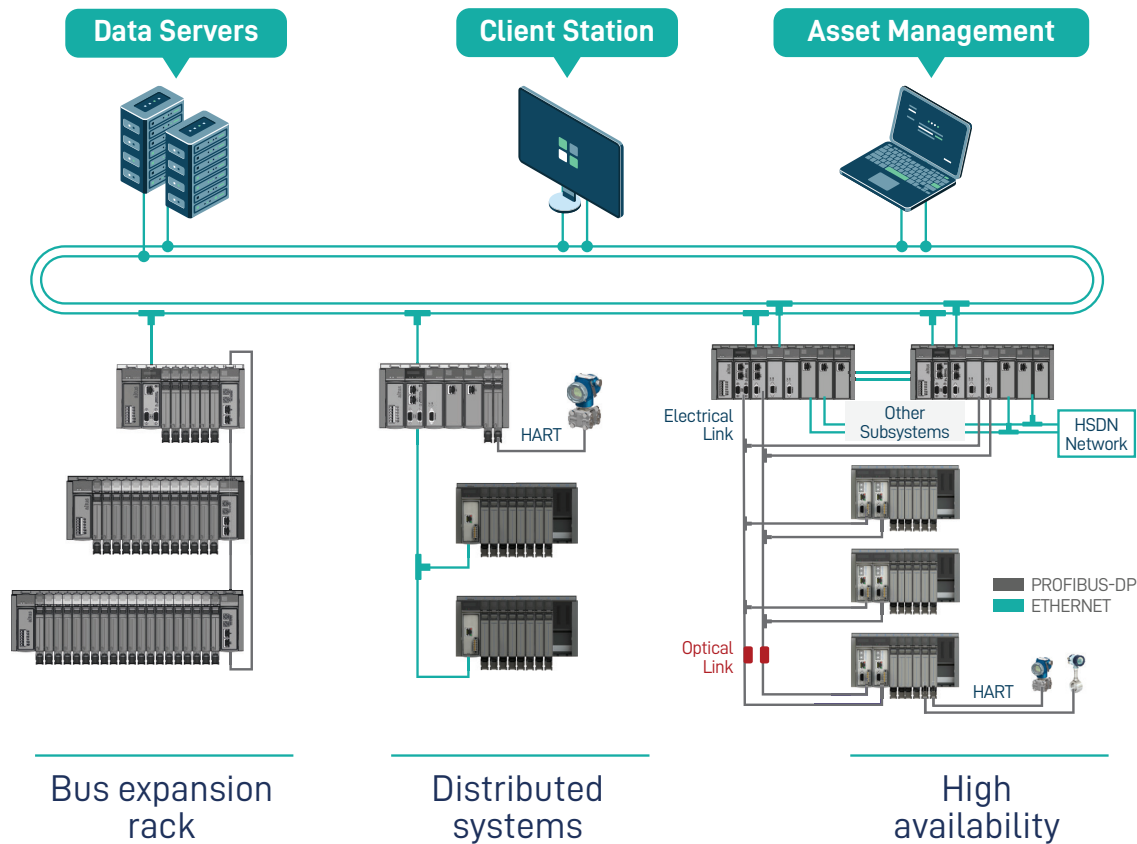


## MULTI PROTOCOLS

- PROFINET Controller
- PROFIBUS (additional module)
- CANOpen Manager
- CAN J-1939
- MODBUS RTU (master/slave)
- MODBUS TCP (client/server)
- OPC DA (server)
- OPC UA (server, with encryption)
- EtherCAT (master)
- EtherNet/IP (scanner/adaptor)
- IEC 60870-5-104 (server)
- MQTT(client)
- SNTP (client)
- SNMP (client)



# PLC Architecture



## NX-ERA Series CPUs

	NX3008	NX3010	NX3020	NX3030
Program Memory	32 MB	4 MB	6 MB	8 MB
Source-Code Memory	256 MB	40 MB	80 MB	120 MB
Master PROFIBUS-DP Fieldbus	4	1	4	4
Ethernet Interfaces	3	1	4	8
Redundancy (Fieldbus/Ethernet)	Yes	-	Yes	Yes
Sequence of Events (SOE)	-	-	Yes	Yes
Memory Card Support	Yes	Yes	Yes	Yes
Supported Rack Expansions	Yes	8	24	24
Maximum Number of I/O Modules	128	128	128	128
Hot Swap for I/O	Yes	Yes	Yes	Yes
Redundant CPU + PSU + Sync Module	-	-	-	Yes
Instruction Exec Time	2.1 nsec	6 nsec	6 nsec	6 nsec

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AUTOMATION & CONTROLS  
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