

**EXPAND  
BEYOND LIMITS.  
AUTOMATE  
BEYOND  
POSSIBILITIES.**



# CPU PORTFOLIO NX-ERA SERIES

## XM PRO

**Compact and affordable with necessary features.**

CPU with DI, DO, AI, AO, HSC, PTO / RS-485 & Ethernet / Indigenous LD Programming



Application Done - Bandsaw / Drilling & Tapping / Hydraulic / Presses / Leak Testing / Smart Crane IOT

I/O →

80

## Xpress



**Compact form factor, with world class features.**

CPU with DI, DO, AI, AO, HSC, PTO / Industrial Ethernet. USB, RS-485 / Future ready with Industry 4.0 Exp. by CAN I/O\$ / Codesys Programming.

Application Done - Boiler / Automation / Batching / AHU / D Humidifier

128

## Jet



**General Purpose Automation with High reliability and Connectivity**

Modular and scalable / High Performance at affordable price / High on Industrial Ethernet Codesys Programming.

Remote I/O's extra

Application Done - Water Treatment / Continuous Furnace / Line Automation (plywood mfg.) Sulphuric Acid Process plant

256

512

NX-ERA CPU

3003  
3004  
3005  
3008  
3010  
3020  
3030

## Premium



**NX-ERA Premium PLC - Advanced Automation**

High Reliability, Availability Redundancy & Hot Swap / Modular & Scalable Deterministic Communication / Codesys Programming.

Remote I/O's extra

Application Done - Data Center Chiller Plant / Singeing Plant Textile / Rope Dyeing Denim

1024

2048

# NX-ERA-JET



## Modular Architecture

- The CPUs with distributed I/Os.
- Backplanes from NX-ERA Jet Series can be used.
- The available modules are:
  - 24Vdc Digital I/O.
  - Analog Voltage & current I/O.
  - Temperature analog input (RTD & TC)

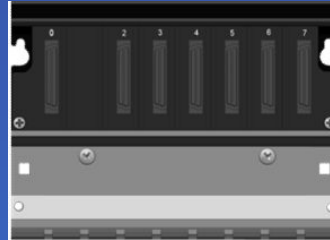
Module	Description
NJ 3003	CPU 1x Serial (RS-485) 1x Ethernet TCP/IP
NJ 1001	24 V DC 16 DI Module
NJ 2001	24 V DC 16 DO Transistor Module
NJ 6100	4 AO V/I 16 Bit Module
NJ 6020	8 AI RTD Module

# BACKPLANES



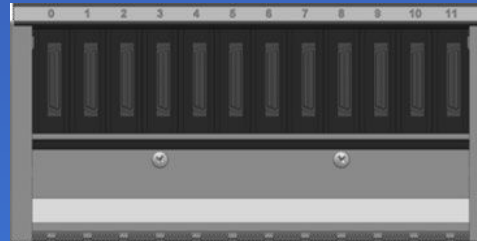
## NX9020

- 2 slots
- Standalone applications without I/O modules
- CPUs NX3003, NX3004, NX3005, NX3008



## NX9010

- 8 slots
- Compact OEM applications
- NX3003, NX3004 and NX3005: CPU
- NX5110: PROFIBUS-DP Head
- NX5100: MODBUS-TCP.
- No support for rack expansion
- Support for 18mm I/O modules only



NX9001 – 12 slots

# CPU NX3003

## NX-ERA JET SOLUTIONS

### IDEAL CPU FOR SMALL APPLICATIONS WITH FEW I/O POINTS

- CPU with **integrated power supply**
- **Expandable up to 10 I/O modules.**
- **14 integrated digital inputs (4 fast inputs)**
- **10 integrated digital outputs (4 fast outputs)**
- One Ethernet port
- One serial port (MODBUS RTU/User)
- Support for MODBUS RTU, MODBUS TCP, EtherNet I/P, SNTP, SNMP, MQTT, OPC DA and OPC UA protocols



10 I/O modules

# NX3004

## NX-ERA JET SOLUTIONS

**IDEAL SOLUTION FOR HIGH PERFORMANCE MACHINE  
CONTROL AND SMALL SIZED AUTOMATION**

- CPU with **integrated power supply**, reducing space and cost on your application
- **Expandable Up to 32 I/O modules**
- Ethernet Port
- **Supports up to 1 Rack Expansion (with NX4000)**
- **Access to PROFIBUS remote (with NX5110)**
- Support for Ethernet I/P, SNTP, SNMP, MQTT, OPC DA and OPC UA protocols.



**Expandable  
Up to 32 I/O modules**



# NX3005

## NX-ERA JET SOLUTIONS

### IDEAL SOLUTION FOR APPLICATIONS WITH EMBEDDED WEB SUPERVISION

- CPU with **integrated power supply**
- **Expandable up to 64 I/O modules**
- One Ethernet port
- Supports up to 4 rack expansion
- Supports one rack expansion (NX4000)
- Supports one PROFIBUS-DP field network (NX5001)
- One serial port (MODBUS RTU)
- **Embedded Web Development in the CPU**
- Support for IEC 60870-5-104 Server, EtherNet I/P, Web Server, MODBUS RTU, MODBUS TCP, SNMP, MQTT, OPC DA and OPC UA protocols.



- Expandable up to 64 I/O modules
- Supports up to 4 rack expansion
- WEB Server
- Profibus-DP field network
- Remote Web Access
- Telemetry
- Water Treatment Stations



# NX3008

## NX-ERA JET SERIES

- 1 Ghz 64 bit ARM processor,
- 3 Ethernet interfaces, one of which is Gigabit and two of which can be configured to operate as PROFINET IO Controller, with support for closing the ring, both with MRP (Media Redundancy Protocol) acting as the ring manager (MRM- Media Redundancy Manager) in PROFINET networks, and with RSTP (Rapid Spanning Tree Protocol) in other protocols
- Supports up to 128 I/O modules
- 1 isolated RS-485 serial interface
- 1 isolated CAN interface
- 1 microSD memory card for storage and mass memory
- 1 USB interface for storage, mass memory USB-Serial converter, wireless and 4G modem.
- Integrated power supply
- On-board HTTP server for diagnostics
- Web page development for user application (Webview)
- Extended operating temperature of - 20C to 60C



- 3 Ethernet Ports
- ProfiNet IO Controller for Ring Network
- MRM – Media redundancy Manager-ProfiNet
- CAN port
- USB interface
- WEB page
- On board HTTP



## EXTENDED FEATURES of NX3008

- 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-ERA CPUs

	NX3003	NX3004	NX3005	NX3008
Program Memory	3 MB	3 MB	6 MB	32 MB
Source Code Memory	32 MB	32 MB	40 MB	256 MB
Master Profibus-DP Fieldbus	-	1	1	4
Ethernet Interfaces	1	1	2	3
Memory Card Support	-	-	-	Yes
Supported Rack Expansions	-	1	4	Yes
Maximum Number of I/o Modules	10	32	64	128
Embedded Digital Inputs	14	-	-	-
Embedded Digital Outputs	10	-	-	-

# NX-ERA JET AS SLAVE



## **NX5100 – MODBUS TCP HEAD**

- Ethernet interface 10/100 Mbps with auto crossover
- Integrated power supply
- Ability to use up to 22 I/O modules in a single rack
- Integrated web page for diagnostics, IP address configuration and firmware update
- One Touch Diagnostic
- Free of moving parts (fans, coolers, etc.)



## **NX5110 – PROFIBUS-DP HEAD**

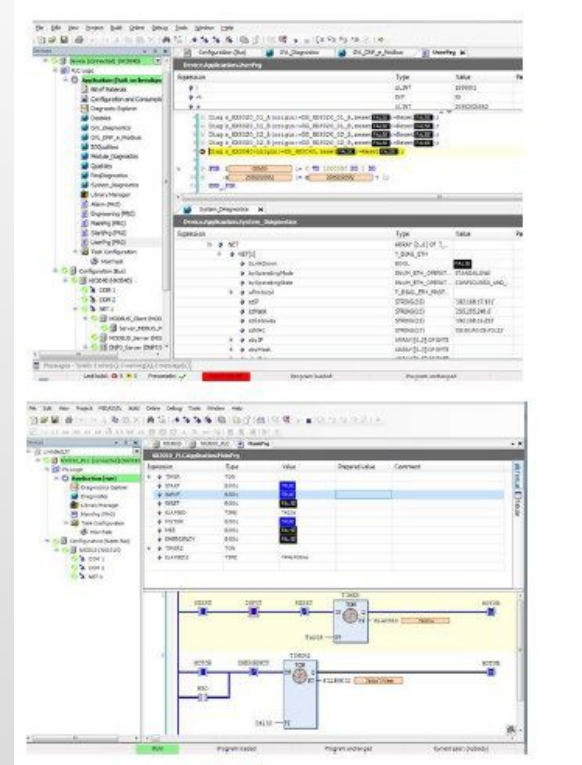
- Compatible with any PROFIBUS-DP Master equipment, following the EN50170 standard
- Integrated power supply
- Support for up to 22 I/O modules on the bus
- Automatic configuration and parameterization of all modules via PROFIBUS-DP Class 1 master.

# PROGRAMMING SOFTWARE MASTERTOOL BUILT ON CODESYS

- Application's offline simulation
- Application's online debugging
- Monitoring of: I/O variables / Symbolic variables  
System diagnostics / Modules Diagnostics
- Use of breakpoint and step-by-step execution
- Simulation of communication with SCADA and HMI using OPC DA

## IEC 61131-3 PROGRAMMING LANGUAGES

Structured Text (ST)  
Sequential Function Chart (SC)  
Function Block Diagram (FBD)  
Ladder Diagram (LD)  
Instruction List (IL)  
Continuous Function Chart (CFC)  
Support for different languages on the same project.



# NX-ERA JET



- JET is world class product in mid segment with high specification in affordable price.
- With versatile programming platform of Codesys it gives customer advantage over other PLC manufacturers.
- Codesys gives programming modularity, re-usability, Password protection.
- With rich interface options of Ethernet IP, Modbus TCP/IP, Profibus N/W, OPC-UA it gives options for customers to connect to different types of network environments. Modbus RTU gives flexibility to connect to low level devices.
- High reliable hardware.
- With 3008 CPU most demanding application and IOT connectivity with built-in docker can be used for secure applications.
- Continuous running Applications with high availability can be targeted.
- Integration of JET CPUs with local I/Os can generate more economical solutions.

# TARGET APPLICATIONS



## Automobile

Material Handling,  
Furnace,  
Press,

## Plastic

Batching,  
Line extrusion  
(Sheet, Tape , Film),  
Lamination



## Textile

Stentor, Dying  
Blower Room, Carding  
Combing, Draw Frame  
Ring Frame, Warping  
Stentor, Dying

## Pharma

Formulation, Batching  
Granulation, Drying  
Reactor (CFR Part-11)







**THANK  
YOU!**