JET. SET. GROW

Cost-effective PLC for Mid-scale Applications with Remote and Local I/O Expansion.

NX-ERA JET PLC | NEXUS OF INDUSTRIAL AUTOMATION

NX-ERA JET

Model	Description
NX 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

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.
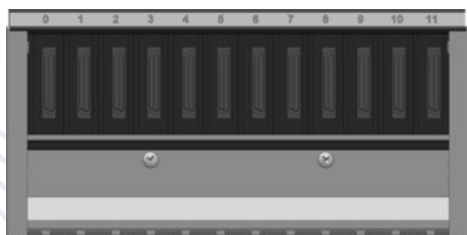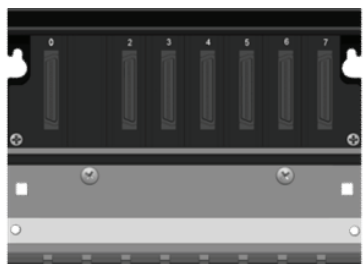   - Temperature analog input (RTD & TC)

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

NX-ERA JET Remote IO's

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.

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

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

NX-ETA
PLC SERIES
NEXUS OF INDUSTRIAL AUTOMATION

PLC PORTFOLIO

| I/Os → | 80 | 128 | 256 | 512 | 1024 | 2048 |

XM-PRO 10
PLC with IoT
A CLASS OF ITS OWN

XMPRO-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

CPU NX3003

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

NX3004

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.

NX3005

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, SNTP, 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

NX-ERA JET SOLUTIONS

- Remote WEB access • Telemetry • Water Treatment stations

NX3008

- 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 (Webvieu)
- 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.

Applications

Automobile
- Material Handling
- Furnace
- Press

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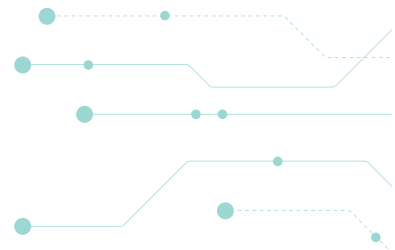- (Sheet, Tape , Film)
- Lamination

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

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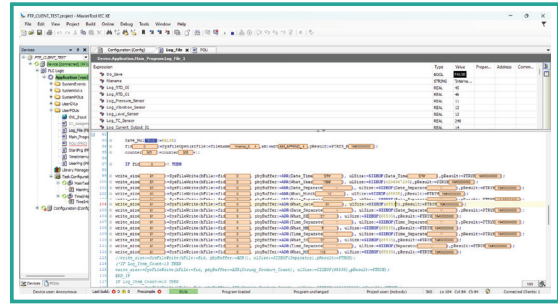- Granulation, Drying
- Reactor (CFR Part-11)

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.
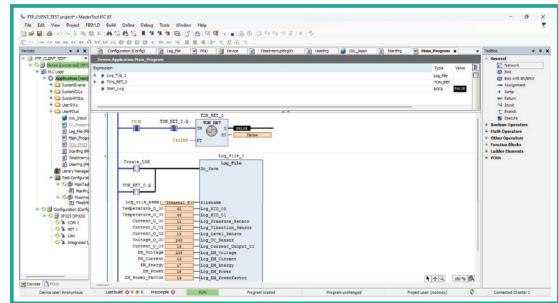
Programming Software
Mastertool Built on Codesys

- 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.

CODESYS

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	-	-	-

AUTOMATION & CONTROLS
WORKPLACE TECHNOLOGY