

A GENIUS IN A SMALL FRAME

Powerful, Feature-rich PLC in a Compact Design.




XPRESS PLC

NEXUS
OF INDUSTRIAL
AUTOMATION

NX-ERA
PLC SERIES

NEXUS
OF INDUSTRIAL
AUTOMATION

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-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



**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

**PLC
PORTFOLIO**

I/Os →

80

128

256

512

1024

2048



Industry 4.0

Product Highlight

INDUSTRY 4.0

Multiprotocol Ethernet
VPN, Firewall & FTP
USB (WiFi, & 4G support)

OPEN

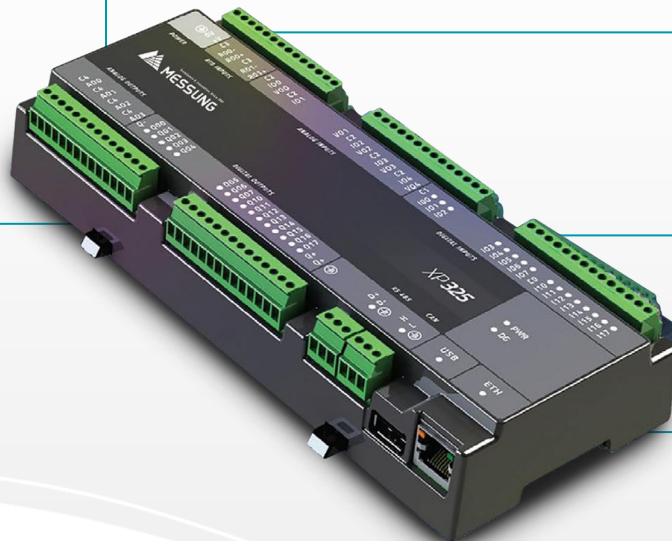
MQTT, OPC DA/UA
MODBUS TCP,
MODBUS RTU CANOpen

SMART ENGINEERING

Free, easy-to-use software,
online changes and offline
simulation (IEC 61131-3)

SCALABLE

The NX-ERA
family Covers small
to large solutions



CODESYS

NX-ERA
XPRESS PLC

NEXUS
OF INDUSTRIAL
AUTOMATION

Basic Specifications

- DIN rail mount
- Compact design
- 24 VDC power supply input
- High-speed 32 bit ARM based processor
- High density of I/O (up to 48 I/O points in a single product)
- Multi-purpose analog inputs (Voltage, current and RTD)
- LEDs for inputs/outputs state indication and diagnostics
- Extractable terminal blocks
- Real-time-clock (RTC)
- MSSQL_CLIENT functional block support for Microsoft database access

DIGITAL INPUTS

Two 24 VDC input groups / Opto Isolated (sink)
High-speed counters and external interruption (4 fast inputs)

ANALOG INPUTS

12-bit resolution / Available inputs:
Voltage: 0 to 10V / Current : 0 to 20mA , 4 to 20 mA
RTD: Pt100, Pt1000 / Linear: 400 and 4000 Ω

ANALOG OUTPUTS

12-bit resolution / Available outputs:
Voltage: 0 to 10V / Current: 0 to 20mA / 4 to 20mA

DIGITAL OUTPUTS

One 24 VDC transistor output group
Opto Isolated (source) / PTO/PWM
(4 fast outputs)
1.5 A per channel / 12 A (maximum)



Device Connectivity

ETHERNET

MODBUS TCP Client/Server OPC DA/OPC UA /
MQTT (TLS 1.2) / PROFINET Controller / EtherNet I/P /
EtherCAT Master / SNTP / IEC 60870-5-104 (XP340) /
Web Server (XP340) Programming and configuration

RS-485

MODBUS RTU Master/Slave

CAN

CANopen Master / CAN low level (proprietary
protocols dev) I/O Expansion

USB

Data-logger (external memory) /
Ethernet converter / RS-232 adapter
WiFi adapter / 3G/4G modem /
Programming and Configuration

EtherCAT

CANopen J1939

IEC
60870-5-104

PROFINET

Industry 4.0

OPC UA

EtherNet/IP

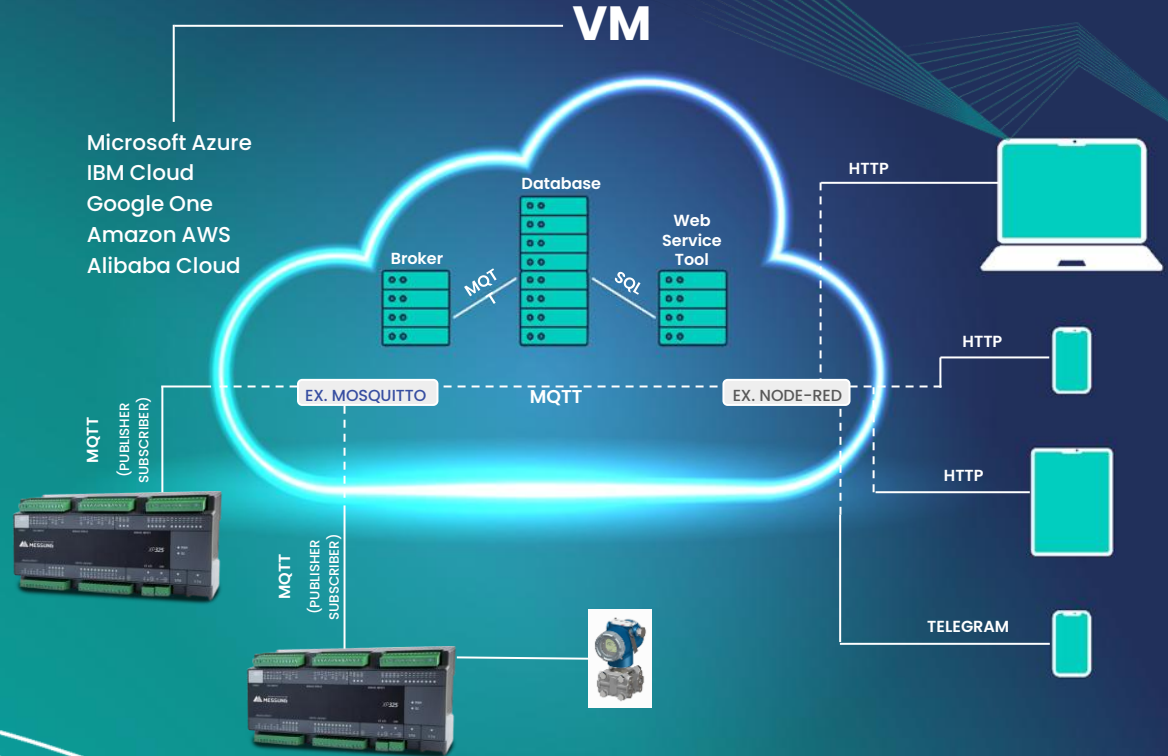
CANopen

Modbus

MQTT

CLOUD CONNECTIVITY

- USB Wifi
- VPN-Remote access
- Fire wall & Cyber security
- FTP



Wifi Adaptor By USB

Support To 3G/4G Modem and Wifi Adapter on the USB Interface

The new feature allows NX-ERA Xpress PLCs to be connected to wireless, corporate or cellular networks, wherever they are.

This feature allows, for example, the controller to use the 3G/4G network available in the region to transmit data from process units far from the command centers, without the need for a dedicated physical structure.

Communication via MQTT protocol, remote access via MasterTool software and visualization of the embedded screens on the Web Server.



3G / 4G

Cyber Security

Remote Access, Cybersecurity And File Transfer Protocol

Cyber security through resources available in the processor, at the application level of the Linux kernel and with resource provided by CODESYS

Firewall with configuration of user rules and availability of services (protocols) on the Ethernet port.

VPN tunnel support (P2P) for remote access to the controller and communication with other network devices.

FTP (server) for file transfer.





Web Server

Flexibility in the Development of Small and Medium Applications

System that allows the creation of supervision and monitoring screens without the use of a SCADA software.

Embedded in the controller's memory, it's possible to access the screens through a Web browser directly from the computer, tablet or smartphone

Control and supervision application on a single programming software

Considerable cost reduction in the project

Approvals

UL and CUL Certification

The NX-ERA Xpress CPUs are listed as in compliance with Underwriters Laboratories safety standards, a mandatory certification in markets such as the United States and Canada.

DNV-GL Certification (Marine Certification)

The high quality of NX-ERA Xpress CPUs are attested by renowned world-class technology institutes such as DNV-GL-Type Approval category. In the conformal coating process a thin layer of nonconductive material is applied to protect against corrosion, extreme temperatures, sea air, humidity, among others.

CE Certification for Nx-Era Xpress PLC

The CE marking on the Nx-Era Xpress PLC signifies that the product complies with the essential requirements of all applicable European Union directives. This certification ensures that the Nx-Era Xpress PLC meets the necessary health, safety, and environmental protection standards, reflecting our commitment to delivering reliable, high-quality industrial automation solutions that conform to international standards.



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AUTOMATION



Product Highlight

	XP300	XP315	XP325	XP340	XP350	XP351
Digital Inputs (DI)	16	16	16	16	16	16
Digital Outputs (DO)	16	16	16	16	16	16
HSC (100Khz)/ PTO (200KHz)	4/2	4/2	4/2	4/2	4/2	4/2
Analog Inputs -V/I (AI)	-	5	5	5	5	5
Analog Inputs -RTD (AI)	-	2	2	2	2	2
Analog Outputs (AO)	-	-	4	4	-	-
Ethernet / RS-485 serial interface	Yes	Yes	Yes	Yes	Yes	Yes
CAN Interface & USB host	Yes	Yes	Yes	Yes	Yes	Yes
User Web Pages (WEB Visu)	-	-	-	Yes	-	-
Motion Control (EtherCAT)	-	-	-	-	Yes	Yes With CNC Foundation.
FTP, Firewall, VPN	Yes	Yes	Yes	Yes	Yes	Yes

Scalability with Canopen Remote I/Os

Flexibility and Scalability for all Projects

NX-ERA Xpress input and output points can be expanded via CN interface, easily configurable by MasterTool IEC XE, using the models below:

- CAN-DI 16 -16 digital inputs (24 VDC)
- CAN DO 16T -16 digital outputs (transistor)
- CAN DO 16 -16 digital outputs (relay)



PROGRAMMING SOFTWARE

Engineering and Backup Features

Online debugging and monitoring / Online changes
Offline simulation / Symbolic variables
Easy hardware configuration / System diagnostics
Global variables lists / Source code memory area

IEC 61131-3 - Programming Languages

Structured Text (ST) / Sequential Function Chart (SFC)
Function Block Diagram (FBD) / Ladder Diagram (LD)
Instruction List (IL) / Continuous Function Chart (CFC)
Support of different languages in the same project

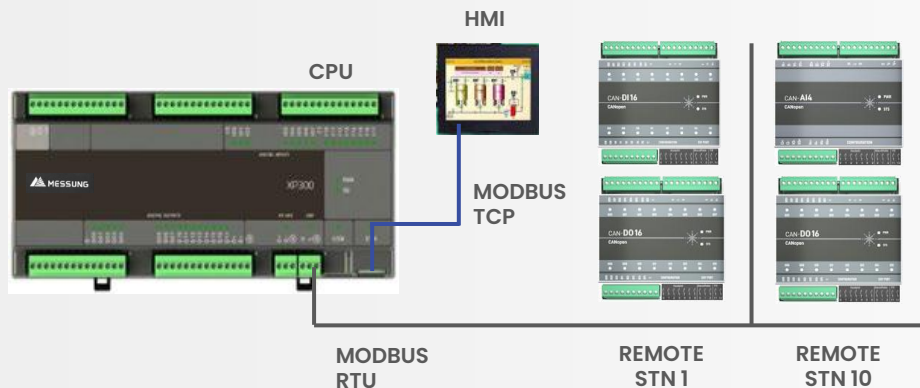
The screenshot displays the CODESYS environment. On the left is the 'New Connected System' tree. The top right shows a 'Global Variables' declaration table. The bottom right shows a ladder logic diagram with a timer T1 and a motor output. Below the diagram is a table of administrative and motion functions.

Administrative		Motion	
Single Axis	Multiple Axis	Single Axis	Multiple Axis
MC_Force	MC_ConstantSelect	MC_Home	MC_Center
MC_ReadStatus		MC_Stop	MC_GoToPos
MC_ReadAxisError		MC_Halt	MC_GoTo
MC_ReadParameter		MC_MoreAbsolute	MC_GoToVel
MC_ReadDigitalInput		MC_MoreRelative	MC_GoToPos
MC_WriteParameter		MC_MoreAbsolute	MC_PlanningAbsolute
MC_WriteDigitalOutput		MC_MoreRelative	MC_PlanningRelative
MC_ReadAxisPosition		MC_MoreVelocity	MC_CombineAxis
MC_ReadAxisVelocity		MC_MoreTorque	
MC_ReadAxisTorque		MC_TorqueControl	
MC_ReadAxisID		MC_PositionProfile	
		MC_VelocityProfile	
		MC_AccelerationProfile	



CODESYS

Installations Withnx-Era Xpress PLC



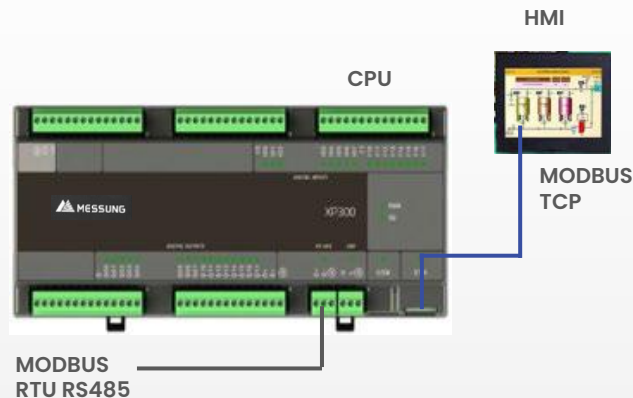
PLC Features For Continuous Furnace Applications:

- Integrated PID Controllers with Auto-tuning
- Programming on IEC 61131-3 standard,
- MODBUS TCP, MODBUS RTU, OPC UA, MQTT

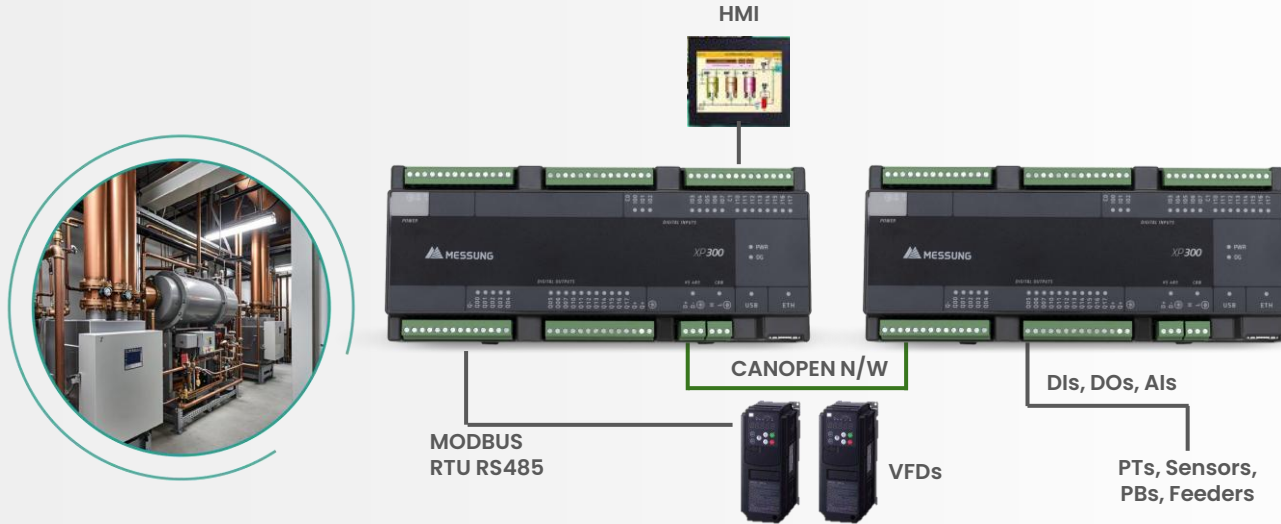
INSTALLATIONS WITH NX-ERA XPRESS PLC

Salt Spray Chamber Application

- Temperature Control
- Humidity Control
- Spray Control.
- Test Cycle Management
- Alarm and Notification



Installations with NX-ERA XPRESS PLC



Boiler Automation Applications

- Temperature, pressure, and water level, using sensors and actuators.
- Automating processes, improving efficiency, and reducing human error

THANK YOU!