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THE GENIUS IN A SMALL FRAME

NX-ERA
XPRESS PLC

THE GENIUS IN A SMALL FRAME

PERFORMANCE

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

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 1/0$ / Codesys Programming.

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

Jet

NX-ERA CPU

- 3003
- 3004
- 3005
- 3008
- 3010
- 3020
- 3030

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

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

I/O → 80 128 256 512 1024 2048

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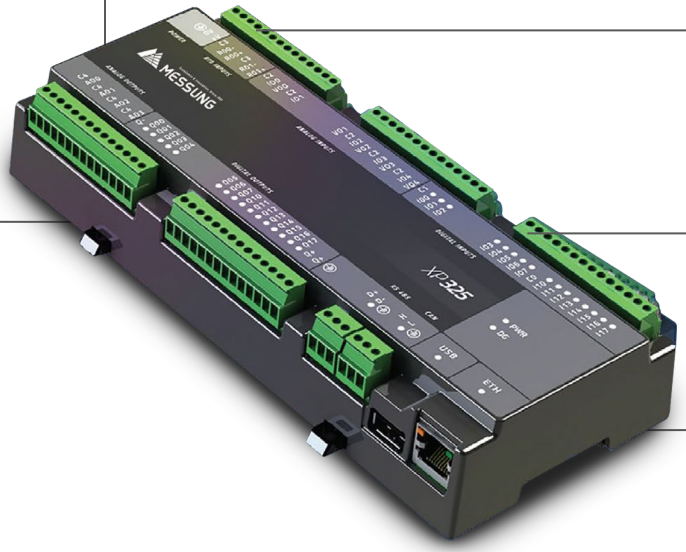
PRODUCT HIGHLIGHT

INDUSTRY 4.0

Multiprotocol Ethernet
VPN, Fairwall & 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

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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

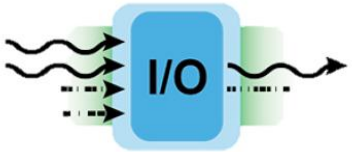
- Two 24 VDC input groups
- Optoisolated (sink)
- High-speed counters and external interruption (4 fast inputs)

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 4000Ω

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
- Optoisolated (source)
- PTO/PWM (4 fast outputs)
- 1.5 A per channel
- 12 A (maximum)

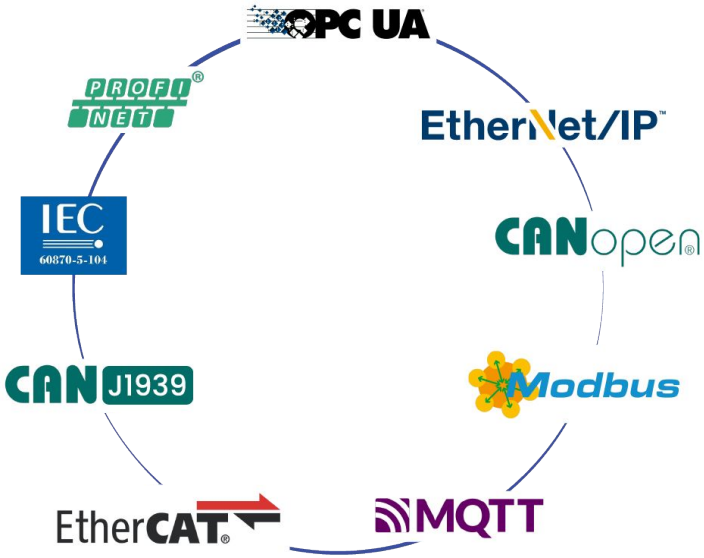
DEVICE CONNECTIVITY

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

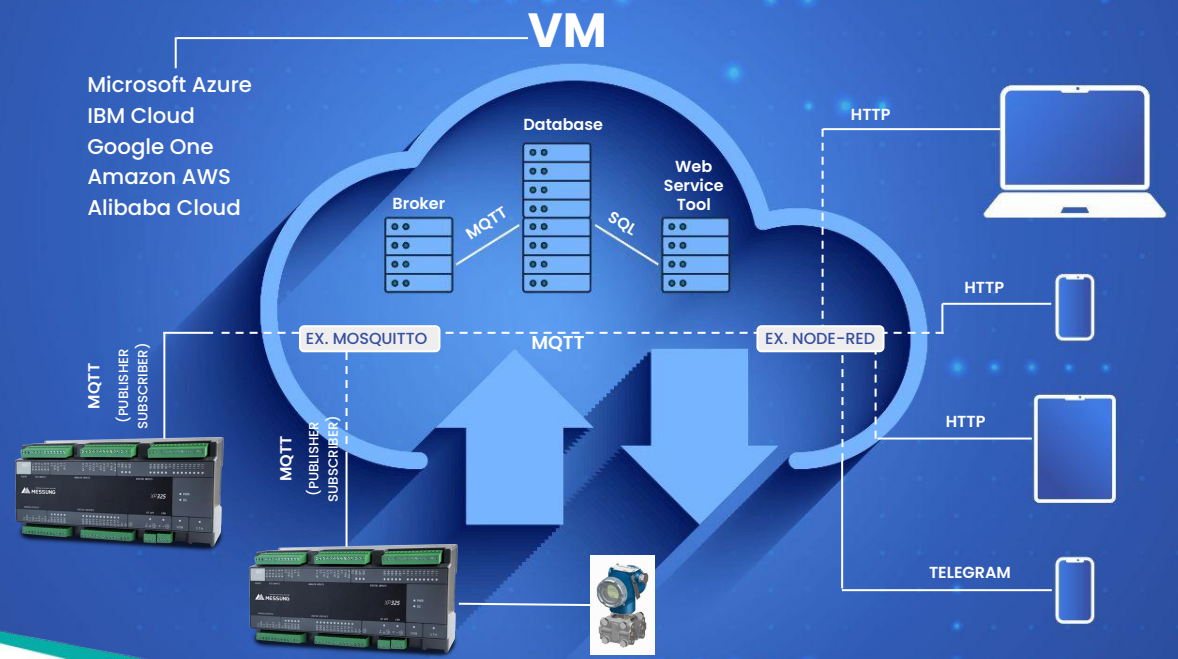
CAN
CANopen Master / CAN low level (proprietary protocols dev)
I/O Expansion

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



CLOUD CONNECTIVITY

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



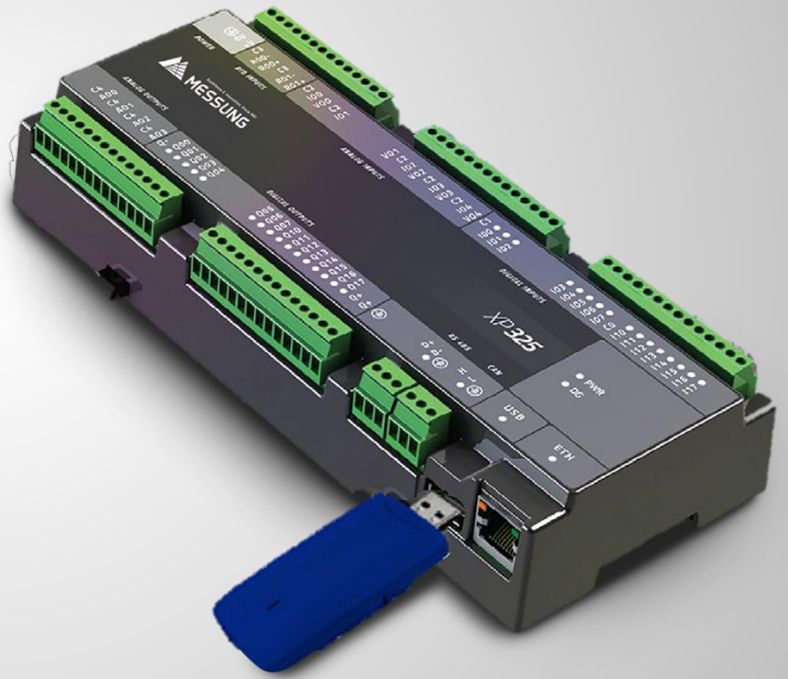
WIFI ADAPTOR BY USB

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.

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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

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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.

c UL us LISTED

DNV·GL

CE

MODELS

	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

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SCALABILITY WITH CAN OPEN REMOTE I/OS

CANopen

FLEXIBILITY AND SCALABILITY FOR ALL PROJECTS

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)
- CAN DI 8 DO6 –8 digital inputs (24 VDC) and 6 digital outputs (relay)
- CAN AI 4 –4 analog inputs V/I (12-bit)
- CAN AO4 –4 analog outputs V/I (12-bit)

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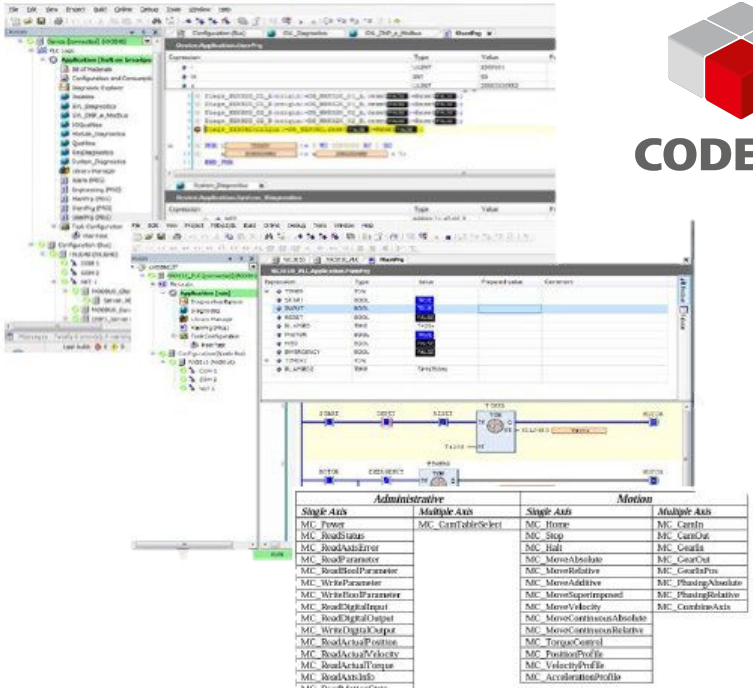
PROGRAMMING SOFTWARE

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

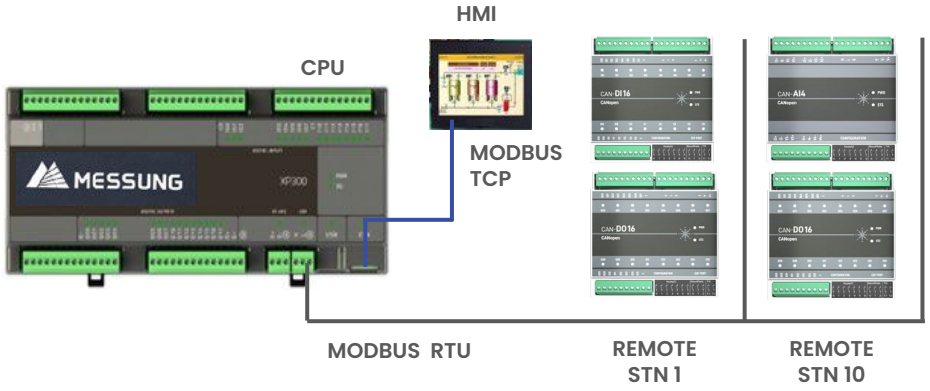


CODESYS

INSTALLATIONS WITH NX-ERA XPRESS PLC

PLC FEATURES FOR CONTINUOUS FURNACE APPLICATIONS:

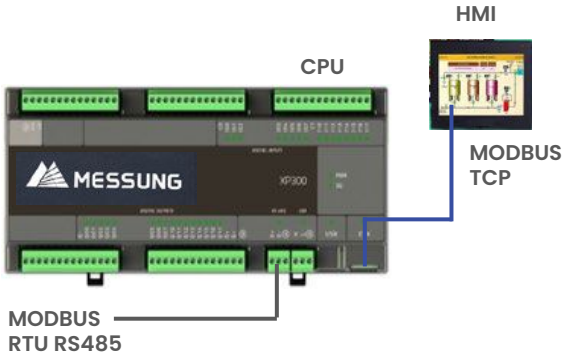
- Integrated PID Controllers with Auto-tuning
- Programming on IEC 61131-3 standard,
- MODBUS TCP, MODBUS RTU,OPC UA,MQTT



INSTALLATIONS WITH NX-ERA XPRESS PLC

SALT SPRAY CHAMBER APPLICATION

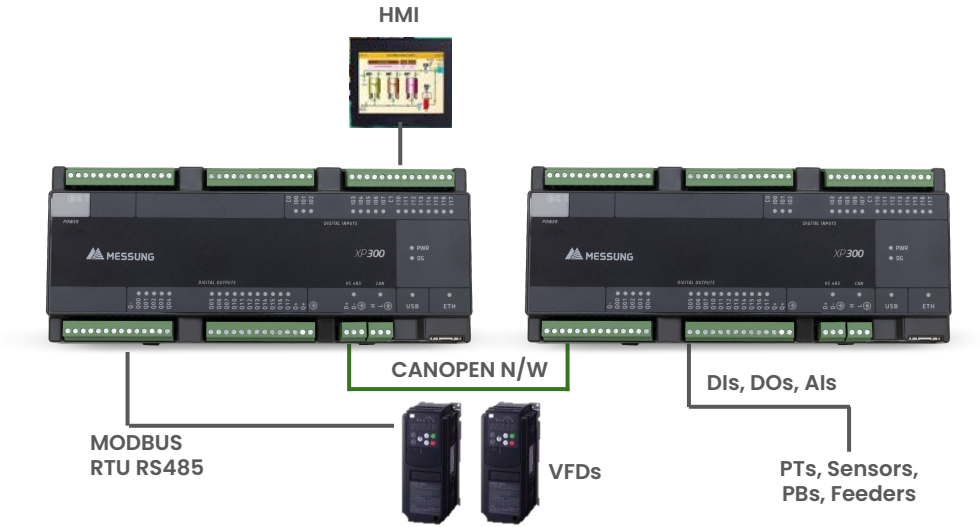
- Temperature Control
  Humidity Control
- Spray Control.
  Test Cycle Management
- Alarm and Notification



INSTALLATIONS WITH NX-ERA XPRESS PLC

BOILER AUTOMATION APPLICATION

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



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