MOX PRODUCTS

MOX IoNix Field Controller

MX606-3002-01/02

DATA SHEET

The MOX IoNix Field Controller is a compact and feature-rich controller designed for remote area installations or small distributed control solutions.

Functional Overview

With built-in compatibility to the MOX 601 Open Controller and MOX 602 Field Controller families, and with seamless integration to the MOX 603 Modular I/O range, the MOX IoNix Field Controller completes the entire range of Intelligent Automation products designed and manufactured by MOX Products.

The MOX IoNix Field Controller delivers 400MHz processing power for remote area installations or small distributed control solutions.

Application

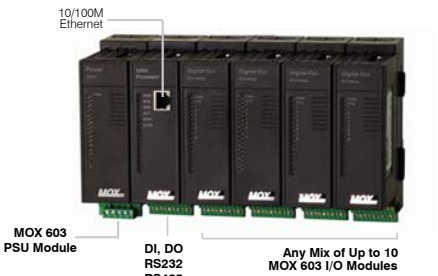
Cascade any MOX 603 I/O module directly to the backplane for a compact monitoring and control solution. Onboard communication ports provide connectivity to remote I/O, HMI/SCADA systems, and other interface devices.

The built-in mix of DI and DO channels are designed to match the requirements of compact project installations. A MOX IoNix Field Controller will efficiently communicate and control up to 10 interconnected MOX603 I/O modules fitted to the backplane, and even larger systems can be controlled using MOX603 modules as remote I/O.

Sufficient power must be supplied to the rack base MX603-4001 PSU to power all interconnected I/O modules. An external 24VDC power supply rated to 50W (or higher) is recommended.

The MOX IoNix Field Controller can be configured to provide a unique redundant capability ensuring maximum reliability and uptime approaching 100%. In this configuration, MOX 603 I/O modules also provide redundant I/O capability.

Typical Usage of MOX IoNix Field Controller



Features

- Powerful 400MHz Processor
- 64MB RAM
- 128MB Flash Memory for Program and Data Storage
- High speed 10/100Mbps Ethernet
- Built-in DI, DO Channels
- Modular design cascades directly with MOX 603 I/O
- Integrated and transportable IEC61131 software
- True Redundancy supported at multiple levels
- Certified model available as non-sparking for use in explosive atmospheres to IECEx nA II T4 Gc

The MOX IoNix packs a powerful 400MHz processor, 64MB RAM and numerous communications options into a compact and modular package.

Ordering Information

MOX 606 IoNix	Main Feature	Part Number
MOX 606 IoNix CPU-02 (1 Ethernet)	2 x RS232, 2 x RS485, 1 x 10/100 Mbps Ethernet, 6xDI, 2xDO	MX606-3002-01
MOX 606 Ionity CPU-02 (1 Ethernet)	2 x RS232, 2 x RS485, 1 x 10/100 Mbps Ethernet, 6xDI, 2xDO, Certified to IEC Ex nA II T4 Gc	MX606-5002-01
MOX 606 IoNix CPU-02 (2 Ethernet)	2 x RS232, 2 x RS485, 2 x 10/100 Mbps Ethernet, 6xDI, 2xDO	MX606-3002-02
MOX 606 Ionity CPU-02 (2 Ethernet)	2 x RS232, 2 x RS485, 2 x 10/100 Mbps Ethernet, 6xDI, 2xDO, Certified to IEC Ex nA II T4 Gc	MX606-5002-02
MOX 603 PSU Module	24VDC Power Supply Required for CPU and Rack Based I/O	MX603-4001
MOX 603 Ionity PSU Module	24VDC Power Supply Required for CPU and Rack Based I/O, Certified to IEC Ex nA II T4 Gc	MX603-9001

MOX IoNix, Communications Options	Main Feature	Part Number
MOX 606 GSM/GPRS Module	For Wireless Multipoint Communications	MX606-3201

IoNix Base Units	Main Feature	Part Number
CPU Base (For MX606-3002-01)	Dual Base to suit Single Ethernet IoNix CPU-02 & MX603-4001 PSU	MX606-3102
CPU Base (For MX606-5002-01)	Dual Base to suit Single Ethernet Ionity CPU-02 & MX603-9001 PSU, Certified to IEC Ex nA II T4 Gc	MX606-5102
CPU Base (For MX606-3002-02)	Dual Base to suit Dual Ethernet IoNix CPU-02 & MX603-4001 PSU	MX606-3103
CPU Base (For MX606-5002-02)	Dual Base to suit Dual Ethernet Ionity CPU-02 & MX603-9001 PSU, Certified to IEC Ex nA II T4 Gc	MX606-5103

CPU Specifications

CPU Type	ARM
Speed	400MHz
RAM	64MB
Flash	128MB

Performance Specifications

Power Supply (to MX603-4001)	External 24Vdc Supply
Power Dissipation within module	5.5W(max)
Power Bus Capacity	4A Max per Bus

Environmental Specifications

Operating temperature	-20° to 70° C (-20° to 50°C with MX606-3201 GPRS)
Storage temperature	-40 to 85° C
Humidity	5 to 95% non-condensing (5 to 90% non-condensing with MX606-3201 GPRS)

Communications

Serial Communications	2 x RS232
	2 x RS485
	Up to 115,200bps
Ethernet Communications	1x 10/100 Mbps Ethernet (MX606-3002-01)
	2x 10/100 Mbps Ethernet (MX606-3002-02)
	RJ45 Connection
GSM/GPRS Option Module	GSM Modem, GPRS Modem, PPP

I/O

Built-in I/O	6 x DI Channels, 2 x DO MOSFET Channels
	5000Vrms Isolated to the System
	DO Output Current Rating 100mA
Rack Base I/O	MOX 603 Rack Base I/O, Cascaded Directly
	Up to 10 Modules
Remote I/O	MOX 603 Rack Base I/O

Mechanical Specifications

Combined PSU & CPU Base

Width	80 mm
Height	140 mm
Height (with terminal strips)	150 mm
Depth	48.5 mm

Module

Width	40 mm
Height	114 mm
Depth	80 mm
Depth (including Base plug)	84 mm

Software Specifications

Diagnostic Information

System Information	Firmware Revision, CPU Run Status
	Cycle Time, Cycles Since Start, Run Time
	Error Information for I/O and Comms
	System Alarm Information

Communications Support

Serial Communications	Modbus RTU Master and Slave
	Modbus ASCII Master and Slave
	DNP 3.0 Level 2 Master and Slave
	IEC60870-5-101
	User Defined Serial Protocol
Ethernet Communications	Modbus/TCP Client and Server
	IEC60870-5-104
	DNP 3.0 Level 2 Master and Slave

Programmable Function Blocks

Gas Flow Calculation Functions	AGA3, AGA7, AGA8
Special Functions	PID, Programmable Modbus Master
	System Information Retrieval
Communications Functions	Low Level Serial Port Operation; open,
	send, receive, close
Data File Functions	File Send, File Receive
Variable Sync Functions	Synchronize variables in two controllers

Special Functions

Communications	Peer to Peer Comms and Broadcast
	Report by Exception
	Store and Forward
	Low Level Communications Interface
Data Logging	Data Storing on Lost Communications
	Time Stamping
	Interval Based Logging
Local and Remote Functions	IEC61131 Programmable
	System Firmware Upgrade

Isolation

Ethernet Port to System	1500Vrms
Serial Ports to System	RS485: 2500Vrms
	RS232: None
DO Channels to System	5000Vrms
DI Channels to System	5000Vrms

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