## Johnson Controls Metasys Slave Interface Module

**MVI46-N2**

*Ideal for Energy Management Applications*

*Applications benefiting from the inRAx N2 module are prevalent in commercial building and energy management projects. Single or multiple processor applications will benefit through reduced installation costs and increased functionality.*

## How to Contact Us: Sales and Support

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# Johnson Controls Metasys Slave Interface Module

## MVI46-N2

The Johnson Controls N2 Communication Module allows Rockwell Automation SLC I/O compatible processors to interface easily with other Johnson Controls N2 master devices.

## Features and Benefits

The inRAx-N2 module acts as an input/output module between the Johnson Controls Metasys network and the Rockwell Automation backplane. The module is capable of receiving commands from a master device. The data transfer from the SLC processor is asynchronous from the actions on the Johnson Controls Metasys network. An internal database in the module exchanges data between the processor and the Johnson Controls Metasys Master (NCM, N-30, NAE, NIE).

## General Specifications

- Single Slot – 1746 backplane compatible (Local or extended I/O rack only. Remote rack not supported)
- The module is recognized as an Input/Output module and has access to processor memory for data transfer between processor and module using M0/M1 files
- Ladder Logic is used for data transfer between module and processor. Sample ladder file included
- Configuration data obtained from configuration text file downloaded to module. Sample configuration file included

## Hardware Specifications

| Specification | Description |
|---|---|
| Backplane Current Load | 800 ma @ 5V (from backplane) |
| Operating Temperature | 0 to 60°C (32 to 140°F) |
| Storage Temperature | –40 to 85°C (–40 to 185°F) |
| Shock | 30g operational, 50g non-operational |
| Relative Humidity | 5 to 95% (non-condensing) |
| Vibration | 5 g from 10150 Hz |
| LED indicators | Module status, Backplane transfer status, Application status, Serial activity and error LED status |

| Debug/Configuration port (CFG) | |
|---|---|
| CFG Port (CFG) | RJ45 (DB-9M with supplied cable)<br>RS-232 only |
| Configuration Connector | RJ45 RS-232 Connector (RJ45 to DB-9 cable shipped with unit) |
| **Application Ports** | |
| Application Serial port (PRT1, PRT2) (Serial Modules) | (2) RJ45 RS-232/422/485 Application ports |

## Functional Specifications

Some of the general specifications include:

- Support for the storage and transfer of internal database registers to/from the SLC processor's controller tags
- Two ports to emulate a Johnson Controls N2 slave
- Supports the following N2 objects:
  - Binary Input: Up to 960 points
  - Analog Input: Up to 300 points
  - Binary Output: Up to 960 points
  - Analog Output: Up to 300 points
- Supported Commands/Sub-commands
  - 0/4: Poll Message No Acknowledge
  - 0/5: Poll Message with Acknowledge
  - 0/9: Status Update
  - 1/1: Read Analog Input Attributes
  - 1/2: Read Binary Input Attributes
  - 1/3: Read Analog Output Attributes
  - 1/4: Read Binary Output Attributes
  - 2/1: Write Analog Input Attributes
  - 2/2: Write Binary Input Attributes
  - 2/3: Write Analog Output Attributes
  - 2/4: Write Binary Output Attributes
  - 7/2/3: Override Analog Output
  - 7/2/4: Override Binary Output
  - F: Identify Device Type
- The following commands are recognized, and acknowledged, but are not communicated in any way to the PLC/SLC, and do not return any data:
  - 0/0: Time Update
  - 0/8: Warm Start
  - All other commands return a Bad Command Error Code
- Configurable through the configuration file for the following:
  - Slave Address (assignable individually for Port 1 and 2)
  - Analog Input Object Count
  - Binary Input Object Count
  - Analog Output Object Count
  - Binary Output Object Count
- Warning and Alarming functions performed on Analog Input and Binary Input data types
- Change of State Response buffering
- Communication status error codes and statistics returned per port

Memory mapping is pre-assigned to optimize data access and to ease implementation

A port configured as a Johnson Controls N2 slave permits a remote master to interact with data contained in the module. This data is derived from the SLC processor.

## Additional Products

ProSoft Technology offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms.

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