

Reliance Electric 57C420

AutoMax 5-24 V DC Output Module

Product scope

- Provides thirty-two solid-state outputs for 5-24 V DC field loads.
- Allows up to 750 mA per point within the 1.8 A common-group limit.
- Uses four outputs per isolated common with high logic-to-field isolation.
- Receives its commanded output image through the AutoMax rack backplane.

Manufacturer source

Rockwell Automation / Reliance Electric 5-24 V DC Output Module M/N 57C420, AMAX-IN040/AMAX-IN231.

The enclosed record and retained manufacturer pages identify the exact product and explain its function, operating principle, application and critical matching requirements.

Request a fast quote	Product reference	
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Reliance Electric 57C420

AutoMax 5-24 V DC Output Module

Manufacturer-source product record

This record consolidates exact-model facts from the manufacturer references listed below. It is included to identify the ordering configuration before the retained source pages.

Output points	32
Output range	5 to 24 V DC; maximum operating voltage 30 V DC
Maximum load	750 mA per output; 1.8 A per common
Isolation grouping	Four outputs per isolated common
Logic-to-output isolation	5000 V AC
Maximum saturated drop	1.5 V
Backplane power	+5 V at 850 mA
Dimensions	11.75 x 1.25 x 7.375 in
Environment	0 to 60 deg C operating; 5 to 90% RH noncondensing

Official references

- Rockwell Automation / Reliance Electric 5-24 V DC Output Module M/N 57C420, AMAX-IN040/AMAX-IN231.
- Official source: https://literature.rockwellautomation.com/idc/groups/literature/documents/in/amax-in040_-en-p.pdf

Only the exact configuration shown above is represented. Adjacent model variants, optional assemblies and system accessories are not treated as part of this ordering identity.

Function, operating principle and application

The notes below explain how this product is used and how its documented signal, power or control path operates. They remain limited to the manufacturer evidence for this model.

Output function

The module converts AutoMax backplane commands into thirty-two low-voltage DC switching outputs for field loads.

Operating principle

Application logic writes an output image to the module. Solid-state output circuits source the commanded 5-24 V DC state to each load, while isolated common groups limit the propagation of field-side faults.

Load planning

A single point may switch up to the documented 750 mA, but the four-output common is limited to 1.8 A. Thermal and power calculations must therefore consider the simultaneous load pattern, not only individual point current.

Typical use

The outputs can drive compatible relays, indicators, solenoids and other DC loads in machine or process-control panels when surge suppression and field supply design are suitable.

Commissioning caution

Verify field-supply polarity, common grouping, cable and terminal-strip identity before enabling outputs. Removing or inserting the module or its cables can cause unexpected machine movement.

5 V - 24 VDC Output Module

M/N 57C420

Instruction Manual J-3633-2

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1.0 INTRODUCTION

The products described in this instruction manual are manufactured or distributed by Reliance Electric Company or its subsidiaries.

This 5 V - 24 VDC Output Module will drive a maximum of 32 low level DC output signals. The output signal voltage ranges from 5 volts through 24 volts. An individual output may drive as much as 750 mA. Output signals have 5000 volt isolation to logic common. The module contains 8 isolated commons, each having 4 outputs.

Typically, this module is used to output on/off signals to devices such as LED displays, pilot lights, and DC relays.

This manual describes the functions and specifications of the module. It also includes a detailed overview of installation and servicing procedures, as well as examples of programming methods.

Related publications that may be of interest:

- J-2611 DCS 5000 Product Summary
- J-3600 DCS 5000 Enhanced BASIC Language Instruction Manual
- J-3601 DCS 5000 Control Block Language Instruction Manual
- J-3602 DCS 5000 Ladder Logic Language Instruction Manual
- J-3629 DCS 5000 Remote I/O Instruction Manual
- J-3630 ReSource AutoMax Programming Executive Instruction Manual Version 1.0
- J-3635 DCS 5000 Processor Module Instruction Manual
- J-3649 AutoMax Configuration Task Manual
- J-3650 AutoMax Processor Module Instruction Manual
- J-3675 AutoMax Enhanced BASIC Language Instruction Manual
- J-3676 AutoMax Control Block Language Instruction Manual
- J-3677 AutoMax Ladder Logic Language Instruction Manual
- J-3684 ReSource AutoMax Programming Executive Instruction Manual Version 2.0
- J-3750 ReSource AutoMax Programming Executive Instruction Manual Version 3.0
- IEEE 518 Guide For The Installation Of Electrical Equipment To Minimize Electrical Noise Inputs To Controllers From External Sources

Appendix E

(Continued)

32 Bit Register Reference

Use the following method to reference all 32 outputs as a single register. Only one statement is necessary. The symbolic name of the register should be as meaningful as possible:

```
nnnnn RIODEF SYMBOLIC_NAME![ MASTER_SLOT=m,          &
DROP=d, SLOT=s, REGISTER=0]
```

When referenced as a long register of 32 bits, register 0 becomes the high order 16 bits. A 32 bit register reference over remote I/O should be used with care since the remote I/O system cannot guarantee that the entire 32 bit value will be moved in a single operation.

16 Bit Register Reference

Use the following method to reference a 16 bit register as a single output. For the entire module, a maximum of two statements can be included in the configuration task (one for each register). The symbolic name of each register should be as meaningful as possible:

```
nnnnn RIODEF SYMBOLIC_NAME%[ MASTER_SLOT=m,          &
DROP=d,SLOT=s,REGISTER=r]
```

Bit Reference

Use the following method to reference individual outputs on the module. For the entire module, a maximum of 32 statements can be included in the configuration task (one for each bit). The symbolic name of each bit should be as meaningful as possible:

```
nnnnn RIODEF SYMBOLIC_NAME@[ MASTER_SLOT=m,          &
DROP=d, SLOT=s, REGISTER=r, BIT=b]]
```

where:

nnnnn -- BASIC statement number. This number may range from 1-32767.

SYMBOLIC_NAME! -- A symbolic name chosen by the user and ending with (!). This indicates a long integer data type and all references will access the entire module.

SYMBOLIC_NAME% -- A symbolic name chosen by the user and ending with (%). This indicates an integer data type and all references will access register "r".

SYMBOLIC_NAME@ -- A symbolic name chosen by the user and ending with (@). This indicates a boolean data type and all references will access bit number "b" in register "r".

MASTER_SLOT -- Slot number that the master remote I/O module is plugged into. This number may range from 0-15.

DROP -- Drop number of the slave remote I/O module that is in the same rack as the output module. This number may range from 1-7.

SLOT -- Slot number that the module is plugged into. This number may range from 0-15.

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