



Reliance Electric 57C404B

AutoMax DCS-NET Network Communications Module

Product scope

- Exchanges control and status data among AutoMax/DCS 5000 racks.
- Uses a broadcast master/slave protocol across DCS-NET drops.
- Maintains a 4K-word dual-port image of the latest network data.
- Supports coaxial multidrop or suitably configured fiber-optic media.

Manufacturer source

Rockwell Automation Network Communications Module M/N 57C404B, AMAX-IN002.

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	
Email: info@apterpower.com Phone: +86 18106909650 apter.com/inquiry.php	Reliance Electric 57C404B	

The enclosed manufacturer pages are reproduced without alteration to technical content. External interactive links and unrelated pages are excluded from this web-optimized copy.

Reliance Electric 57C404B

AutoMax DCS-NET Network Communications 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.

Network	AutoMax / DCS 5000 DCS-NET
Function	Control and status data exchange between racks
Protocol	Master/slave with broadcast transmission
Data memory	4K-word dual-port network memory
Physical media	Coaxial bus or fiber-optic connection with the appropriate hardware
Physical drops	Up to 51 depending on cable type and network length
Virtual drops	Up to 55 software-configured drops
System current	+5 V at 2.5 A, +12 V at 0.053 A and -12 V at 0.0075 A

Official references

- Rockwell Automation Network Communications Module M/N 57C404B, AMAX-IN002.
- Official source: https://literature.rockwellautomation.com/idc/groups/literature/documents/in/amax-in002_-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.

Communication role

The module links multiple AutoMax/DCS 5000 racks into a distributed control network so each rack can publish and receive shared control or status information.

Network operation

A master drop initiates each transaction. Messages are broadcast to all network modules, and the encoded drop address determines which slave must respond; that response is also visible to every drop.

Shared-data mechanism

The onboard processor updates a 4K-word dual-port memory image containing the latest network data. Rack processors can read or write that image across the backplane without managing the physical transmission timing directly.

Topology choices

Coaxial installations use a multidrop bus. Fiber-optic media may be selected where galvanic isolation and greater noise immunity are required, subject to the network hardware and distance rules.

Commissioning checks

Set the physical or virtual drop definition, confirm master/slave planning, termination and cable type, and verify that every rack contains the required processor, power supply and network module before enabling traffic.

Please note: References in this manual to 57C404 may be followed by a letter indicating a revision. All references to 57C404B in this manual apply to 57C404C. 57C404C reflects a firmware revision of the 57C404B.

Appendices

Appendix A	
Hardware Technical Specifications	A-1
Appendix B	
Network Communications Module Block Diagram	B-1
Appendix C	
RS-232 Port Pinout	C-1
Appendix D	
Error Codes	D-1
Appendix E	
Network Compatibility Chart	E-1
Appendix F	
Response to a System Stop-All	F-1
Appendix G	
Schematics	G-1
Appendix H	
DCS-NET Network Specifications	H-1
Appendix I	
Network Cable Specifications	I-1
Appendix J	
Cable System Component List	J-1
Appendix K	
Glossary of Terms	K-1
Appendix L	
DCS-NET Fiber-Optic Network Installation Guidelines	L-1

1.0 INTRODUCTION

The products described in this instruction manual are manufactured by Rockwell Automation Company.

The Network Communications module (M/N 57C404B) provides the necessary hardware required to transmit control and status data between two or more AutoMax®/DCS 5000 racks to create a distributed control system. The racks that make up the AutoMax DCS-NET network are called "drops". Each drop connected to the network must contain a Power Supply module, a Processor module, and a Network Communications module.

The network uses a master/slave software protocol. The master initiates and controls all transmissions on the network. All transmissions are broadcast, i.e., all modules receive the data packets simultaneously. An address is encoded in each data packet to identify which slave is to respond to a particular transmission. The slave's response is also broadcast with all drops receiving the response data packet.

Each module contains a 4K word dual-port memory for storing the data that is transmitted over the network. The dual-port memory of each Network module on the network contains an image of the latest version of all the network data. This allows each section of a multi-section control system to access data quickly from all other sections of the system. The dual-port memory can be accessed by the on-board CPU as well as over the backplane bus by any Processors in the rack through application programs.

Any slave Network module can be software-configured to function as more than one drop. The number of slave drops that a Network module represents is defined as the "drop depth" of that Network module. The number of virtual (software-configured) drops is limited to 55.

The physical drops (racks containing a Network module) are connected using coaxial cable or, when high noise immunity and total electrical isolation is required, fiber-optic cable. The coaxial cable network is organized in a bus configuration. This type of topology is characterized by a main trunkline in which individual nodes are connected in a multidrop fashion as shown in figure 1.1. Up to 51 physical drops can be connected to the coaxial cable network depending upon the type of cable used and network length.

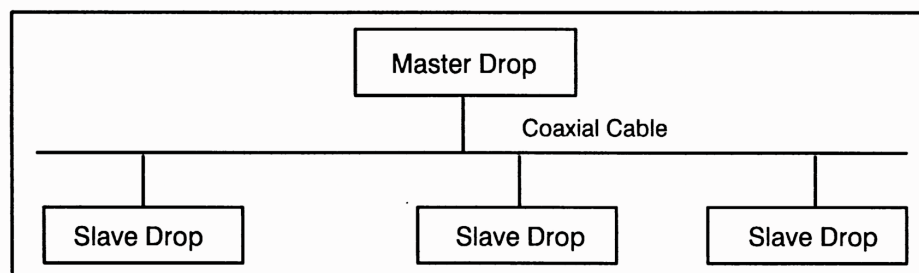


Figure 1.1 - A Typical DCS-NET Coaxial Cable Network Layout

The black bar shown on the right-hand margin of this page will be used throughout this instruction manual to signify new or revised text or figures.

An IBM™-compatible personal computer connected through any AutoMax™ Processor can program/monitor any Processor on any network that has a drop in that rack. For example, in figure 1.4, an IBM-compatible personal computer connected to an AutoMax Processor in Slave drop 1 can be used to load the AutoMax Programming Executive to a Processor located in Slave drop 3.

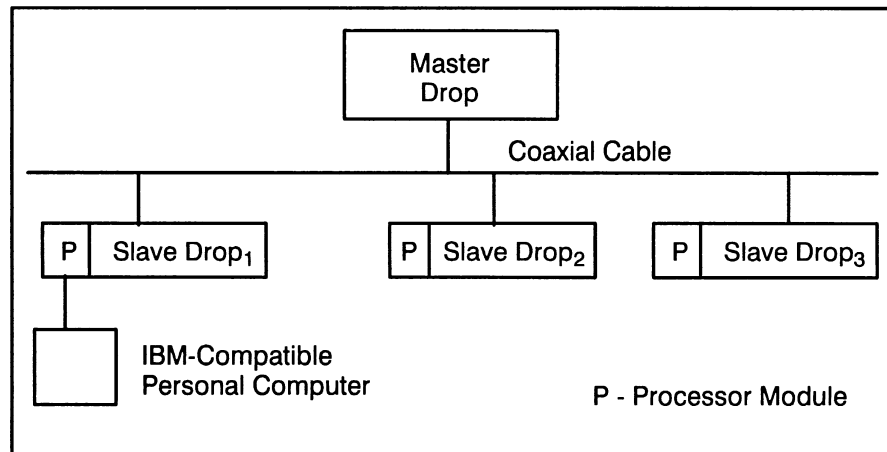


Figure 1.4 - Programming Terminal Communication Example (Coax)

Also, an IBM-compatible personal computer connected directly to the network (using an AutoMax PC Link Interface module, M/N 57C445) can access any drop on that network. See figure 1.5.

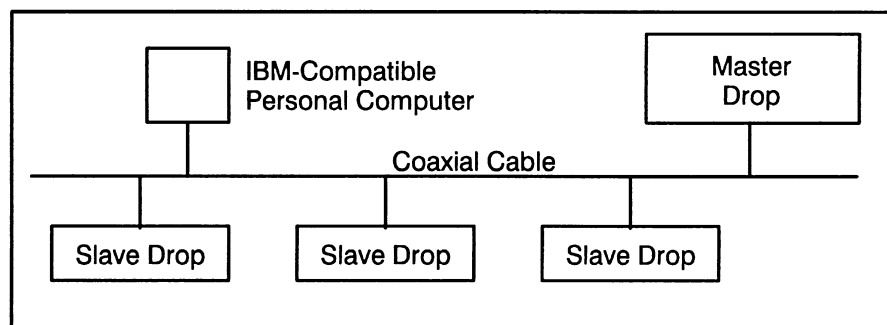


Figure 1.5 - A Personal Computer Connected Directly to the AutoMax Network (Coax)

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

1.1 Additional Information

You must be familiar with all the instruction manuals that describe your system configuration. This may include, but is not limited to, the following:

- J-3616 KERMIT Reference Manual
- J-3618 NORTON Editor Reference Manual



GLOBAL INDUSTRIAL AUTOMATION SOURCING

Ready to source this part?

Ask for availability, pricing and delivery options.

Request a fast quote

Include the product title and any required part number or quantity.

EMAIL

info@apterpower.com

PHONE

+86 18106909650



SCAN TO CHAT ON WHATSAPP

REQUEST A QUOTE

PRODUCT: Reliance Electric 57C404B

Manufacturer pages are reproduced without alteration to technical content.

Apter Power is not an authorized distributor, reseller or representative of the products featured.