MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GE FANUC

IC693CMM321-KM

TCP/IP ETHERNET INTERFACE MODULE

Used with the applicable Series 90-30 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: TCP/IP Ethernet Communications User's Manual GFK-1186G

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States of the Ethernet Interface

The states of the Ethernet Interface are described below.

Note on LED Names

The IC693CMM321 Series 90–30 Ethernet Interfaces and the IC697CMM742 Series 90–70 Ethernet Interface (Type 2) each have 4 LEDs. The CPU364 and CPU374 Ethernet Interfaces have 3 LEDs. Many of the functions being indicated are the same from module-to-module, with the exception of the third LED from the top (FDX, SER, SERIAL ACTIVE, N/A) in the following table.

LED Indicators for Ethernet Interface Products			
10Base-T Type IC693CMM321 Ethernet Interface	**AAUI-Only Type IC693CMM321 Ethernet Interface**	**IC697CMM742 Ethernet Interface (Type 2)**	**IC693CPU364/374 CPUs with Ethernet Interface**
OK	OK	MODULE OK	EOK
LAN	LAN	LAN ONLINE	LAN
FDX	SER	SERIAL ACTIVE	(N/A)
STAT	STAT	STATUS	STAT

Hardware Failure State

When power is cycled on the Series 90 PLC, or whenever the Ethernet Interface is restarted, power–up diagnostics run. Diagnostics running is indicated by the OK LED fast blinking, while the other LEDs remain OFF.

Note

If all LEDs turn OFF and stay OFF during power–up diagnostics, or if on the CPU374, the EOK LED blinks in a repeated sequence, then power–up diagnostics have failed. Refer to the PLC Fault Table for more information.

The PLC Fault Table can be especially helpful in detailing faults that are detected during power–up because the Station Manager is not operational during power-up. If the Ethernet Interface has a problem, it may not be able to report fault details. In the case of the CPU374 only, the EOK LED blinks a two-digit failure code that can also help determine the nature of the failure. Refer to the topic, *"Troubleshooting Using the PLC Fault Table"* in this chapter for more information.

Upon successful completion of diagnostic testing, the Ethernet Interface waits for configuration data from the PLC CPU. This may take several seconds, depending upon the PLC configuration. If configuration data is not received, the Ethernet Interface will use a backup copy of the most recent valid configuration data. (Each Ethernet Interface is shipped from the factory with a valid set of default backup configuration data.)

Refer to GFK–1541, *TCP/IP Ethernet Communications for the Series 90 PLC User's Manual* for details on the power–up process.

The Restart pushbutton is not operable during the Ethernet Interface diagnostic phase nor is the Station Manager active.

Software Load State

The Software Load state is automatically entered if the Power–up Diagnostics detect a problem with the primary software. For Style A Station Manager modules, it can also be entered if the Station Manager user issues a *LOAD* command or the Restart pushbutton is pressed and held until the bottom (STAT) LED comes ON. In the Software Load state, all Ethernet Interface LEDs are blinking in unison.

In the Software Load state, the Ethernet Interface can accept a download of its operating software from an external PC Loader device (a PC running the PC Software Loader program). Refer to GFK–1541, *TCP/IP Ethernet Communications for the Series 90 PLC User's Manual*, Appendix C, for a description of the software loading process. Once a software load has begun, the existing communications software is deleted; the Ethernet Interface must be completely reloaded.

For Style A Station Manager modules, the Restart pushbutton may be used to abort the Software Load state. If the existing operating software has not been erased or corrupted, the Ethernet Interface will restart immediately into the Operational state upon pressing the pushbutton. If the operating software is not available, the Ethernet Interface always restarts into the Software Load state.

For Style B Station Manager modules, the load takes place as a part of an overall update of the PLC CPU firmware. No separate load of the Ethernet Interface is required or supported.

Waiting for IP Address State

If a non–zero IP address for the Ethernet Interface was not configured prior to power up, or the IP address was configured to 0.0.0.0, the Interface will wait indefinitely for a non–zero IP address. The OK and STAT LEDs blink in unison. In this state, the Ethernet Interface does not perform any SRTP Server or Channel API operations (or Modbus/TCP Server or Channel API operations[*]). If this occurs, you need to configure a non–zero IP address using the PLC Programmer configuration software and restart the module.

For Style A Station Manager modules, you may temporarily supply an IP address using the *BOOTP* Station Manager command; an IP address supplied by a BOOTP server, or the *BOOTP* Station Manager command remains effective only until the next restart of the Ethernet Interface.

For Style B Station Manager modules, you may temporarily assign an IP address over the network. See Appendix D for the process to assign a temporary IP address to a Style B Station Manager module.

[*] Modbus/TCP available only on Series 90-30 Ethernet Interface IC693CMM321-FH or later.