GE IC693CPU374

01 Budget memory around the control application

Scope: CPU374 PLUS technical implementation; match the offered hardware and firmware.

240 KB shared user-memory budget

Logic + configured register and analog word-memory allocations

Total user memory	245,760 bytes
%R / %AI / %AQ	Each configurable from 128 to 32,640 words
%I and %Q	2,048 fixed points each
%M / %T	4,096 / 256 bits
%G / %S / %SR	1,280 bits / 128 status bits / 28 words

Capacity is not an extra program allowance

The total user-memory figure must not be added to separately configured word-memory areas. Increasing those allocations affects available program space. Compare the retained project’s actual configuration rather than checking logic size in isolation.

Execution time is not a scan guarantee

The specified 0.15 µs Boolean instruction time describes an instruction characteristic. A full scan includes the actual logic mix, I/O and communication work. Validate the application’s measured scan and response behavior instead of multiplying one instruction figure into an unconditional system guarantee.

GE IC693CPU374

02 Assign one Ethernet identity without a ring

Scope: CPU374 PLUS technical implementation; match the offered hardware and firmware.

Physical connections	Two auto-sensing 10/100Base-T/TX RJ45 ports
Network identity	One IP address shared by the embedded switch
Topology rule	Tree, not ring; avoid a second path to the same network device
Serial boundary	No CPU serial port; power-supply RS-485 carries SNP/SNPX

A pair of connectors does not create redundancy

Connecting the ports into a loop can duplicate packets, overload the network and cause repeated Ethernet-module resets. Preserve the approved tree topology; do not treat the second connector as an independent failover interface.

Separate engineering-target and controller addresses

The programmer’s target IP is stored separately from Ethernet addressing inside hardware configuration. A store may change the actual PLC address and break the session. Review the intended IP, subnet mask and gateway before the operation, then reconnect to the resulting address.

No fault entry is not proof of uniqueness

This implementation does not record a PLC fault solely on detecting a duplicate IP address. Verify the address assignment and actual responding endpoint when communications are inconsistent.

GE IC693CPU374

03 Coordinate exchange timing and data consistency

Scope: CPU374 PLUS technical implementation; match the offered hardware and firmware.

EGD producer/consumer	Configured periodic exchange; zero means as fast as scheduled
SRTP atomicity boundary	256 bytes / 128 words for coherent channel operations
Larger SRTP blocks	Use channel-status bits or RDCS completion before consuming the block
Channel timeout budget	Includes TCP/SRTP establishment, maintenance and retransmissions

Unequal update counts can be scheduling behavior

Several zero-period produced exchanges need not produce similar numbers of samples. Give exchanges appropriate nonzero periods where predictable production is required, then measure freshness at the consuming application.

A complete transaction is the useful timing unit

Remote-server processing is only part of a channel transaction. Connection setup, maintenance and retransmissions also consume time. Compare timeout settings with the full path and distinguish a temporary timeout from a channel that has stopped running.

Avoid partially updated application records

For a larger transfer, some words may change before others. Completion-aware logic prevents an application from treating a mixed old/new structure as a valid record. Test this behavior under the intended data volume and network load.

GE IC693CPU374

04 Manage network resources and diagnostics

Scope: CPU374 PLUS technical implementation; match the offered hardware and firmware.

SRTP client capacity	Up to 16 channels
Combined SRTP/TCP capacity	Up to 36 connections: 20 server + 16 client
TCP linger interval	60 seconds in the documented OS implementation
Resource-exhaustion response	0xA890; controlled wait and retry
Advanced setting boundary	Keep wsnd_buf unchanged

Retask instead of repeatedly tearing down

A closed client connection can continue to occupy TCP resources during the linger interval. A persistent periodic channel or retasking an active channel to the same remote device can conserve resources. Retasking to a different device does not preserve that same connection advantage.

Read diagnostics in the context of network load

Heavy EGD/SRTP activity can block Station Manager access. Separately, flash or program-store work can interrupt Ethernet transfers. Correlate the current operation, traffic and fault tables before concluding that the interface has failed.

Do not repair congestion with an unsupported buffer change

Changing wsnd_buf can cause the LAN indication to go out and the connection to drop. Investigate connection churn, exchange periods, topology and peer response before altering advanced settings.

GE IC693CPU374

05 Match the supported hardware combination

Scope: CPU374 PLUS technical implementation; match the offered hardware and firmware.

High-capacity supply	IC693PWR330 / IC693PWR331 / IC693PWR332
CPU rail demand	1.48 A at +5 V DC; 7.4 W
IC693MDL730	Revision E or later
IC693ALG220 / 221	Revision G or later
IC693CMM321	Firmware 1.10 or later
IC693PBM200 / PBS201	Firmware 1.16 / 1.28.1 or later
FIP Bus Controller	Version 3 or later
Hand Held Programmer	Not supported

Assess compatibility as a combination

Correct CPU identification is only the beginning. Review the companion hardware, software and application feature requirements together; an older module revision can introduce output, analog or backplane behavior that a CPU replacement alone will not resolve.

Technical basis

GE Intelligent Platforms CPU374 PLUS Important Product Information, GFK-2123AA. The ordering table identifies IC693CPU374. Ratings and operating notes here describe the CPU374 PLUS implementation, with the release information covering IC693CPU374-KZ. Confirm the available unit’s hardware and firmware before applying these values to an earlier revision.

Related control-system product references

Emerson KJ2005X1-BK1 12P4688X052 SE3007

Honeywell 10302/2/1

Honeywell FC-PSU-UNI2450U V1.0

Separate products; no substitution or compatibility is implied.