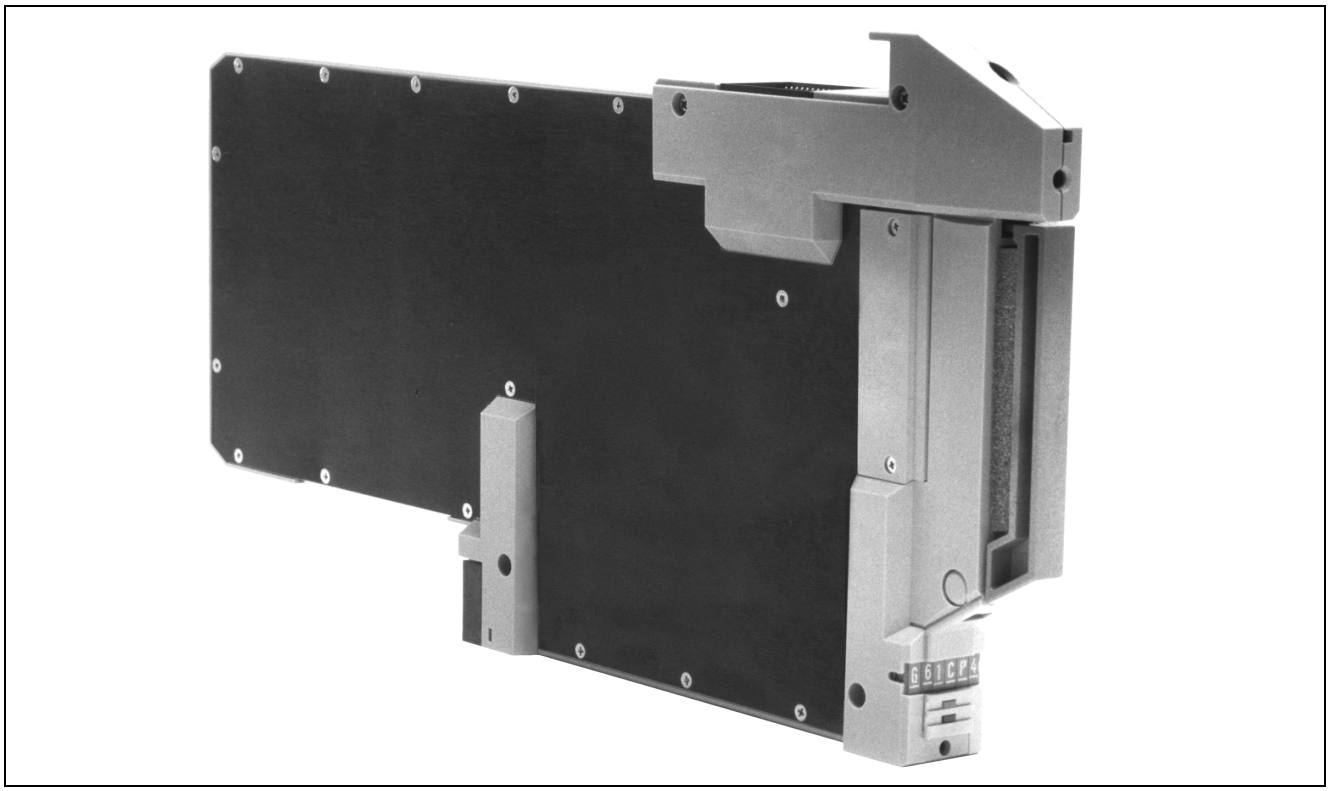
I/A Series® Hardware
Control Processor 60



The Control Processor 60 is an optionally fault-tolerant station that performs regulatory, logic, timing, and sequential control together with connected Fieldbus Modules (FBMs). It also performs data acquisition (via the Fieldbus Modules) and alarm detection and notification.

The Control Processor 60 supports two basic types of FBMs, those included in the DIN rail mounted FBM subsystem (FBM201, FBM202, and so forth), and Y-Module form factor FBMs (FBM01, FBM02, and so forth). The CP60 also supports communication with the Hydrostatic Interface Unit (HIU), Mass Flowmeter, Panel Display Stations, Cluster I/O Migration, SPECTRUM Migration, and Competitor Migration DCS Fieldbus Modules. For details, see “Devices Supported” on page 2.

The Control Processor 60 communicates with all associated devices via a 10 Mbps Ethernet trunk Fieldbus. The interface between the devices (FBMs) and the 10 Mbps Ethernet trunk Fieldbus is via Fieldbus Communications Modules (FCM10E or FCM10Ef modules) and/or DIN Fieldbus Converter Modules (DCM10E or DCM10Ef) or Fieldbus Isolators (FBI10E modules).

The non-fault-tolerant version of the Control Processor 60 is a single-width processor module. The fault-tolerant version consists of two single-width processor modules.

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FUNCTIONAL SPECIFICATIONS

Processor Type

CONTROL PROCESSOR
Microprocessor-based AMD 486 DX5 (running at 133 MHz) with stored programs, using high-speed communication capability.

NODEBUS PROCESSOR
82596CA LAN Coprocessor

FIELDBUS PROCESSOR
AMD 386 Ethernet Processor

Memory

SIZE
8 MB storage

ERROR DETECTION
ECC providing single-bit error detection and correction.

Process I/O Communications (with FBMs)

ETHERNET TRUNK FIELDBUS

Type
10Base2

Transmission Rate
10 Mbps

MODULE FIELDBUS, VIA FCM

Type
HDLC, EIA RS-485

Transmission Rate
2 Mbps

MODULE FIELDBUS, VIA FBI10E OR DCM10E

Type
HDLC, EIA RS-485

Transmission Rate
268.75 Kbps

Cable Lengths – Ethernet Trunk Fieldbus

ETHERNET TRUNK FIELDBUS(a), 10BASE2
COAXIAL CABLING ONLY
185 m (607 ft) maximum(b)

FIBER OPTIC EXTENSION (BETWEEN BNC TO FIBER-ST CONVERTERS)
2 km (1.24 mi) maximum, each extension(b)

MAXIMUM ETHERNET TRUNK SEGMENTS
Three 10Base2, joined by two fiber optic extensions

FIBER DISTANCE FROM HUB TO FCM10Ef, DCM10Ef, OR FIBER CONVERTER FOR FBI10E
2 km (1.24 mi) maximum(b)

Cable Lengths – Module Fieldbus

DIN RAIL MOUNTED FBMS
Refer to PSS 21H-2W1 B3

Y-MODULE FORM FACTOR FBMS
10 m (30 ft)

Cable Lengths – Combined

CONTROL PROCESSOR 60 TO FURTHEST FBM (USING COMBINED COAXIAL AND FIBER OPTIC CABLING)
20 km (12.4 mi)

Process I/O Capacity

FIELDBUS MODULES(c)

- 120 FBMs maximum per Control Processor 60, depending on selected scan periods.(d)
- 30 FBMs maximum per FCM10E or FCM10Ef module or redundant module pair
- 36 FBMs maximum per WFCM10E or WFCM10Ef module or redundant module pair
- 24 FBMs maximum per FBI10E or FBI module, or redundant module pair

FCM/DCM/WFCM/FBI MODULES
30 (maximum total) FCM10E, FCM10Ef, DCM10E, DCM10Ef, WFCM10E, WFCM10Ef, or FBI10E modules, all of one kind or in any combination, per Ethernet trunk Fieldbus

Maximum Blocks Configured

The maximum number of blocks that can be configured for use with the CP60 (or redundant CP60 pair) is 4000. (The number of blocks used depends on scan periods and block type selection.) The blocks in question include all types (control blocks, ECBs, compounds, data blocks, and so forth).

Power Requirements

INPUT VOLTAGE (REDUNDANT VOLTAGE)
39 V dc typical

CONSUMPTION (SINGLE MODULE)
15 W, maximum

Indicators

Red and green light-emitting diodes (LEDs) indicate operational status.

Internal Diagnostics

Self-checking performed at power-up. Run-time checks and the watchdog timer function performed during operation.

(a) The Ethernet trunk Fieldbus connects between the Control Processor 60 and the FCMs and/or DCM10E or FBI10E modules in the Direct Network Configuration (Figure 1), and between the Control Processor 60 and the hub(s) in the Active Star configuration (Figure 2).

(b) In any specific application, individual maximum cable lengths may be affected by (limited by) the overall maximum allowable cable length (20 km) between the Control Processor 60 and the farthest FBM.

(c) For configuration purposes, HIUs, Mass Flowmeters, Panel Display Stations, etc. are counted as FBMs.

(d) Refer to *Control Processor 60 (CP60) Sizing Guidelines and Excel Workbook* (B0400BK).