

modular motion coordinator

SYSTEM-90E

Together with the operating system, the central processor module is the core of SYSTEM-90E. It incorporates the basic components necessary for operating the control unit.

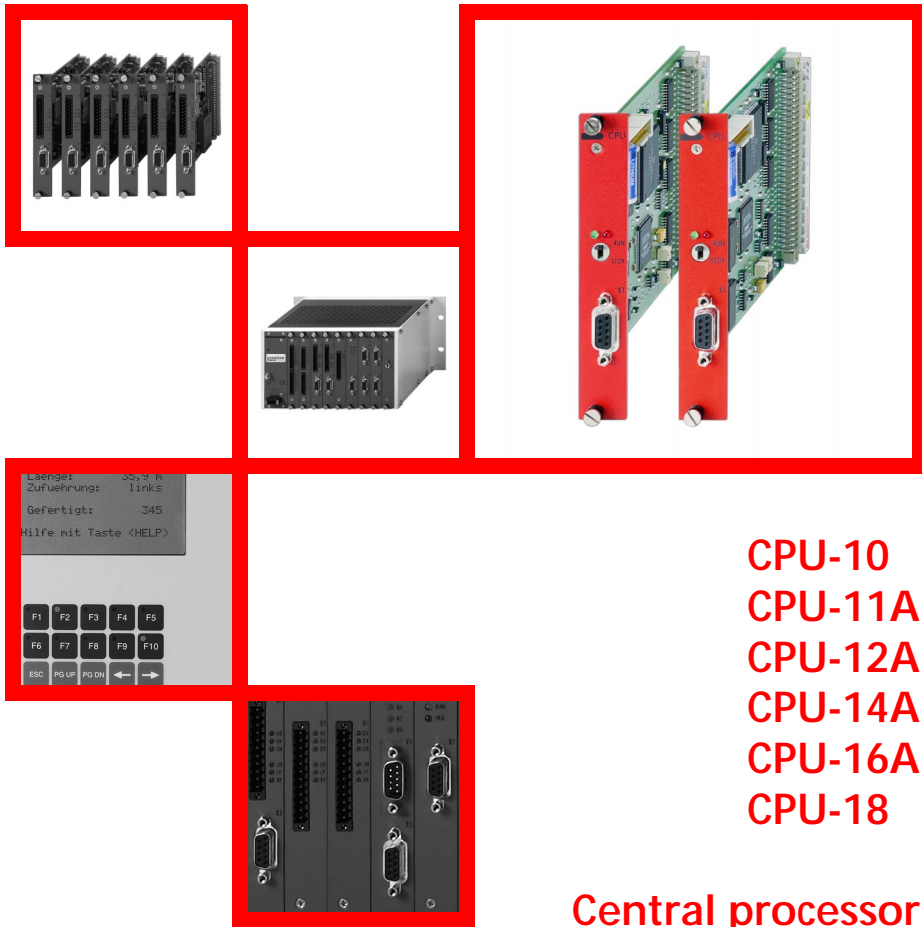
To enable the most efficient possible use of SYSTEM-90E in a variety of applications, 6 central processor modules which have differing computing power and storage capacity are available.

Modern 32-bit VLRISC processors ensure that there will always be sufficient computing power available, thus keeping the response times at an extraordinarily low level.

All processes and activities within a SYSTEM-90E are controlled and coordinated by the operating system.

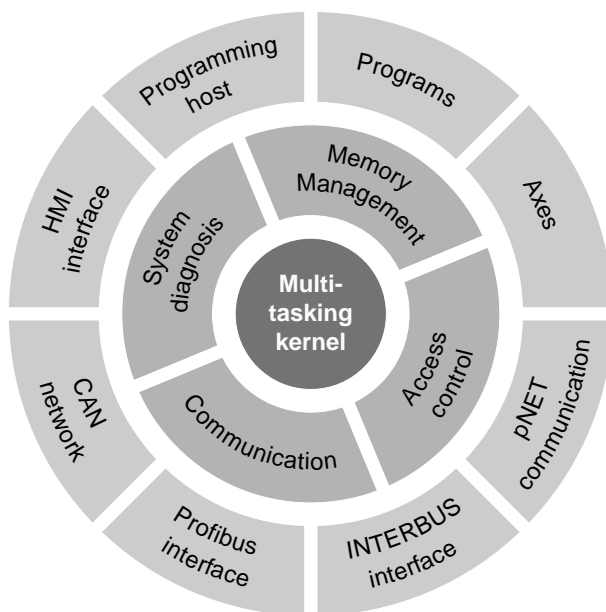
The operating system works according to the multi-tasking principle which means that the processor executes several tasks virtually simultaneously.

- 3 application programs running in parallel
- Communication with the programming host
- Online communication via RS232 interfaces and the pNET protocol
- Data transport via the CAN network
- Data transport for fieldbus interfacing
- Access to the user memory
- Axis management and monitoring
- System diagnosis



CPU-10
CPU-11A
CPU-12A
CPU-14A
CPU-16A
CPU-18

Central processor
modules with
an operating system



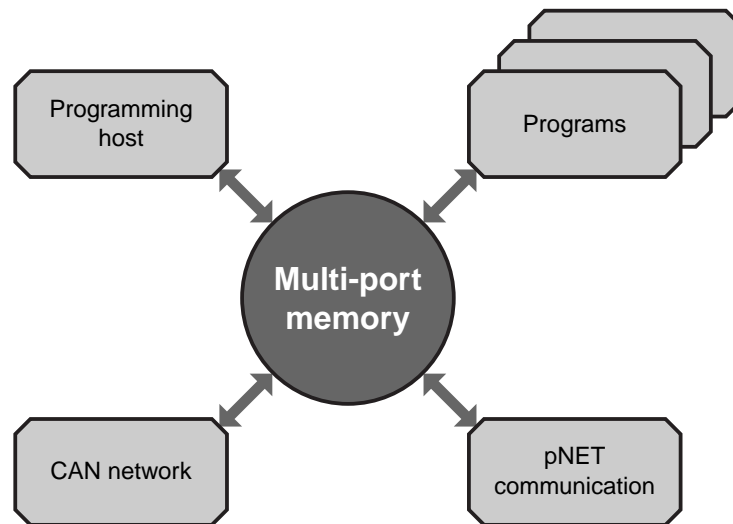
➤ Multi-port memory

Multi-port access is provided to all registers created in the memory. This means that any register can be read from and written to from various locations at any time.

These access operations are coordinated by the operating system without requiring additional provisions to be made on the programming side.

SYSTEM-90E's multi-port access capability can be advantageously exploited when performing the following tasks:

- exchanging data between application programs
- performing communications between application programs and external computers and devices
- transporting data between application programs which are distributed among several control units
- inspecting and modifying variables when testing programs and during operation



➤ Memory management

The user can partition the voltage failure-safe memory freely between registers and programs. This enables continuously optimum utilization of the available memory.

The operating system provides all data stored with a Hamming checksum. This ensures that invalid data is recognized and cannot lead to an uncontrolled function.

Moreover, single bit errors are recognized and automatically corrected.

➤ Diagnosis logbook

Every CPU module includes a so-called diagnosis logbook which is used by the operating system to record the last 200 diagnosis messages.

Possible failures in drives or other units can thus be analyzed - even after the fact - which significantly facilitates locating the cause of the failure and its elimination.

	CPU-10	CPU-11A	CPU-12A	CPU-14A	CPU-16A	CPU-18
Processor	32-Bit VLRISC					
Clock frequency	24 MHz	32 MHz	40 MHz	50 MHz	50 MHz	90 MHz
Standardized performance	3.3	7.1	11.3	19.3	27.7	45.3
Memory size	128 kB	128 kB	512 kB	1024 kB	2048 kB	2048 kB
RS232 interface	ja	ja	ja	ja	ja	ja
Number of axes	2	4	6	8	10	10
Timer	4 x 100	4 x 100	4 x 100	4 x 100	4 x 100	4 x 100