1 Introduction

1.1 Communications Processors (CPs) for Operator Control and Process Monitoring (O + M)

Even at the level of the programmable controller, i.e. in a machine-oriented environment, automation tasks of today often require that the control and visual display of the process not only be simple but also be user-friendly and efficient. The **communications processor** (CP) is used for operator control and process monitoring (O + M) when the text display unit cannot meet the requirements and the complex operator terminal is not yet necessary.

Communication with the process is implemented with a module which is especially designed for this task and which can be plugged into the programmable controller (PLC). Graphics and texts are stored in the module's own user memory. The module only communicates with the central processor of the programmable controller when data for variable segments is to be exchanged.

The CP is simply plugged into one of the slots of the **SIMATIC S5** programmable controller provided for this purpose. You can thus "upgrade" your system in an easy way and at low cost. Using a CP, your personnel can communicate directly with the process, specify setpoints, verify actual values, evaluate error messages, print out reports and make the process "transparent" by means of plant mimics.

© Siemens AG C79000-B8576-C217-01

1.2 Configuration of the O + M System with Communications Processor (CP)

This machine-oriented, or direct, operator control and process monitoring system consists of the **communications processor** itself, a **monochrome or color monitor** and a **process keyboard** for input to the process. The CP 526 and CP 527 can be extended by an additional module, - the **CP expansion board** -, which enables process data to be represented in the form of curves and the user memory to be expanded. These functions are already fully integrated in the CP 528 standard module.

Plant displays, measuring scales, tables, curves, message texts, reports etc. are configured using a **SIMATIC S5 programmer**. The COM configuration software enables the user to develop programs simply and efficiently. He need not be familiar with a programming language.

© Siemens AG C79000-B8576-C217-01

1.3 Available O + M Communications Processors

The "Operator control and process monitoring with communications processors" system comprises modules which differ in complexity and speed to enable the user to configure a system according to his requirements:

- **CP 526 module for monochrome monitor**

  display of error messages;
  configuration of static images;
  without printer connection;
  forced ventilation required (module with heat exchanger can also be used without fan)

- **CP 526 module for color monitor**

  can be used with CP expansion board;
  display of error messages;
  configuration of static images;
  without printer connection;
  forced ventilation required (module with heat exchanger can also be used without fan)

- **CP 527 module for monochrome monitor**

  can be used with CP expansion board
  (only for memory extension);
  with printer connection;
  quick display construction and updating;
  extended scope of functions (e.g. user-configurable reports, input/output fields);
  extended quantity standard (increased number of segments, functions and messages);
  extended user memory;
  additional functions for PLC communications;