CU-950 Controller

LIQUID CHROMATOGRAPHY CONTROL SYSTEM

Summary

- CU-950 USB provides a convenient solution for connection of the control unit to an ordinary PC
- The CU-950 Advanced mode provides a control solution with robustness that protects result data even when communication or computers fail
- Up to four CU-950 Advanced modes can be controlled from the same UNICORN™ workstation computer
- CU-960 is equivalent to the CU-950 Advanced mode with the memory option and has a Profibus interface for communication with components in the ÄKTAprocess™ system
- All control unit versions are backward compatible with old CU-900 strategies

Introduction

CU-950 is the general system unit that manages the control of almost all ÄKTAdesign™ systems. The controller is a realtime processing unit that executes the methods made in UNICORN as well as manual system interactions.

CU-950 is available in three different configurations:

- CU-950 with USB communication to the UNICORN workstation
- CU-950 Advanced mode with Ethernet communication to the UNICORN workstation
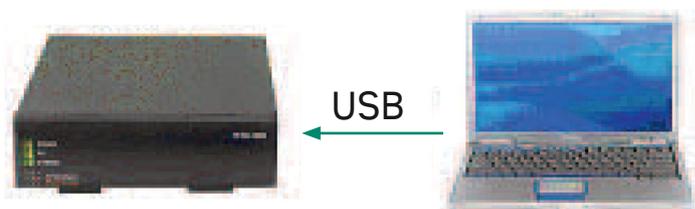- CU-950 Advanced mode with internal memory

Fig 1. CU-950 with USB connection to UNICORN workstation

The CU-950 control unit is designed to be backward compatible with CU-900 strategies and has ten times more computing power than the older CU-900 controller.

Hardware Integrity check

CU-950 have a hardware integrity check that is performed at power-up of the unit. Three LED's in the front panel of the CU-950 display the status of:

1. The power to the CU-950

2. The connected PC

3. The connected system

CU-950 (USB)

The CU-950 USB is designed as a convenient solution for users running a single systems from one laptop computer (Fig 1). The CU-950 USB is connected via the USB interface and each UNICORN workstation can use one CU-950 USB to control one system.

Robustness

The CU-950 USB manages communication or computer failures in a predefined manner. These settings cannot be changed by the user. At failure an alarm is generated indicating that the communication is lost between the CU-950 and the computer. At a communication or computer failure the method is automatically set to pause. The method can only be resumed when communication is reestablished and the computer is functioning.

CU-950 Advanced mode (Ethernet)

The CU-950 Advanced mode is designed for users that expect robustness in, for example, manufacturing.

The CU-950 Advanced mode is connected to the UNICORN workstation via an Ethernet network interface and operates from a designated IP address (Fig 2). Up to four CU-950 can be connected enabling simultaneous control of four systems.
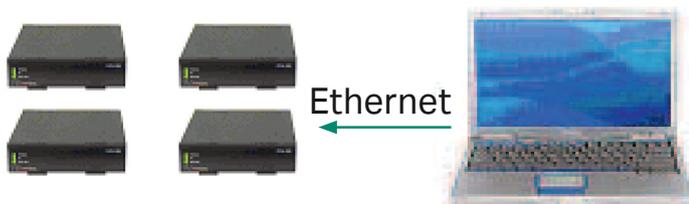

Fig 2. CU-950 Advanced mode

Robustness

The CU-950 Advanced mode is offered with an option to use 128 MB internal memory for improved preparedness in case of communication failures between the UNICORN workstation computer and the CU-950.

The optional memory prevents the loss of result data even when there is a communication failure with the UNICORN workstation during a method execution. The data can be retrieved from the memory buffer when communication is reestablished with the UNICORN workstation again (only the same computer can retrieve the data). UNICORN manages the communication failure scenario as set up in the UNICORN menu Administration/Controller settings.

Fig 3. UNICORN Controller Settings

If the connection between the PC and the CU-950 is lost during a method run and Data recovery is set to:

- **ON,** the run data is saved in the CU. (Demands flash memory in the CU-950 Advanced mode) (Fig 3).
- **OFF,** the run data is lost

If the connection between the CU-950 and the UNICORN workstation is lost during a method run and communication loss is set to:

- CONTINUE, the method run will continue to execute until end is reached or the memory buffer becomes full
- PAUSE, the method run will pause. When the connection is reestablished selecting manual command Continue will resume the run.

CU-960 (Profibus)

The CU-960 is equivalent to the CU-950 Advanced mode with the memory option. The CU-960 has communication support for Profibus components and is used in the ÄKTAprocess systems. This fieldbus solution produces significant cost savings in design, installation, and maintenance expenses over the old approach of point-to-point wiring. Openness and standardization guarantee the supply of solutions from many different vendors as well as the availability of know-how and support.

Ordering information

11-0003-21	CU-950 Upgrade Kit (Upgrade of CU-900 to CU-950 for BioProcess)
11-0003-22	CU-950 Memory Kit

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