

## Dialog Controller with Ethernet Interface CEDISP29 16/8-1131

**CANtrol** //  
dialog

### ■ Brief description

This programmable dialog controller is a powerful component for decentralised automation systems with distributed intelligence.

The device integrates PLC, display, operator, and I/O levels as well as interfaces for network capability in a single, compact, front-installation-capable housing.

- Programmable in IEC 61131-3
- Ethernet Interface RJ45
- 2 CAN Interfaces (ISO 11898)
- 1 RS232 for application / configuration
- 2 serial interfaces (RS485/RS232)
- 16 inputs / 8 outputs, digital
- 2 inputs, analogue (4...20 mA / 0...10 V)
- 240 x 64 pixel display, backlit
- Numerical, function and soft key keyboard
- 9 dual-colour, 5 single-colour LEDs
- Real-time clock
- Optional: Customisable layout

The dialog controller is the ideal control solution for:

- Equipment, vehicles, buildings, compact machinery, and for machine data acquisition.

It meets all requirements as an universal unit for:

- Control, communication, operation, observation, input.

With its compact design and customisable keyboard, it can be used in a wide variety of applications.

### ■ Ethernet interface

Using its Ethernet interface, the dialog controller can optimally communicate with the central computer and with the process visualisation.

Worldwide availability and the large network bandwidth are particularly crucial characteristics of the Ethernet.

On the dialog controller, the Ethernet provides the interface for the software tools and for the employment with TCP/IP and UDP/IP. These worldwide standard protocols provide even out communications with computer systems employing operating systems such as Windows, Linux, and VxWorks.

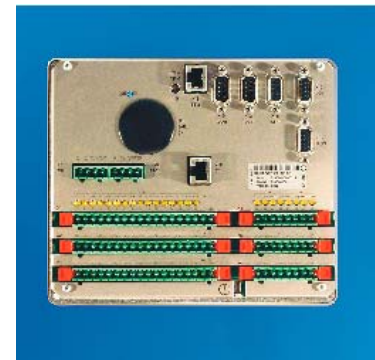
### ■ Communication

The cell controller has two independent CAN interfaces conforming to CAN high-speed standard (ISO11898).

Over these two interfaces, the cell controller:

- communicates with other decentralised cell / dialog controllers,
- connects to programming and debugging tools, and
- exchanges process data in near-real-time mode with CAN/CANopen modules such as motion controllers.

Communications between the controller and the terminal within the dialog controller also take place via the CAN bus, utilising the CANopen communications services, SDO and PDO.



### ■ Interfaces

Three interfaces are available for serial communications. An RS 485 and an RS 232 port serve the application directly. An additional RS232 port is provided for programming and configuration tools, but can also be used for the application. The internal E-bus permits the integration of additional modules.

### ■ Display

The display has a resolution of 240x64 pixels, with a minimum displayable character size of 8 x 8 and 16 x 16 pixels. Characters can also be shown reversed out and underlined. The display can also be switched to graphics module, with pixels capable of being set individually. Both the graphics and text cursor are controlled via the CANopen master control. The display is backlit, with variable contrast via a set-up menu.

## ■ Power supply

The module is supplied with power over the cable connector for the signal-level, which is 24 VDC.

The I/Os can be distributed into three groups with separate infeed, so the outputs combined in a group can be disconnected selectively from the power supply by means of external switching devices.

## ■ Field-adapted signal level

The signal connection level is ready-made for permanent wiring with plug connectors, which connect from the front. There is a choice of three types of connection:

- screw connection;
- spring-latch terminal, or;
- crimp connection.

The inputs/outputs are connected in three-wire technology.

LEDs on the back of the module provide information about the status of the I/Os. The LEDs are arranged to permit direct assignment to I/O connections.

Both analogue inputs have a 10-bit resolution. Each input can be used as either a 4..20 mA current input or as a unipolar 0..10 V voltage input. The desired function is set via the software.

## ■ Keys

With its 29 membrane keys, the terminal supports user dialogs for even the most demanding applications.

The five function keys directly below the display can be used as soft keys for rapid menu navigation.

Numerical and special characters, and a second function key block, complete this outstanding dialog controller.

## ■ Customisation

Integrating the Dialog Controller in the target application is made easier by the terminal's modular design. It's not just the printing that can be customised to suit your requirements:

- logo;
- colours;
- unit designation;
- key characters and symbols;

you can also customise the keyboard layout, that is, the arrangement of the keys and LEDs:

- max. 32 keys;
- max. 24 LEDs.

## ■ Central programming with standard tools

The CP1131 programming tool provides a development environment for a PLC dialog controller. Users can choose from the five IEC 61131-3 programming languages (FBD, LD, IL, ST, SFC) as well as linking directly (peer-to-peer) with the dialog controller via RS232/CAN, as required.

Like the CNW configuration tool, CP1131 is a tool designed for the PC platform running the Windows 98/NT/2000/XP operating system.

These tools offer the user the added advantage of communicating over the Ethernet or in hierarchical CAN networks. As a result, one or more users working from a central location can maintain and program all of the cell controllers in a network.

## ■ System integration

A library integrates the display directly with the CANtrol control application, greatly simplifying implementation and maintenance of the overall system.

Control and visualisation applications are both on the same controller.

## At a glance - a brief overview

<b>Dialog Controller</b>	<b>CEDISP29 16/8-1131</b>
Item No.	22 0900 000
Real-time clock	yes, by the Display
Development environment	CP1131
CPU	MC 68360 / 33 MHz
Expansion	E-bus module with 7-segment display and infrared remote control lockable (not supplied)
<b>User memories</b>	
Program memory (flash)	1024kB (contains pre-initialised variables, route tables, etc.)
Program and data memory (RAM)	702 kB
<b>Dimensions</b>	
Dimensions B x H x D [mm]	204 x 175 x 55 (without connector)
Port	as per dimensioned sketch
Weight	approx. 1500 g
Mounting	with mounting frame for front mounting
Operating temperature range	5° C to 50° C (no moisture condensation)
<b>EMC, safety class, insulation test, system of protection</b>	
Emitted interference	EN 50081-2, industrial range
Noise immunity	EN 50082-2, industrial range
Safety class	III
Insulation strength	EN 61131-2; DC 500 V testing voltage
System of protection	IP65 front / IP20 on the back

<b>Supply voltage, current consumption</b>	
Power supply module electronics (supply voltage)	SELV DC +24 V, < 1 A (EN 61131-2) / according to display brightness
Power supply - digital I/Os	DC +24 V (EN 61131-2) distributed into 3 groups
Power consumption	at U <sub>e</sub> = DC +24 V running at no load max. 1 A, fuse protection according to load on I/Os, max. 8 A
Power-supply reverse voltage protection	yes
Electrical isolation	yes
<b>Digital inputs/outputs (DIO)</b>	
Number of inputs	16
Number of outputs	8
Output current	0,5 A
Short-circuit protection	yes
Connection method	vertical three-wire front wiring with push-on terminal strips for screw, spring or crimp connection
Electrical isolation	yes
<b>Analog inputs</b>	
Number of inputs	2 inputs (X7 / X8)
Input characteristics	Either as 4..20 mA with +24 V / 50 mA sensor supply or as unipolar voltage input 0..+10 V applicable
Resolution	10 bit
Connection method	vertical front wiring with push-on terminal strips for screw, spring or crimp connection
<b>Serial data interfaces</b>	
Number and type of interfaces	1 RS232 for programming / application (X13) 1 serial interface RS232 (X15) 1 serial interface RS485 (X16), (current-loop configuration is not an option)
<b>Ethernet interface</b>	
Number and type of interfaces	1 Ethernet interface, 10 MBit/s (X19)
Protocols	TCP/IP and UDP/IP
Connection method	RJ45
<b>CAN interfaces</b>	
Number and type of interfaces	2 standard CAN ISO11898 (X10 / X12)
CAN bus terminator	Each of both CAN bus interfaces (ISO11898) are equipped with a switchable CAN bus termination.
<b>Display connection (internal)</b>	
CAN Bus	by CAN channel 0 as CANopen slave (X12)
<b>Display elements</b>	
Display	LCD, 240 x 64 pixels, backlit
Character size	8 x 8, 16 x 16 pixels
Character set	Standard ASCII, other character sets can be loaded
LED's display application	5 single-coloured LEDs and 9 bi-coloured LEDs
LED's / status	5 status LED's; of which 2 are for CAN status (CAN0 / CAN1) 1 status -LED per input / output
<b>Operator controls</b>	
Number of keys	29
Key fields	Numeric and cursor keys block, special keys, function keys
S-key	Yes, on the back (module reset)
<b>Software</b>	
Control application	to IEC 61131-3
Display application	via library (control- and display application are on one Controller)
Interface tools	via Ethernet, CAN bus or RS232 interface

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