

CTA10

Programming and Display Module for CLM and DLC Applications

Application Description

DOK-SUPPL*-CTA10*DLC**-ANW1-DE-P

Title	CTA 10
Type of documentation	User and Display Support
Document code	DOK-SUPPL*-CTA10*DLC**-ANW1-EN-P
Internal file reference	109-0980-4101-01
The purpose of the document	<p>This document should be used</p> <ul style="list-style-type: none"> • to connect the CTA10 to the DLC positioning module and the CLM four-axis positioning control unit • to alter programming and parameter data • to input drive parameters, in the case of DLC applications • to connect hardware inputs and outputs and interfaces • and clear errors and faults that are determined by the DLC or CLM and displayed on the CTA10

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1 General Information

The CTA 10 is a unit intended for both implementation by a user and for use as a display unit with up to 32 stations. The "axis key" is used to switch from one station to the next.

The firmware required to accomplish this is:

DLC firmware DA1-04VRS or DG1-04VRS

CLM firmware LA-04V07 or higher

CTA10 firmware DL1-01VRS

Communications to the individual stations implements the standard RS485 interface. It has a transmission rate of 19,200 baud. Additionally, programs and parameters (with the exception of drive C parameters) can be read and written to the stations by the PC via the CTA10. The transmission of PC to CTA10 uses the RS232 interface with a baud rate of 9,600.

Starting with software version DL1-01V03, the PC can transmit all the parameters via the CTA to the DLC.

1.1 Technical Data

Voltage source:	24V + 20% / - 10%
Current needs:	about 150 mA
Dimensions:	W: 143 mm; h: 203 mm; d: 27 mm
Interfaces	RS 232 and RS 485
Inputs:	4 (presently not implemented)
Outputs:	4 (presently only two in use)

1.2 Summary of all CTA10 Options

- call up drive diagnostics
- view programs and change data
- view parameters and change them
- display currently completed block number
- display axis position
- call up motor speed
- check counter status
- check system and free inputs
- check system and free outputs
- pre-select automatic or manual modes
- start and stop programs
- execute jog function
- display and clear error messages

1.3 Overview of Display Options with DLC Applications

After switching the CTA 10 on, the next active bus station is displayed. If a different station is to be selected, then the "axis key" can be used to do so. The next active axis on the bus will then appear. The display will then indicate the axis found, the operating state and the corresponding drive diagnosis.

DLC-01	Mode:A
Drive diagnosis	
100	
Ready to operate	

This display can only be switched with the use of the → scroll key. Either an axis, operating mode, state of the station or any eventually pending error message is then displayed.

DLC-01	Mode:M
DLC error	
08	
Ready to operate	

or

DLC-01	Mode:M
stop active	

If the → scroll key is pressed again, then the selected axis, the operating state, the DLC type and the installed software version of the DLC and that of the CTA 10 appear again.

By scrolling with either the ↑ and ↓ it is possible to call up a different display mode.

The display for the program input will appear by pressing the ↑ key. All program sets can be checked here and the data can be changed. The F1 key, which is now illuminated, can be used to switch the cursor from block number input to program data input.

Both block number and program data input must be confirmed with 'ENTER'.

DLC-01	input
0000 PSI	
1 + 123456.78 456	

By pressing the ↑ scroll up key again, the block of the program which is currently being processed will appear.

DLC-01	Mode:A
Task1 0100	
Task 1 0200	
Task1 0300	

By pressing the ↑ scroll up key again, the current position, actual speed and lag distance of the selected axis will be displayed.

DLC-01	Mode:A
Axis 1 rpm:	0523
POS:	+001300.00
SA:	000000.89

By pressing the ↑ scroll up key once again, the counter readings of the application program can be called up. The block number, under which the count command can be found, is entered into the second line from the top and the set and actual numbers appear after the block number has been confirmed with 'ENTER'.

DLC-01	Mode:A
Counter:	0000
Actual number:	123456
Set number:	234000

It is also possible to check the inputs and outputs by press the ↑ or → keys. One of the following will appear:

DLC-01	Mode:A
System inputs	
01101000	

or

DLC-01	Mode:A
Inputs (01-07)	
0111000	

or

DLC-01	Mode:A
System outputs	
10100	

or

DLC-01	Mode:A
Outputs (01-16)	
0000011111010101	

or

By pressing the ↑ key again enables the reading or writing of the correction memory. The tool correction number and the data must also be confirmed with 'ENTER'. (Only in a DLC with DG code software.)

DLC-01	Mode:A
Tool correction	
Dx01	+/- xxxxx.xx

If the DLC is switched to parameter mode, then the following appears.

DLC-01
Parameter: A100
00020000

Using either of the two keys ↓ or ↑ it is possible to scroll through the parameter numbers, or by using the **F1 key**, which is now illuminated, parameter block switching is possible.

The following parameter blocks can be read or write accessed via the CTA10.

A100 - A126; A200 - A226; B000 - B023; C000 - C013

Any changed parameter values are not stored until they are confirmed with 'ENTER'.

MH00 - MH63 / ML00 - MH63 is also displayed with DG software (as of software version DL1-01V02).

DLC-01
Parameter: Mx00
00020000

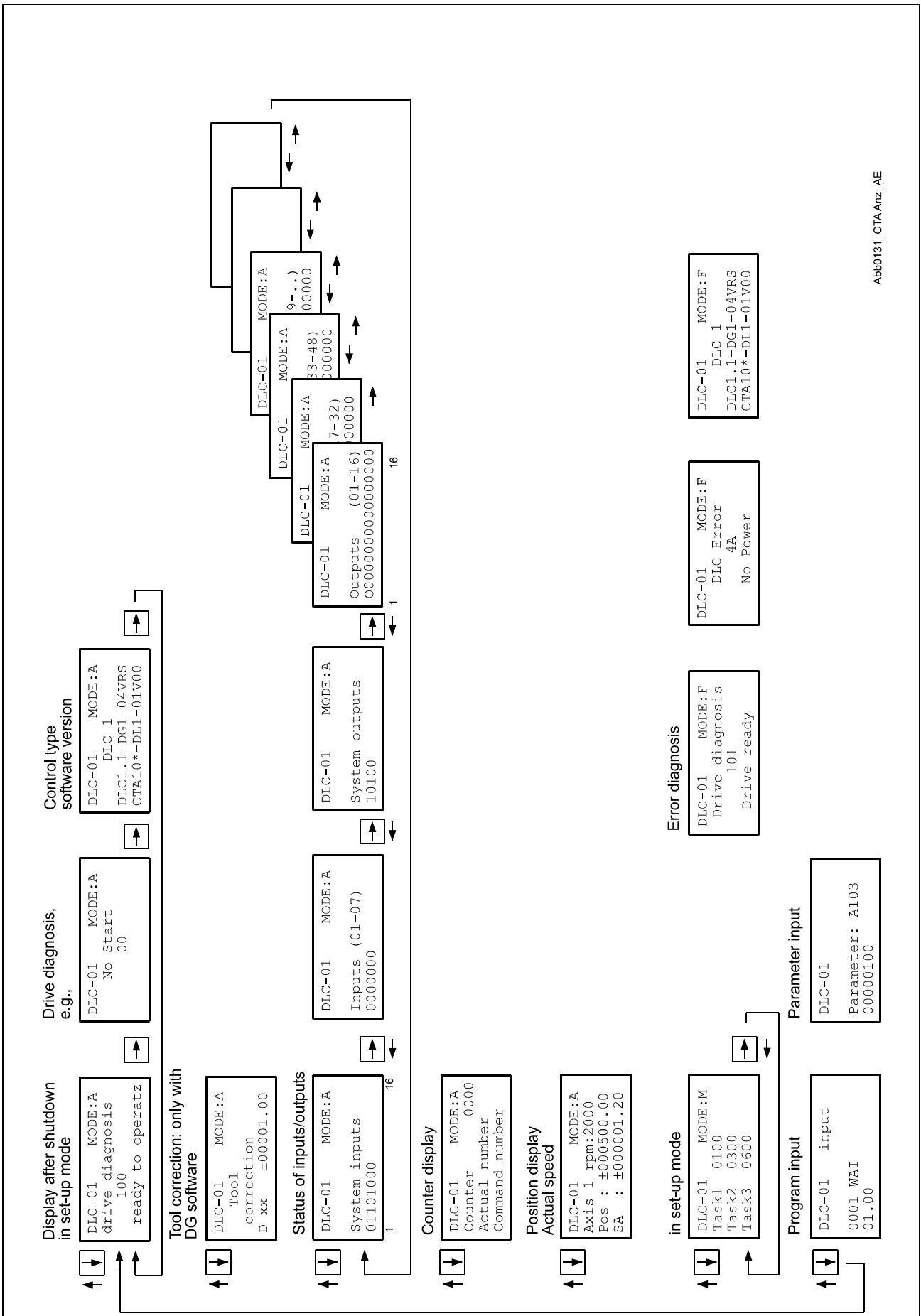


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Fig. 1.1: CTA 10 Display system

1.4 Setting Inputs

The CTA10 can be used to set the outputs "Automatic" and "Immediate stop".

- Automatic** **X4 / pin 5** (or RS 485, presently in preparation, also see section 1.5). If the 'AUTO' key is pressed, then the external power supply voltage is applied to output X4/5. The output remains set until the key is pressed again. This output can be connected with the DLC system input "AUTOMATIC" (DEA4.1 X17/2). If the DLC accepts the "AUTOMATIC" mode, then the 'AUTO' key on the CTA10 is illuminated.
- Stop** **X4 / pin7** (or RS 485, also see section 1.5). Normally, the output 'STOP' X4 / 7 is set. If the 'STOP' key pressed, then the output goes to zero for this duration. The 'STOP' key is illuminated while an automatic program is being processed. Pressing the key stops the program and the LED goes out. This output can be connected with the DLC system input immediate stop (DEA4.1 x 17 / pin 5).

1.5 Commands via the Interface

Commands and Messages

- Start signal** If the DLC is in automatic mode, then the 'START' key is illuminated. In this case it is possible to start the automatic program of the selected axis via the interface by pressing the 'START' key. The LED is off when the automatic program is running.
- Stop signal** It is possible to stop a running program via the interface by pressing the 'STOP' key. This key is illuminated when the program is running.
- Clear** An error message from the DLC can be acknowledged via the interface using the 'CLEAR' key. If the DLC signals an error, then the 'CLEAR' key is lit up.
- Jogging mode** The drive can be run in setup mode with the use of keys 'JOG+' and 'JOG-'. To be able to do so, however, the jog function must be enabled via interfaces in the DLC parameter B001 (B001 01100000). Timeout for this (B004) should be set to 9. This function is presently only available with DLC software version DG1-04VRS.

Error Messages via the CTA10

If the DLC signals an error while running, then the 'CLEAR' and the 'F5' keys are illuminated. After press the 'F5' key, the error message will appear on the CT 10 display.

Recommended Interface Settings for the Stations

B003	1920	4	181
B004	01 XX X 9 XX		

Notes of Fault Clearance

If the interface connection from the CTA10 to the individual stations or to the PC should in anyway be interrupted, then the CTA10 can be re-initialized with the key combination 'SHIFT' and 'ESC' at any time.

1.6 CTA 10 Dimension Sheet

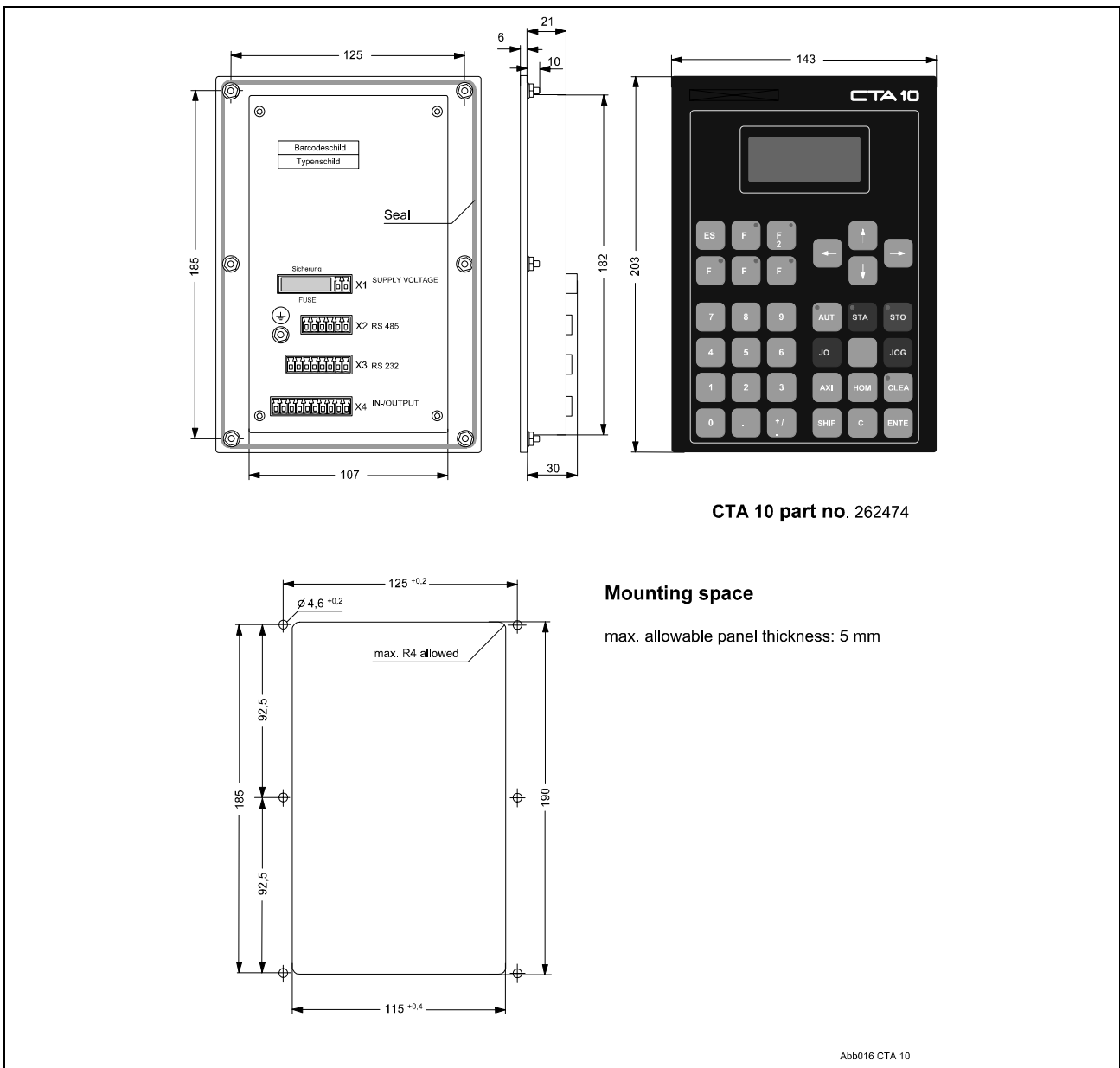


Fig. 1-2: CTA 10

1.7 CTA 10 Terminal Diagrams

CTA 10

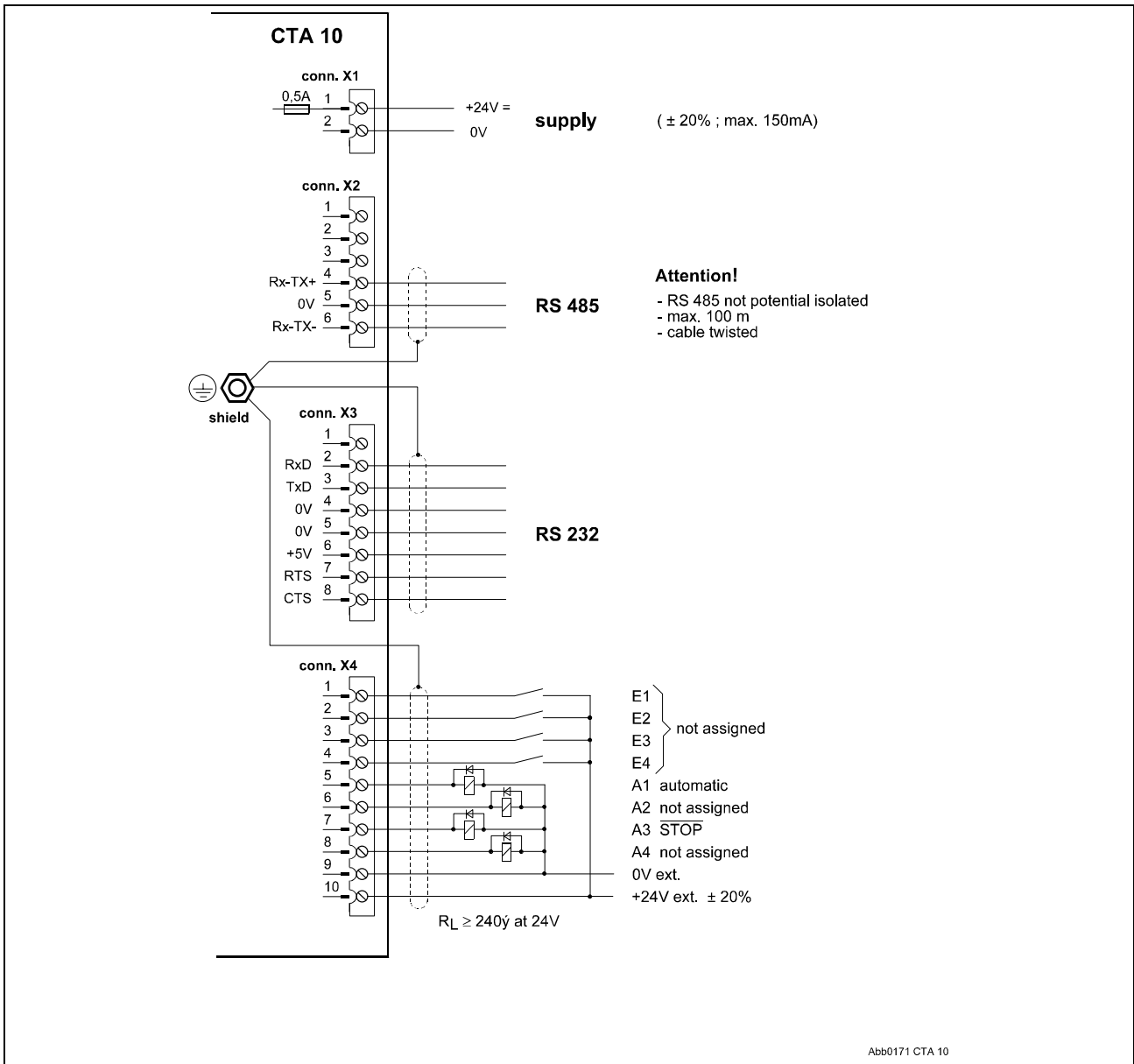


Fig. 1-3: CTA10

CTA 10 - DLC RS 485 with up to 32 Stations

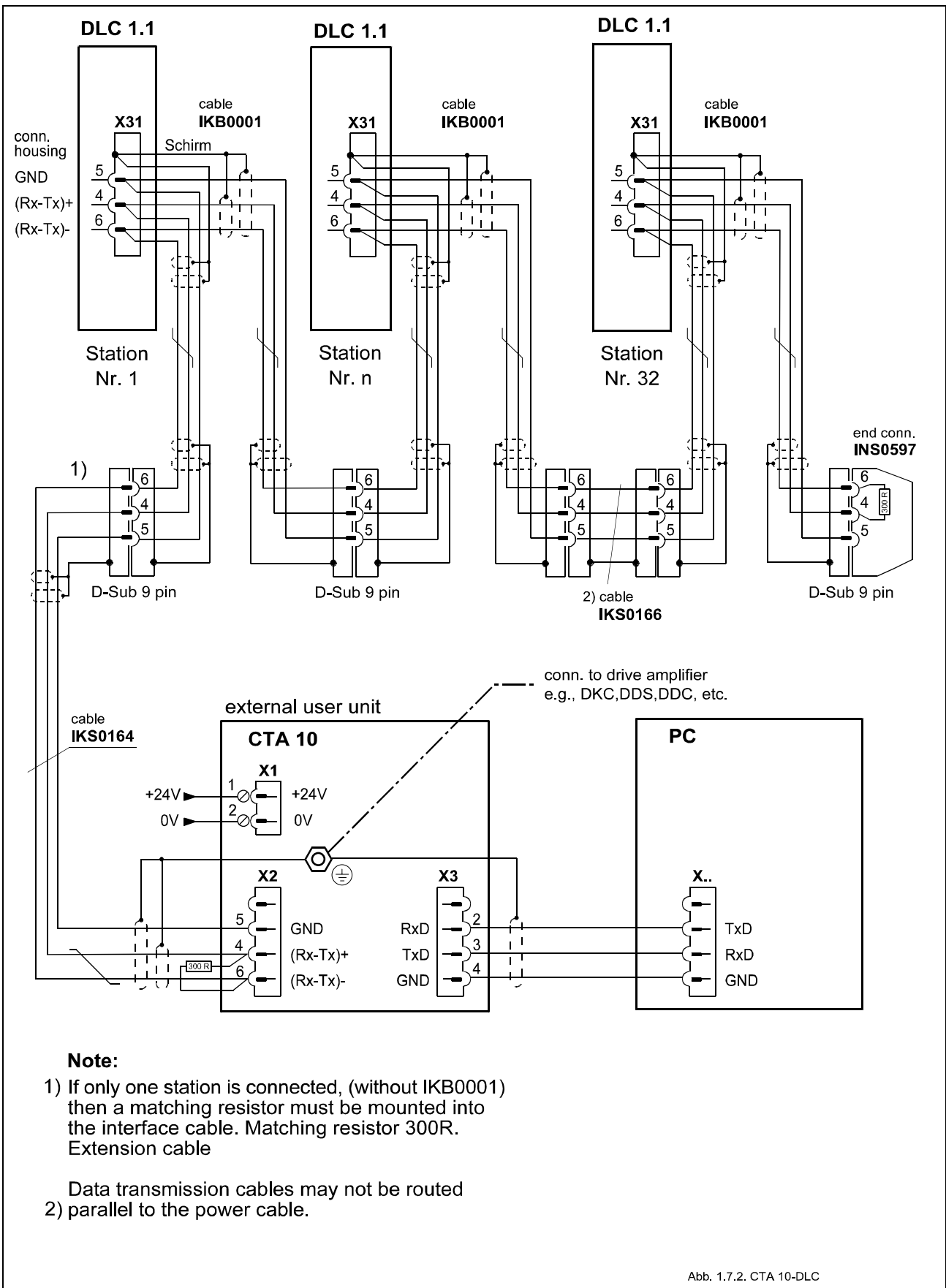


Abb. 1.7.2. CTA 10-DLC

Fig. 1-4: CTA 10 - DLC

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