

# Intelligent Building Solutions

## Installation Manual



### **CCL 20 D** **PTZ camera controller unit** DIN-rail mounting

**CIB-tech**

## Introduction

The CCL 20 D is a PTZ (Pan Tilt Zoom) video camera control unit, part of the CIB-tech automation system. The CCL 20 D can control one PTZ video camera with PELCO-P protocol at the baud rate of 9600.

### Additional Equipment Required

#### 1. Functional CIB-tech system

A minimal number of essential CIB-tech components to make a functional CIB-tech system<sup>1</sup>

#### 2. PTZ camera

One PTZ (Pan Tilt Zoom) video camera, that is controlled by the CCL 20 D unit and adequate video capturing hardware/software.

## Technical Specifications

### Electrical characteristics

#### ● Power Supply

The CCL 20 D functions as a node in a CIB-tech system, being powered from the CIB-tech system's power supply via the CIB-tech connectors.

- Operating voltage range: 20 to 28V DC (nominal 24V DC)
- Supply current
  - Standby current : 50mA
  - Maximum current: 55mA

#### ● I/O isolation

The CCL 20 D device has an internal galvanic isolation, that separates the CIB-tech system from the RS485 camera control output and as result, from the PTZ video camera.

#### ● Communication with PTZ camera

- data carrier: RS485
- protocol: PELCO-P implementation for single camera on address 1
- baud rate: 9600
- voltage levels: 0 – 5V (differential and floating)

### Mechanical characteristics

The CCL 20 D has a standard 2-module wide enclosure for M36 type DIN-Rail.

- Dimensions: 102mm W x 35mm L x 60mm D
- Weight: 85g

### Environmental characteristics

- Operating temperature: -10°C to 85°C
- Storage temperature: -25°C to 100°C

<sup>1</sup> See "CIB-tech installation manual" for details.

## Key Features

- Support for most widely used PTZ camera control protocol - PELCO-P
- Control of a single PTZ camera via the CIB-tech system
- Built-in RS485 terminator
- Galvanic isolated RS485 output, without the need of extra power supply from the camera control part;
- Internal bi-color LED, indicating PTZ activity (green: controls are inactive / red: at least one control is active)

## Installation

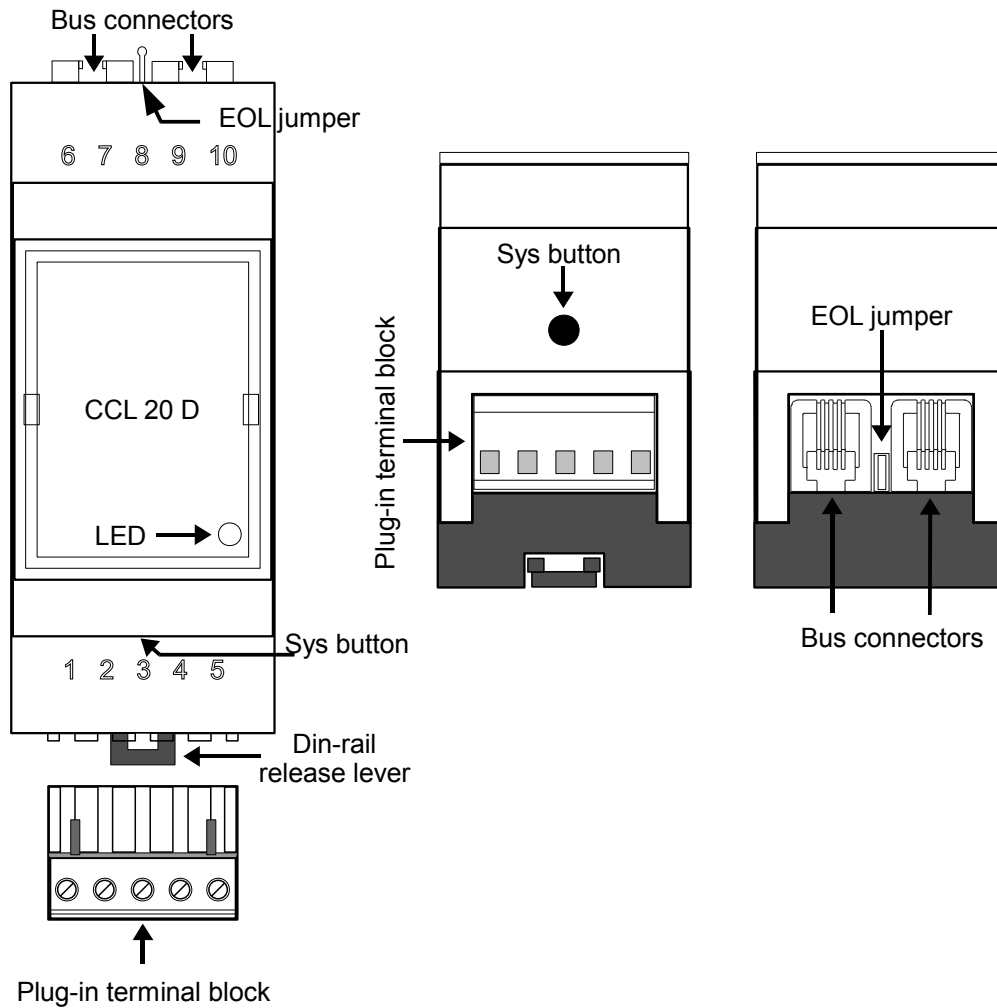
The CCL 20 D is meant to be installed on a standard M36 type DIN-Rail.

### Part description

- **Bus connectors:**
  - 4P4C modular jack connectors for CIB-tech connection<sup>1</sup>
- **Sys button:**
  - pushbutton for CIB-tech system configuration
- **EOL jumper:**
  - CIB-tech system's End Of Line jumper<sup>1</sup>
- **LED:** indicator LED for output state
  - indicator LED for PTZ control activity
- **DIN-rail release lever:**
  - lever for removing the device from the M36 DIN-Rail
- **Plug-in type terminal block:** terminals for connecting external devices
  1. Shield (GND)
  2. Do not connect
  3. Do not connect
  4. PTZ camera control – RS485 (-) Inverting output<sup>2</sup>
  5. PTZ camera control – RS485 (+) Non-inverting output<sup>2</sup>

<sup>1</sup> See “CIB-tech installation manual” for details.

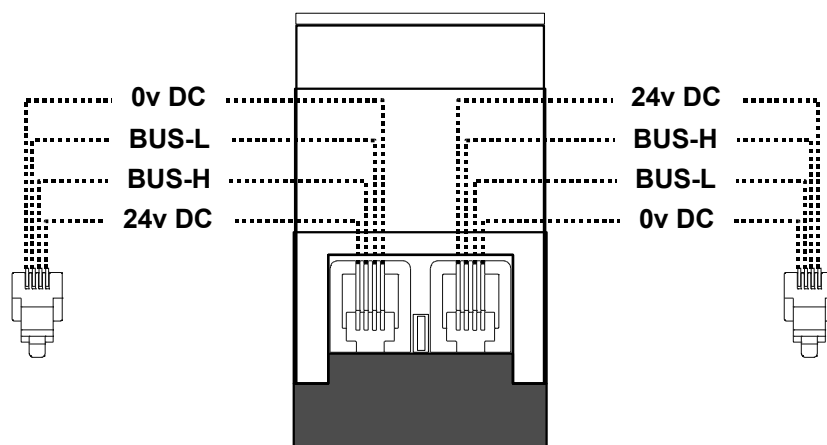
<sup>2</sup> RS485 lines are also noted as line A and line B, but there is no globally accepted relationship between “A”, “B” and “+”, “-”. EIA485 states that “A” is “-” (inverting line) and “B” is “+” (non-inverting line), but many manufacturers state the opposite (“B” is inverting and “A” is non-inverting)



## Wiring diagrams

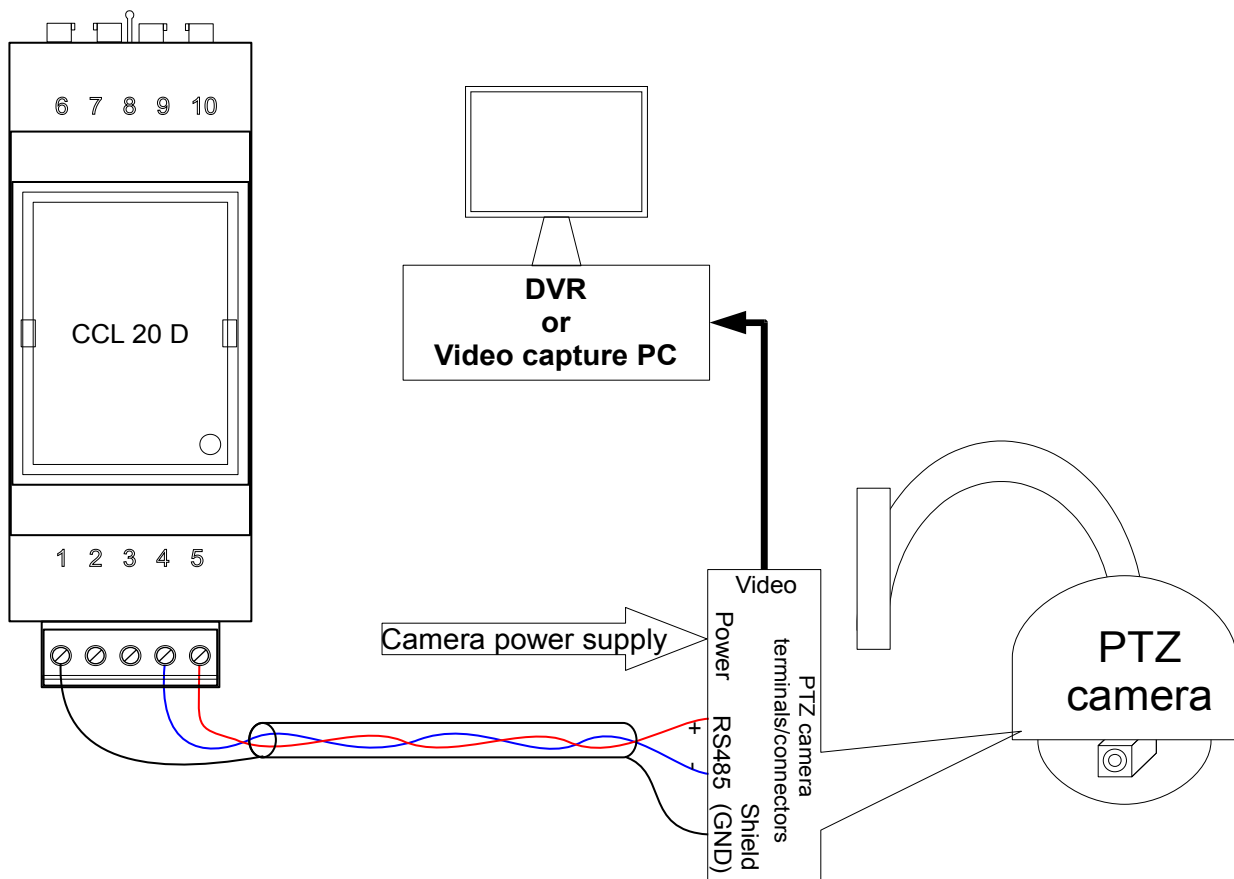
### Connection to CIB-tech system:

Use the CCL 20 D device's two 4P4C modular jack connectors to connect it to the CIB-tech systems (chain like) bus. Do not forget to remove the EOL jumper if the device is not the last element of the chain<sup>1</sup>



<sup>1</sup> See "CIB-tech installation manual" for details.

## Connecting to PTZ camera:



## NOTES

### RS458 BUS:

It is recommended to use twisted pair cable for RS485 wiring. The shield wire for the RS485 bus is recommended (not mandatory).

### Configuring PTZ video cameras

Most PTZ video cameras support different types of communication protocols at different baud rates, and are addressable. Typically the communication protocol, baud rate and camera address are settable using dip-switches. Consult your PTZ-camera's user manual to locate these switches and set the camera to PELCO-P protocol at 9600 baud and the camera address to 1 (one).

The RS485 bus needs to be terminated at both ends (at the PTZ camera and at the CCL 20 D). The CCL 20 D has a built-in permanent RS485 terminator, therefore no external terminator should be connected on its end. Most PTZ video cameras also have a built-in RS485 terminator that can be activated via dip-switches or a jumper. Consult your PTZ-camera's user manual regarding activation of its RS485 terminator.

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