

# Door control unit Box 485-T

Art. Nr.: 460004

## Installation manual



**CE**



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## 1. Introduction

Box 485-T is a door control unit, used together with CT2000 keypad. The unit is delivered in a white plastic box.

Box 485-T enables usage of the CT2000's bell button for activation of the bell.

Combination of Box 485-T and CT2000 keypad with an electric lock enables control of a single door - its opening and registration if the door is closed and locked.

Box 485-T is typically used when you want to have a general control if a door is open or not, but where a highly sophisticated access control is not necessary.

### **Typical applications:**

- Remote warehouse door, possibly combined with a burglary alarm, for time restricted access;
- Access to alarm on/off switch, if extra safety required;
- Where normal functions of CT2000 is to be combined with CT2000's bell button.



## 2. Electrical connections

12V:	+12 VDC
GND:	0 VDC (minus)
A:	Connection to data bus via RS485, in-/output A, blue wire
B:	Connection to data bus via RS485, in-/output B, orange wire
I1:	Input 1 - lock contact (+12 VDC for activation)
I2:	Input 2 - door contact (+12 VDC for activation)
I3:	Input 3 - exit button (REX) (+12 VDC for activation)
SAB:	Tamper switch
SAB:	Tamper switch
RI:	Bell button (open collector, activated when bell button on CT2000 is activated)
NO:	Relay output for door opening (electric bolt) / alarm on/off switch
C:	Relay output for door opening (electric bolt) / alarm on/off switch

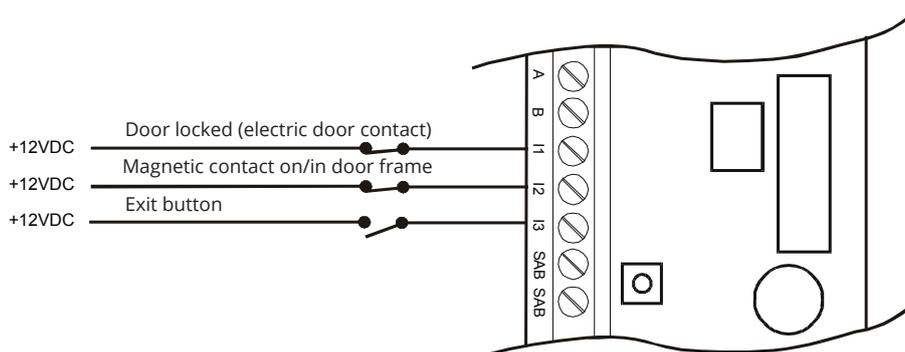
### 2.1 Inputs

**Input 1** (I1) used for indication if a door controlled by Box 485-T is locked or not. +12V DC on the input is interpreted as door locked.

**Input 2** (I2) used for indication if a door controlled by Box 485-T is locked or not. +12V DC on the input is interpreted as door locked.

+12V DC on **Input 3** (I3) or entering a correct user code entered on CT2000 keypad creates a connection between NO and C e.g. for opening of a door or access to burglary alarm switch (relay output reacts according to its programming).

**Note:** If functions of input 1 and 2 are not used, the must be connected to +12 VDC.





## 2. Programming

Box 485-T is from the factory delivered with a standard programming. Further programming can be made through Conlan eXPress (see page 11).

### 2.1 Programming positions

100	Address (ID number) of first slave (keypad);
101	Address (ID number) of second slave (keypad);
102	Address (ID number) of Box 485-T;
103	Exit time;
104	Warning time;
105	Alarm time;
106	Polarity of relay output: 0 = normal (C/NO), 1 = reverse (removed 0 VDC);
107	Polarity of the bell button - open collector output RI: 0 = normal (put 0 VDC), 1 = reverse (removed 0 VDC);
108	Mode of the bell button - open collector output RI (0 to 5);
109	Activation time bell button - open collector output RI (for ¼ second);
110 to 122	Allowed time zones for the first and second slave keypad, reserved for future system development
123	Active mask, reserved for future development.

**Note: Programming positions 110 to 123 are reserved for future development of the system. Programming positions 110 to 122 shall carry value 255 and position 123 value 127.**



## 3.2 Default programming

Prog. Pos.	Value	Description
100	1	Address (ID number) of first slave (keypad);
101	1	Address (ID number) of second slave (keypad);
102	128	Address (ID number) of Box 485-T;
103	8	Exit time 8 seconds;
104	24	Warning time 1 minute;
105	20	Alarm time 2 minutes;
106	0	Normal polarity on relay output (C/NO);
107	0	Normal polarity on the bell button - open collector RI;
108	0	Ring alone on the bell button - open collector;
109	4	Bell button - open collector output activated for 1 second;
110 to 122	255	Reserved for future use (value shall be 255);
123	127	Reserved for future use (value shall be 127).

## 3.3 Address (ID number) of slave keypads (100 + 101)

Keypads (CT2000) connected to RS485 data bus are distinguished from each other by assigning the each an address (ID number). When a code is entered on one of the keypads in an installation, carrying an address (ID number), Box 485-T reacts in accordance with its programming.

## 3.4 Address (ID number) of Box 485-T (102)

Box 485-T, just like keypads, must carry an address (ID number), to enable division between different units on RS485 data bus.

Address in the programming position 102 is by default set to 128.

## 3.5 Exit time (103)

Value in this programming position specifies for how long Box 485-T shall activate its relay output if input I3 receives +12 VDC.

Value in the programming position 103 is by default set to 8, which equals to 8 seconds.

**Note:** That value in a programming position does not necessarily refer directly to the number of seconds, minutes and hours it represents. Relation between the value and number of seconds, minutes and hours can be interpreted with help by Conlan eXPress software.



### 3.6 Warning time (104)

Value in this programming position specifies how long Box 485-T shall warn that the door it controls has not been closed again (input I2 has not received +12 VDC).

Start of the warning tone shall be adjusted so that the warning time runs out simultaneously with activation of adequate slave keypad.

Value in programming position 104 is set to 24, which equals to 2 minutes.

**Note:** That activation time of CT2000 shall be longer than the warning time.

### 3.7 Alarm time (105)

Value in this programming position specifies how long Box 485-T shall activate its alarm output if the door it controls has not been closed again within the warning time (input I2 has not received +12 VDC).

Value in programming position 105 is by default set to 20, which equals to 1 minute.

### 3.8 Polarity of relay output (106)

Value in this programming position specifies polarity of Box 485-T's relay output.

0 = normal (C/NO - closes circuit when output activates) **default setting**

1 = reverse (C/NC - breaks circuit when output activates)

### 3.9 Polarity of open collector output (107)

Value of this programming position specifies polarity of the open collector output (RI).

0 = normal (C/NO - closes circuit when output activates) **default setting**

1 = reverse (C/NC - breaks circuit when output activates)



### 3.10 Open collector output working mode (108)

Value of this programming position specifies how the open collector output of Box 485-T reacts to activation of the bell button on the first or second slave keypad.

- 0 = bell alone (activation of bell button on CT2000) **default setting**
- 1 = door opening and a relay for remote on/off switch
- 2 = warning
- 3 = alarm
- 4 = bell and warning
- 5 = bell and alarm

### 3.11 Activation time for the open collector output (109)

Value in this programming position specifies how long Box 485-T's open collector output shall react to an activation of the bell button on the first or second slave keypad.

Default setting in programming position 109 is set to 4, which equals to 1 second.

### 3.12 Activation time zones for slave keypads (110 - 122)

These programming positions are reserved for future development of the system and for the moment are not used.

By default these programming positions are set to 255.

Programming positions 110 - 122 must always be set to 255, otherwise Box 485-T does not work.

### 3.13 Active mask (123)

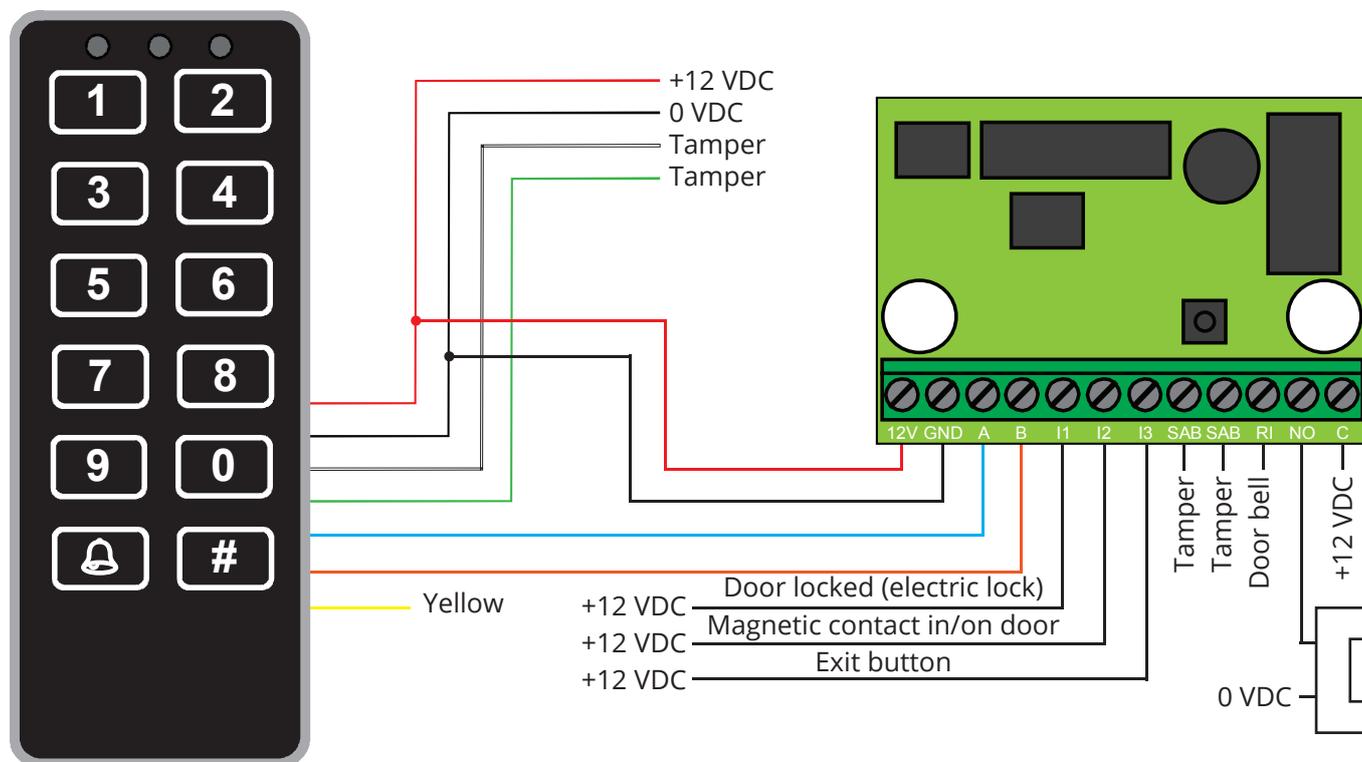
This programming position is reserved for future development of the system and for the moment is not used.

By default the programming position is set to 127.

Programming positions 123 must always be set to 127, otherwise Box 485-T does not work.



## 4. Installation example



## 5. Technical specifications

Supply voltage:	+12 VDC
Voltage range:	10 to 15 VDC
Ripple voltage:	max. 500 mA mVpp
Current consumption:	20 to 40 mA
Output - open collector:	max. 500 mA
Output - relay:	C/NO (max. 24V/2A)
Operating temperatures:	0°C to +85°C
Humidity:	max. 85% RF
Dimensions HxWxD:	88,5x65x30 mm





Thank you for choosing Conlan products.  
For further help, please contact our  
support service.