

Box 485

Installation Manual

CE

Table of Contents

1. Introduction	3
2. Electric connections	4
2.1. Inputs	4
3. Programming	5
3.1. Programming positions	5
3.2. Default programming	6
3.3. Address (ID number) of slave keypads (100 and 101)	6
3.4. Address (ID number) of Box 485 (102)	6
3.5. Exit time (103)	7
3.6. Warning time (104)	7
3.7. Alarm time (105)	8
3.8. Polarity of relay output (106)	8
3.9. Polarity of open collector output (107)	8
3.10. Open collector output working mode (108)	8
3.11. Activation time for the open collector output (109)	9
3.12. Allowed time zones for slave keypads (110 – 122)	9
3.13. Active mask (123)	9
4. Installation example	10
5. Technical Specifications	11

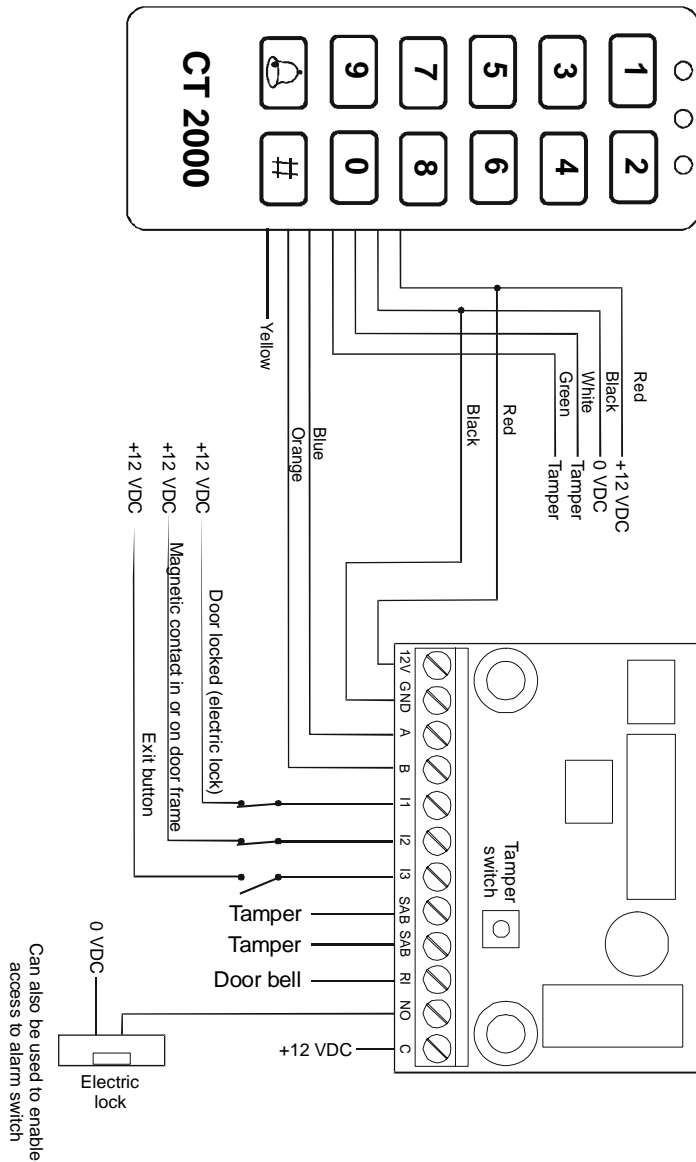
5. Technical Specifications

Supply Voltage:	12 VDC
Voltage Range:	10 to 15 VDC
Ripple Voltage:	max. 500 mVpp
Current Consumption:	20 to 40 mA
Output – open collector:	max. 500 mA
Output – relay:	C/NO (max. 24V / 2A)
Operation temperatures:	0° C to 85° C
Humidity:	max. 85% RF
Dimensions (W x H x D):	65 x 65 x 28 mm
Certificate:	SKAFOR 212.802.

System part overview:

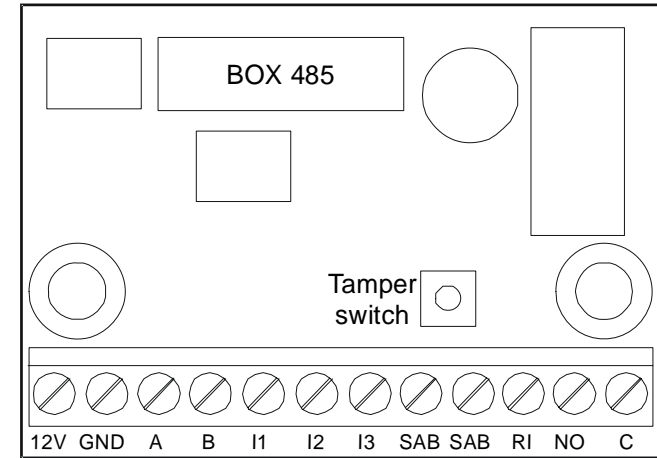
Type	Prod. no.	EAN-number	Description
Box 485	02-07-5190	5 703360 424855	Door control unit
Box 485-4	02-04-5194	5 703360 424862	Door control unit with four relay outputs
CT 2000 kl.3	02-07-5160	5 703360 425012	Stand alone keypad (SKAFOR certificate)
CT 2000	02-07-5170	5 703360 425005	Stand alone keypad
RPT-1	02-07-5181	5 703360 355074	Boxed relay print
Relæboks	02-07-5180	5 703360 355081	PCB to be mounted in a joint box
PCI 1	02-07-5175	5 703360 425203	PC interface, including software
LogBox 2	02-07-5178	5 703360 425227	LogBox (registers last 1000 operations)
CTL 2000	02-07-5165	5 703360 425951	Front labels for CT 2000 and CT 2000 kl. 3
CTL Kunde	02-07-5167	5 703360 425968	Customer designed front label with customer's logo and design.

4. Installation example



1. Introduction

Box 485 is a door control unit, used together with CT 2000 keypad. The unit is delivered in a white joint box, space for cabling included.



Box 485 enables usage of the CT 2000's bell button for activation of the bell.

Combination of Box 485 and CT 2000 keypad with an electric lock enables control of a single door – its opening and registration if the door is closed and locked.

Box 485 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 CT 2000 is to be combined with CT 2000's bell button.

2. Electric connections

12V	+12 VDC
GND	0 VDC (minus)
A	Connection to data bus via RS 485, in-/output A, <u>blue core</u>
B	Connection to data bus via RS 485, in-/output B, <u>orange core</u>
I1	Input 1 – lock contact (+12 VDC for activation)
I2	Input 2 – door control (+12 VDC for activation)
I3	Input 3 – exit button (+12 VDC for activation)
SAB	Tamper switch
SAB	Tamper switch
RI	Bell button function (open collector), activated when bell button on CT 2000 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

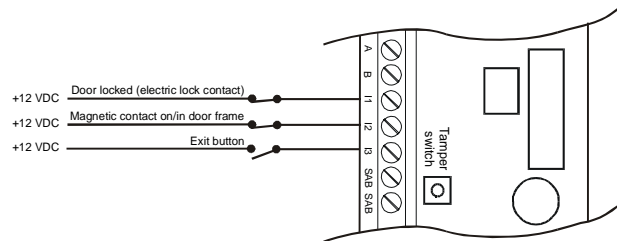
2.1. Inputs

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

Input 2 (I2) used for indication if a door controlled by Box 485 is closed or not. + 12 VDC on the input is interpreted as door closed.

+ 12 VDC on **Input 3** (I3) or entering a correct user code entered on CT 2000 keypad creates a connection between NO and C, f. ex. 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, they must be connected to + 12 VDC



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

Value in this programming position specifies how long Box 485'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 4, which equals to 1 second.

3.12. Allowed 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 to 122 must always be set to 255, otherwise Box 485 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 this programming position is set to 127.

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

3.7. Alarm time (105)

Value in this programming position specifies for how long Box 485 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 of programming position 105 is by default set to 20, which equals to 1 minute.

3.8. Polarity of relay output (106)

Value of this programming position specifies polarity of Box 485's relay output.

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

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

3.8. Polarity of open collector output (107)

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

0 = normal (0 VDC when activated) **default setting**

1 = reverse (0 VDC removed when activated).

3.10. Open collector output working mode (108)

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

0 = bell alone (activation of bell button on CT 2000) **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. Programming

Box 485 is from the factory delivered with a standard programming. Further programming can be made through the PC-interface (PCI 1).

3.1. 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;
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 bell button – open collector output RI: 0 = normal (put 0 VDC), 1 = reverse (removed 0 VDC);
108	Mode of the bell button – open collector RI (0 to 5);
109	Activation time of bell button – open collector output RI (for ¼ sec.)
110 to 122	Allowed time zones for first and second slave keypads, Reserved for future use;
123	Active mask, Reserved for future use.

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

Progr. position	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;
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 output 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 (110 and 101)

Keypads (CT 2000) connected to an RS 485 data bus are distinguished from each other by assigning them 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 reacts in accordance with its programming.

As default the programming positions 100 and 101 are set to 1 for both the first and second slave keypad.

3.4. Address (ID number) of Box 485 (102)

Box 485, just like keypads, must carry an address (ID number), to enable division between different units on RS 485 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 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 or hours can be interpreted with help PC-interface software (PCI 1).

3.6. Warning time (104)

Value in this programming position specifies how long Box 485 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 CT 2000 shall be longer than the warning time.