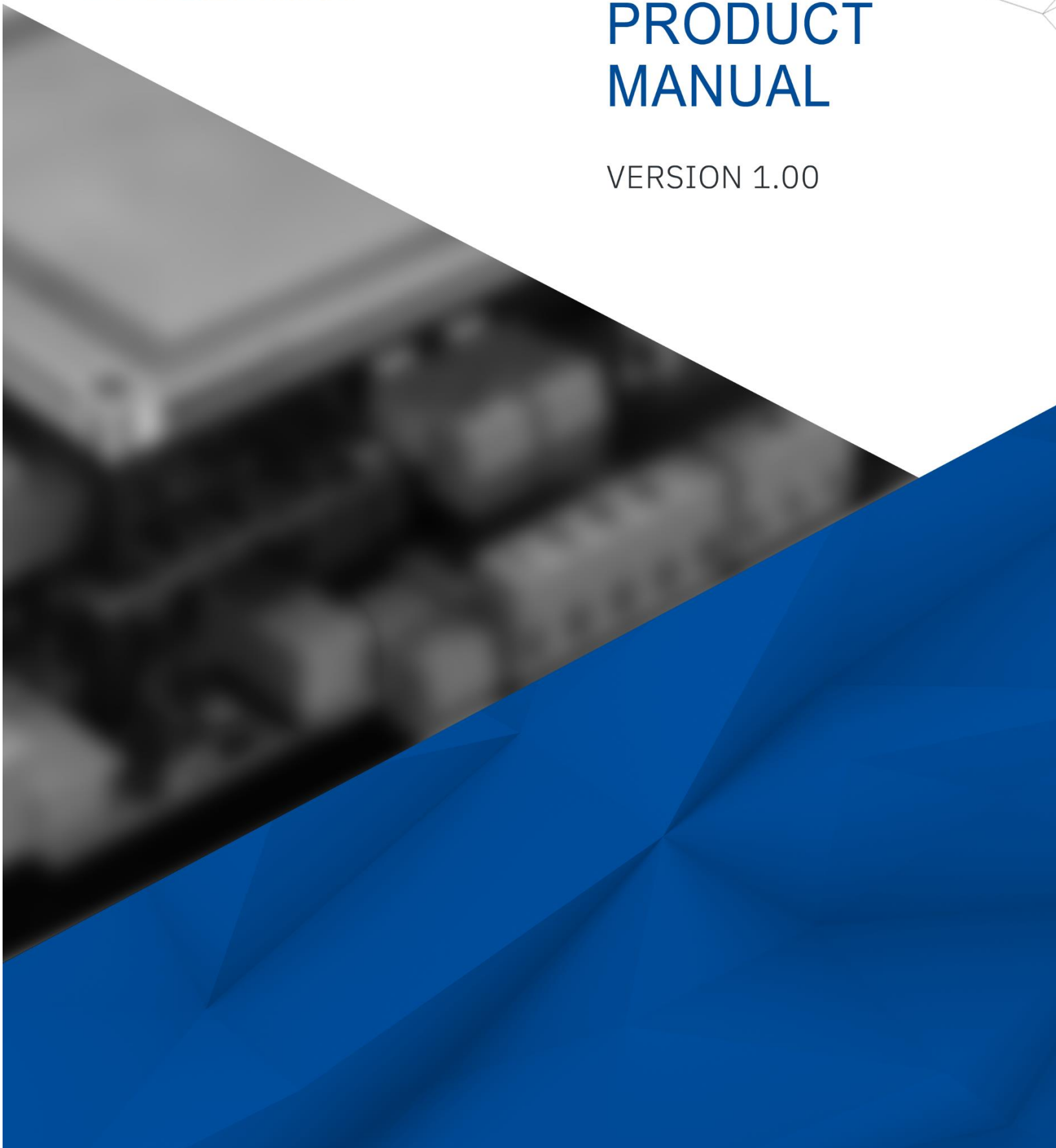




SEMITRON[®]
INNOVATIVE ELECTRONIC SOLUTIONS

NOUS PRODUCT MANUAL

VERSION 1.00





Conformed with quality management systems standards.



Conformed with the requirements of the applicable EC directives.



Conformed with directive 2002/96/EC on waste electrical and electronic equipment (WEEE).



CANopen profile for Lift

Document Revision History

Date	Revision	Comments
2020/03/24	V1.00	First version of this document

Download the manual of NOUS:

<http://bit.ly/semitron-lift>





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1. Description

NOUS lift controller is a high-performance microcomputer, functioning as the main processing unit of a lift control panel. NOUS is an advanced embedded system, running a custom-made embedded Linux distribution as its operating system based on a modern microprocessor solution.

NOUS can be controlled by a touch screen interface providing comprehensive overview and navigation over the whole elevator (lift status, doors status etc.), as well as, easy access to maintenance (event log, inspection mode etc.).

NOUS lift controller consists of the main and expansion module.

The main module has four different PCB boards:

- CPU and Mini I/O boards on the top level
- SB and SZ boards on the bottom level

The expansion module is the IOx16 board which is used to provide 16 inputs/outputs. The expansion board is connected to the CPU board and can be placed anywhere in the control panel.



NOUS main module

2. Technical Data

Size	<ul style="list-style-type: none"> ▪ Main Module :173 x 126 x 63 mm (L x W x H) ▪ Expansion Module: 123 x 77 x 17 mm (L x W x H)
Power Supply	24 VDC
Current Consumption	<ul style="list-style-type: none"> ▪ Idle: 123 mA ▪ Max: 155 mA
Operating system	Linux platform 536 Mhz Atmel Cortex A5 CPU
CAN Bus	2 x CANopen Lift, galvanically isolated interfaces
Interfaces	<ul style="list-style-type: none"> ▪ Ethernet ▪ Micro SD-Card ▪ 2 x USB Host ▪ 1 x USB device ▪ 1 x RS485 (DCP) ▪ 2 x custom serial interface
Safety Circuit inputs	6 x 230 VAC inputs
Inputs	<ul style="list-style-type: none"> ▪ 24 V: 37 x 24 V Inputs. Thereof 2 x 24 V inputs with constant 30 mA current for contactor/break monitoring ▪ 230 VAC: 2 x 230 VAC for Car light and Power supply ▪ Input for PTC sensor: Galvanically isolated
Outputs	<ul style="list-style-type: none"> ▪ 24 V: 8 x high side 350 mA short circuit protected general purpose ▪ 230 VAC: 5 x 5 A, 230 V, relay output ▪ Safety relays: For door bridging
Speaker outputs	2 x 2 W
User interface	5 inch full color LCD display with capacitive multitouch
Battery	Lithium 3V/ type CR2016

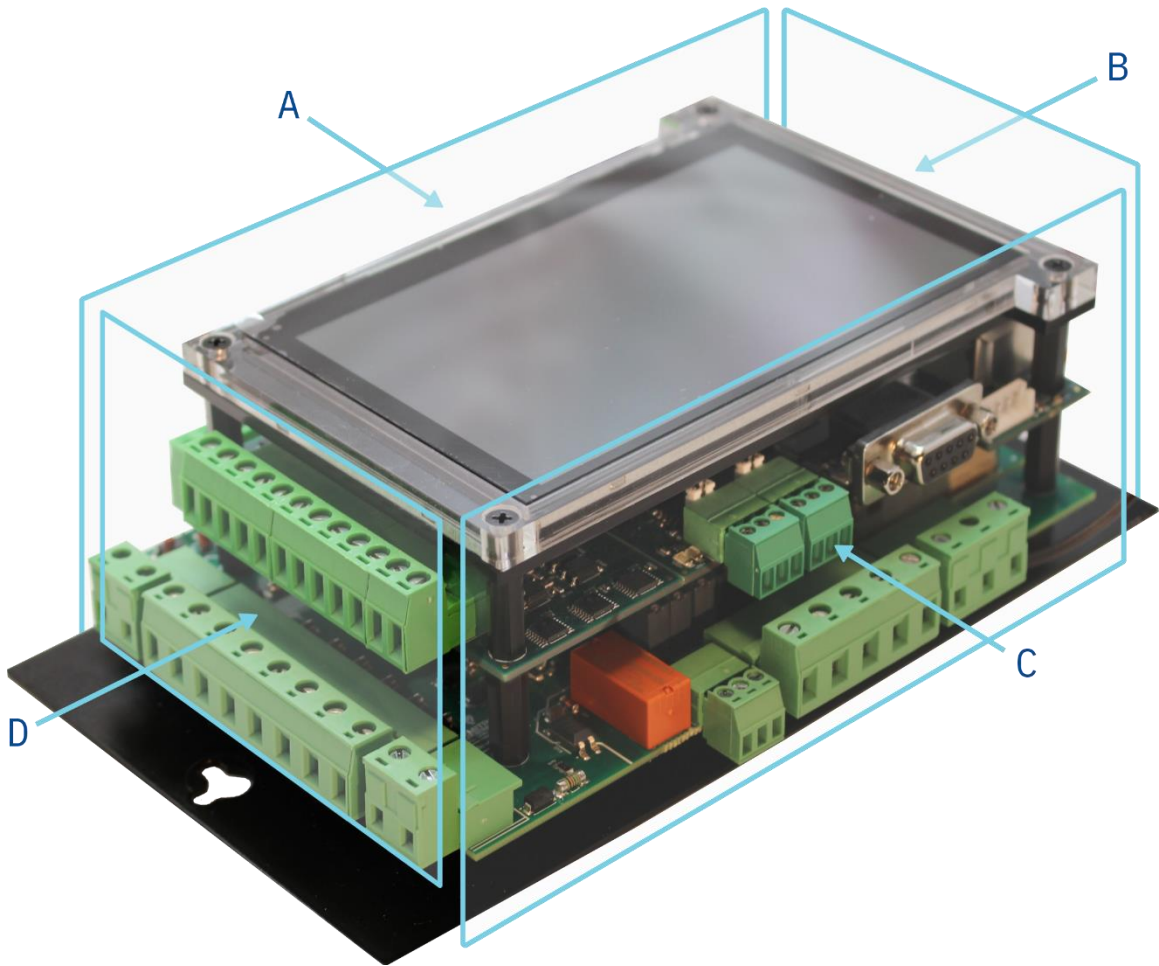
3. Nouis Display

Display Specifications:

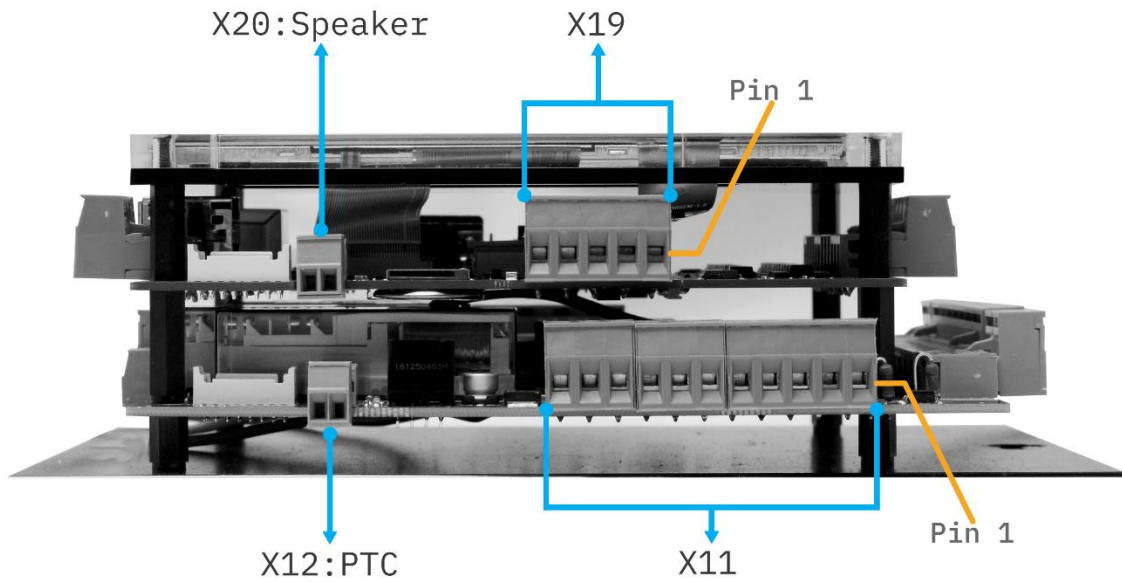
- 5" LCD
- 800 x 480 resolution
- 24 bit color
- Capacitive multitouch panel



4. Nous Terminals



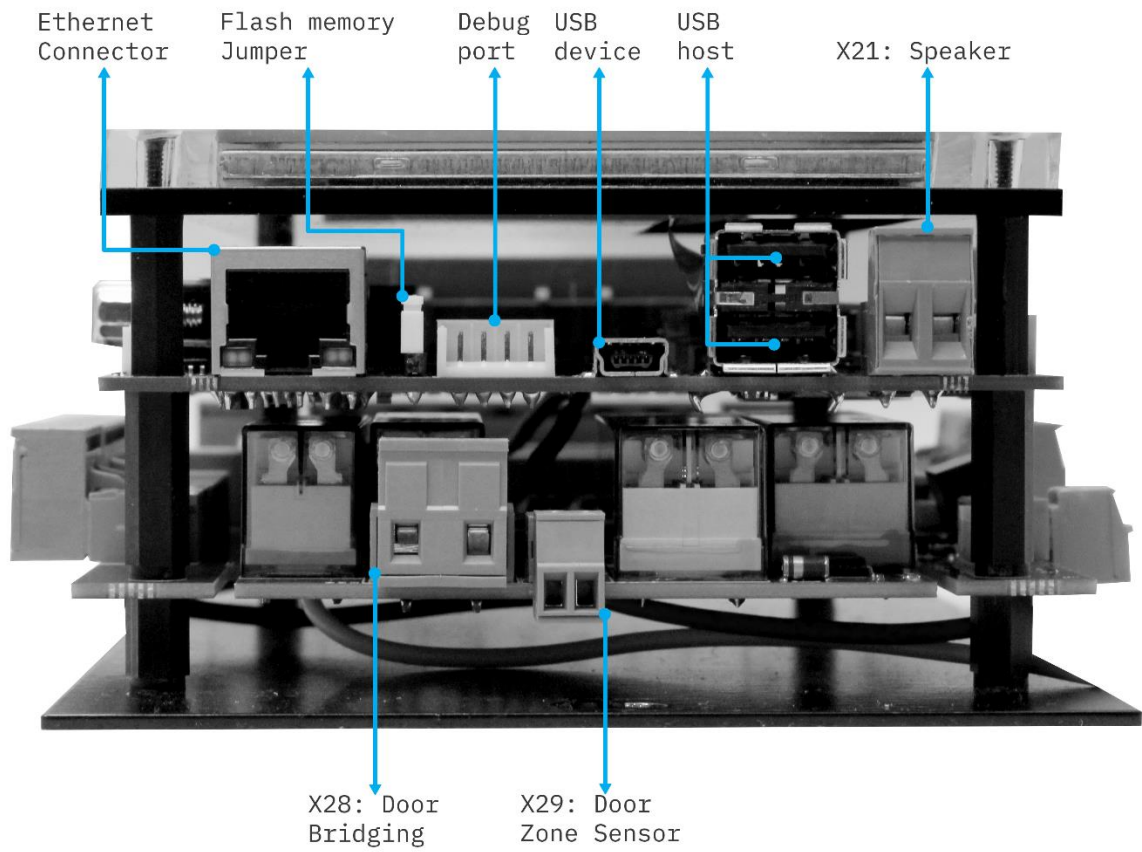
Side A



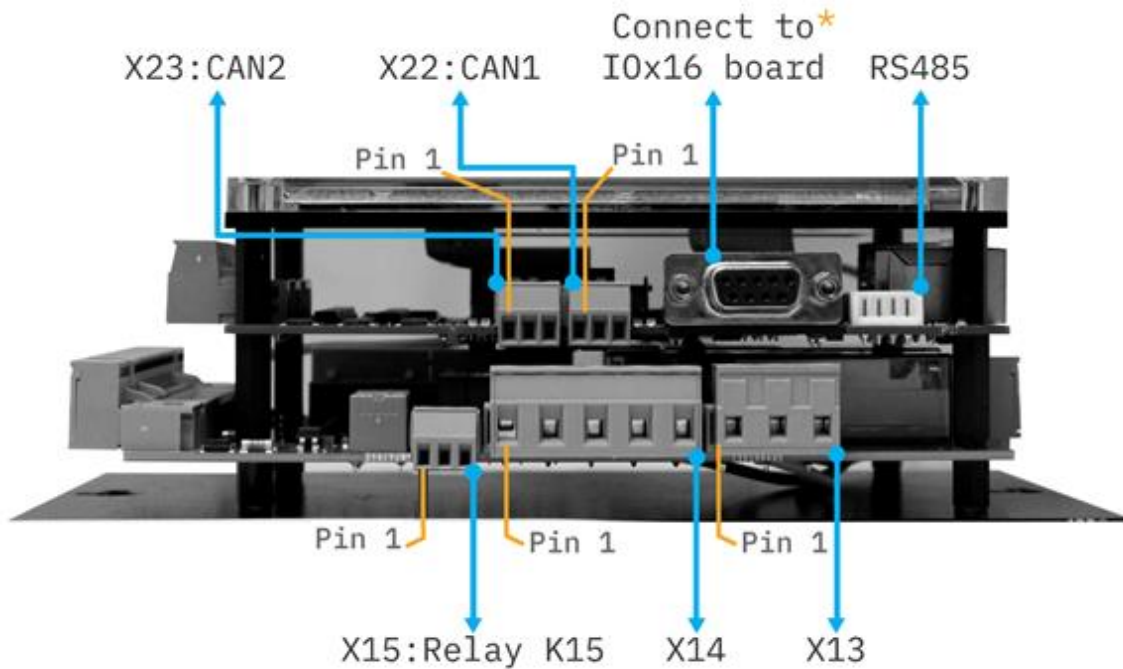
X11	
Pins	Description
1	Contacting Monitoring
2	Break Monitoring
3	Inspection Pit ON/OFF
4	Inspection Pit Up
5	Inspection Pit Down
6	Emergency rescue ON/Off
7	Emergency rescue up
8	Emergency rescue down
9	Extra GPIO
10	GND
11	24V Input

X19	
Pins	Description
1	GND
2	GND
3	24V Input
4	24V Output
5	24V Output

Side B



Side C



* the connection to IOx16 board should be done *only with sealed cable*

X13	
PIN	Description
1	230 AC safety chain end. Common terminal for K13, K14 relays
2	Common terminal for K10 Relay
3	NO of K10 relay

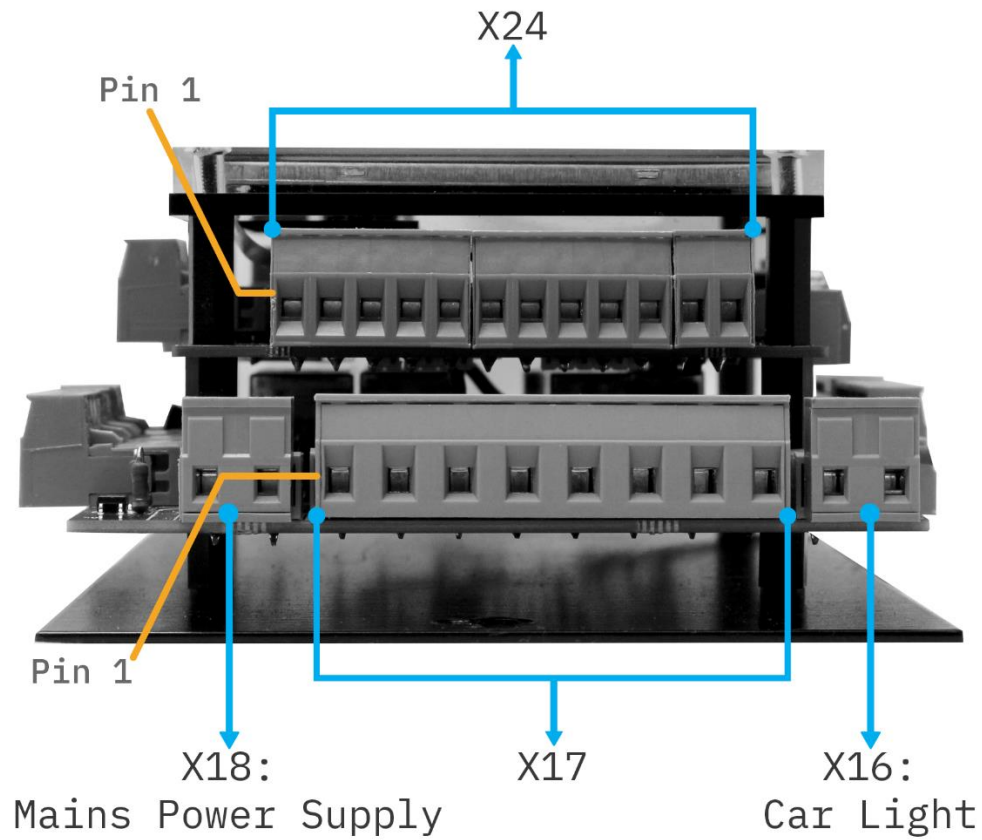
X14	
PIN	Description
1	Common terminal for relays K11 and K12
2	Relay K12
3	Relay K11
4	Relay K13
5	Relay K14

X15	
PIN	Description
1	NO
2	C
3	NC

X22	
PIN	Description
1	CAN1H
2	CAN1L
3	CAN1_GND

X23	
PIN	Description
1	CAN2H
2	CAN2L
3	CAN2_GND

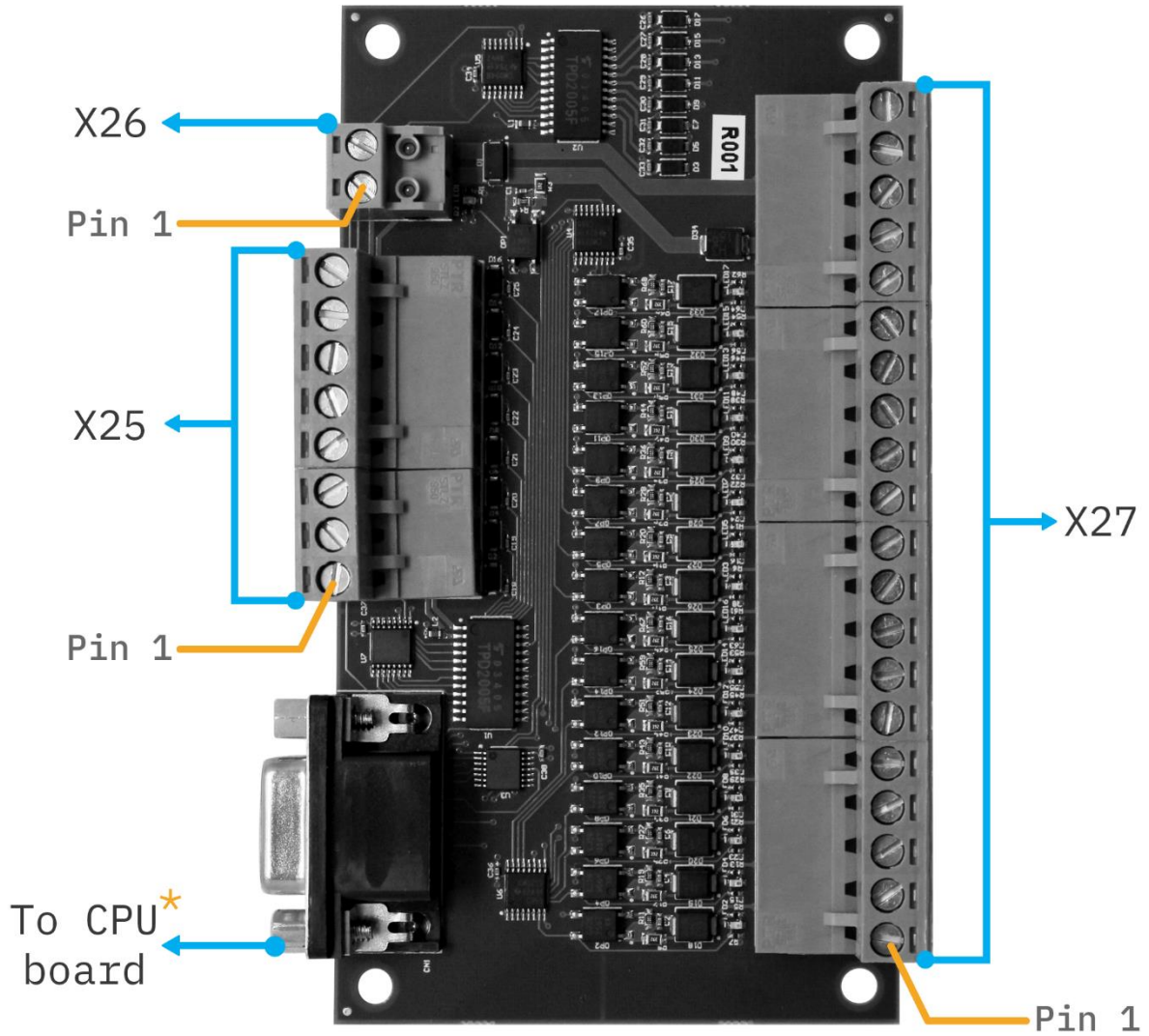
Side D



X17	
PIN	Description
1	Neutral
2	Passive
3	Stop
4	Shaft door
5	Car door A
6	Car door B
7	Car lock
8	Neutral

X24	
PIN	Description
1	General purpose input/output GPI/O 1
2	General purpose input/output GPI/O 2
3	General purpose input/output GPI/O 3
4	General purpose input/output GPI/O 4
5	General purpose input/output GPI/O 5
6	General purpose input/output GPI/O 6
7	General purpose input/output GPI/O 7
8	General purpose input/output GPI/O 8
9	GPI 9
10	GPI 10
11	GPI 11
12	GPI 12

5. Expansion board Terminals



* the connection to CPU board should be done *only with sealed cable*

X25	
PIN	Description
1	24 VDC Input/ Output 1
2	24 VDC Input/ Output 2
3	24 VDC Input/ Output 3
4	24 VDC Input/ Output 4
5	24 VDC Input/ Output 5
6	24 VDC Input/ Output 6
7	24 VDC Input/ Output 7
8	24 VDC Input/ Output 8

X26	
PIN	Description
1	24VDC Input power
2	GND power

X27			
PIN	Description	PIN	Description
1	24VDC Input/ Output 1	11	24VDC Input/ Output 11
2	24VDC Input/ Output 2	12	24VDC Input/ Output 12
3	24VDC Input/ Output 3	13	24VDC Input/ Output 13
4	24VDC Input/ Output 4	14	24VDC Input/ Output 14
5	24VDC Input/ Output 5	15	24VDC Input/ Output 15
6	24VDC Input/ Output 6	16	24VDC Input/ Output 16
7	24VDC Input/ Output 7	17	24VDC Output power
8	24VDC Input/ Output 8	18	24VDC Output power
9	24VDC Input/ Output 9	19	GND Output power
10	24VDC Input/ Output 10	20	GND Output power