



User Manual

vpn4log

(Part no. 230105-001)

Table of Revisions

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tdd.000.077			
Page	1	of	11



Table of Contents:

1	Introduction	3
1.1	Warning Symbols	3
1.2	Mandatory Action Symbols	3
2	Safety Guidelines	3
2.1	Intended Use	3
2.2	Customer Service	5
2.3	Hazards	5
3	Description	5
4	Specifications	5
4.1	Rules and Regulations	5
4.2	Nameplate	5
4.3	Types	6
4.4	Operating System	6
4.5	Applications	7
4.6	Connections & Ports	7
4.7	Voltage Supply	8
4.8	Housing	8
4.9	Environmental Conditions	8
4.10	Mass and Weight	9
4.11	Sound emissions	9
5	Installation	9
5.1	Installation	9
5.2	Spacing	10
5.3	Power Supply	10
6	Operation	10
6.1	Configuration	11
6.2	Text	11
7	Disposal	11
8	Tables	11

Figure Legend:

<i>Fig. 1: Warning Symbols</i>	3
<i>Fig. 2: Mandatory Action Symbols</i>	3
<i>Fig. 3: QR-Code</i>	5
<i>Fig. 4: Image Nameplate</i>	6
<i>Fig. 5: Image Housing</i>	7
<i>Fig. 6: Image Connections & Ports</i>	8

1 Introduction

This manual concerns information regarding the handling and maintenance of the control4log.

1.1 Warning Symbols

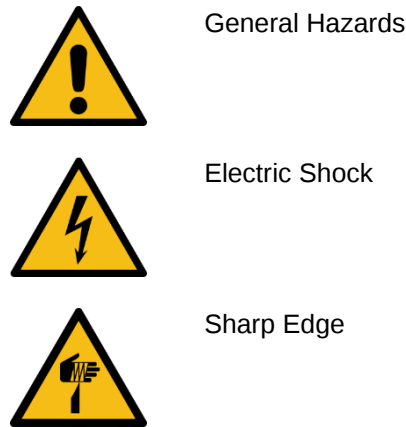


Fig. 1: Warning Symbols

1.2 Mandatory Action Symbols

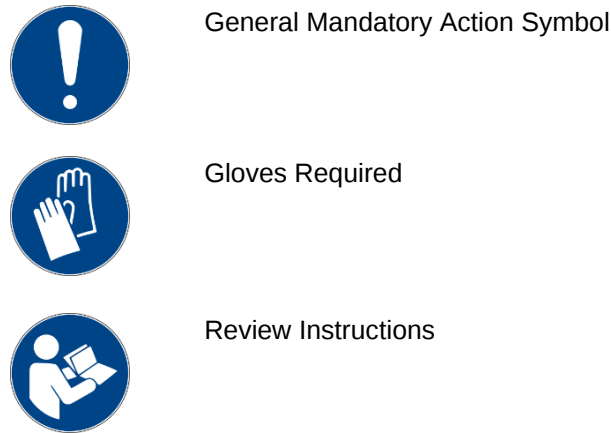


Fig. 2: Mandatory Action Symbols

2 Safety Guidelines

2.1 Intended Use

Please read the user manual carefully and completely before using the device for the first time. The device may only be operated by trained personnel. Any damage resulting from failure to observe the user manual instructions is exempt from any liability.



The device may only be used in the manner described in the operating instructions. Using the device in a manner other than that for which it was designed may result in danger and risks personal safety.



Only use the measuring device when environmental conditions (temperature, air humidity, etc.) are within the limit values specified in the instructions. Do not expose the device to extreme temperatures, direct sunlight, extreme humidity, or moisture.



Do not subject the device to shocks or strong vibrations.



The device housing may only be opened by qualified personnel and no technical changes may be made to the device.



Only use the device if it is attached to a DIN rail with the mounting device provided.



The device should only be cleaned with a cloth. Do not use abrasive or solvent-based cleaning agents.



Check the housing of the device for visible damage before use. If there is any visible damage, the device must not be used.



The device may not be used in an explosion-prone atmosphere.



The measuring range specified in the instructions must not be exceeded under any circumstances.



Only connect the device, and all its encompassing interfaces and connection ports, to a low-voltage system.



General knowledge in the field of automation technology and low-current-switching technology is necessary for understanding.



If the safety instructions are not observed, the device may be damaged and the operator may be injured.



It is not allowed to connect for power supply the USB-C interface if the device execution is the PoE+, follow the description on the housing.

We assume no liability for misprints or content errors in these instructions. We expressly refer to our general warranty conditions, which can be found in our General Terms and Conditions. For questions or concerns, please contact TECHDOCK GmbH. The contact details can be found in these instructions.

tdd.000.077			
Page	4	of	11

2.2 Customer Service

TECHDOCK GmbH
Paradiesstr. 34
CH – 4102 Binningen
Email: info@techdock.ch



Fig. 3: QR-Code

2.3 Hazards



Use gloves when attaching the device to, or removing it from, the DIN rail, as cuts and injuries from sharp edges of adjacent parts can occur.



Only install the device when the system / control cabinet is switched off and/or disconnected from the power. An electric shock can be caused by adjacent live parts or devices.

3 Description

The control4log is a data logger that can be freely configured. The hardware is based on a Raspberry 4. The Raspberry Pi OS runs on the Raspberry Pi.



Always store this manual near the device.

4 Specifications

4.1 Rules and Regulations

The control4log is a device for audio/video, information, and communication technology in accordance with EN 62368. For a complete overview of the guidelines and standards applied, please consult the declaration of conformity, included in the packaging of every device supplied.



In Switzerland, the device is considered a "special low-voltage product" according to NEV 734.26, Section 2, Article 13, Paragraph 1.

4.2 Nameplate

The following information can be found on the nameplate:

tdd.000.077			
Page	5	of	11

Article No.	230105-001
Serial No.	V4L0-2104-0000-0001
Passwrd:	*****
Input:	DC 24V
Amb. Temp:	0C°...+40C°

Fig. 4: Image Nameplate



The password is a randomly generated code on <https://passwordsgenerator.net/>. TECHDOK GmbH can only recall and understand the password based on the printed serial number.

4.3 Types

Der Seriennummer kann die Typenausführung entnommen werden:

V4L0	Power supply over USB-C socket
V4LP	Power supply over ETH0 socket with PoE+



It is not allowed to connect for power supply the USB-C interface if the device execution is the PoE+, follow the description on the housing.

4.4 Operating System

Logging on to the Raspberry Pi OS can be achieved in various ways, such as VNC, X11, SSH, or directly on the desktop. The easiest way is directly via the desktop of the Raspberry Pi OS by connecting a mouse and keyboard to the USB Type A ports and using a screen via the HDMI Micro Type D connector. To log in, the sudo-login and nameplate password must be used. The password for the sudo-login can be changed after successful login.



There is no second login with standard password. If the password from the sudo-login has already been changed by the user and is lost or forgotten, TECHDOCK GmbH cannot reset the password. In this case, the only option is for the TECHDOCK customer service to reset the device to factory settings, in which all custom user settings will be lost.



The password gives sudo rights to the Raspberry Pi OS, which could damage the function of the operating system and the application. In this case, the only option is for the TECHDOCK customer service to reset the device to factory settings, in which all custom user settings will be lost



Updates from the operating system on the Raspberry Pi OS could damage the function of the operating system and the application. Only security updates should be installed with the Raspberry.



Any device that has access to the Internet is at risk and must be protected accordingly through settings, security updates, and security software. When opting to connect the device to the Internet, it is recommended to seek appropriate professional help and advice.



Always protect all devices in the same network with secure passwords, such as those that can be generated at <https://passwordsgenerator.net/>

It is always up to the owner of the device to implement their own applications and projects on the Raspberry Pi OS. Access to the database is unrestricted.



Adapting and changing the devices on the operating system and application level may only be at the user's own risk. In the event of a defect, the only option is for the TECHDOCK customer service to reset the device to factory settings, in which all custom user settings will be lost

4.5 Applications

The installed applications and software products are all licensed with open source; the exact licenses can be viewed in the respective project.

The application saves the current values of the input and output signals according to the configuration.



When storing data points, it should always be noted that the stored data may contain conclusions about persons and sensitive data and are therefore subject to the locally applicable data protection law.

4.6 Connections & Ports

All connections and interfaces are clearly engraved on the housing.

USB-C	5V DC power supply
ETH	Ethernet-Port RJ45, optional with PoE+
Terminal	USB-Terminal Port (future option)
USB	USB-Port Typ A
HDMI	HDMI-Micro Port Typ D



Fig. 5: Image Housing



4.7 Voltage Supply

Range power supply USB-C:
Range power supply PoE+:
Typical energy consumption:

5 VDC
34-57 VDC, class 4 device
USB-C: 5 W
PoE+: 10 W

Terminal	Description
usb1	2 x USB 2 (Typ-A Port)
usb2	2 x Analog Outputs (4-20mA or 0-10V DC, Resolution DAC 14 Bit)
usb3	2 x USB 3 (Typ-A Port)
usb4	4 x Digital Outputs (Relay contact, maximum allowed load 24V DC / 100mA)
usb-c	1 x USB-C Port *
eth0	1 x Ethernet RJ45 Port (1000BASE-T)
hdmi1	2 x HDMI Micro *
hdmi2	(Typ D)
jack	1 x Audio Output * (3.5mm / 4 Pol)

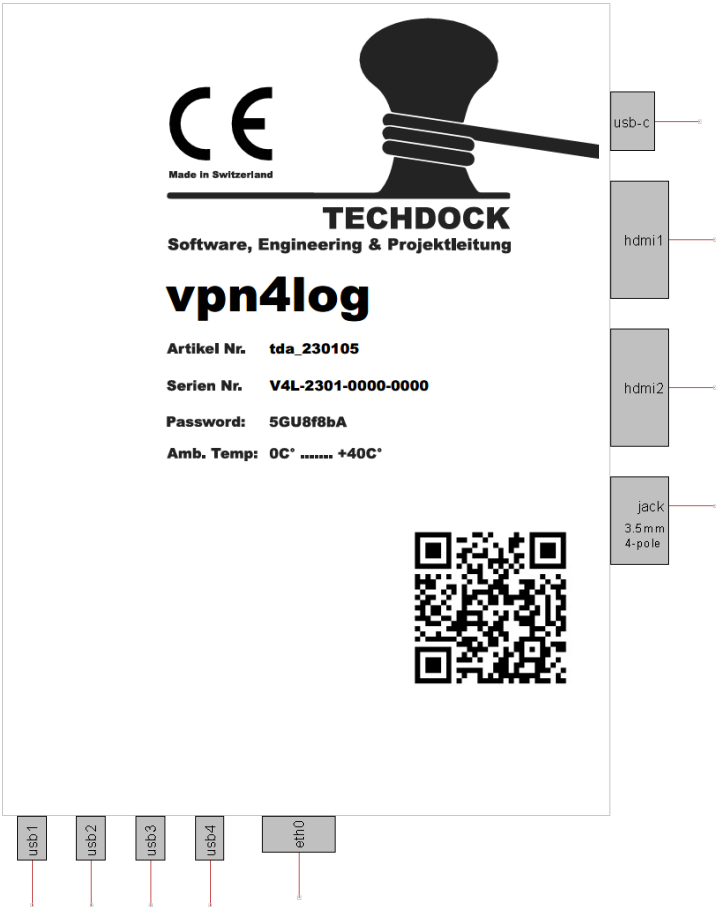


Fig. 6: Image Connections & Ports

4.8 Housing

The housing fulfills the intrusion protection IP 2XB according to EN 60529.

4.9 Environmental Conditions

In operation:
In storage:
In operation
Altitude:

0°C to 40 °C, without condensation
-40 °C to 70 °C, without condensation
Up to 2000 m above sea level

4.10 Mass and Weight

Width:	60 mm
Height:	140 mm
Depth:	120 mm
Weight:	550 gr. without PoE+
	600 gr. with PoE+

4.11 Sound emissions

Follow sound emissions may occur with the execution V4LP power supply PoE+ by fan inside the housing:

Distance	Sound level [dB]
0.1m	≤ 50dB
1.0m	≤ 40dB

5 Installation

5.1 Installation

The device is equipped with a mounting device for 35mm DIN rails according to DIN EN 50022. The metal housing is equipped with the appropriate threads so that the DIN rail mounting device can be attached on three sides.



Only install the device when the system / control cabinet is switched off and/or disconnected from the power supply. An electric shock can be caused by live adjacent parts or devices.



When using a torque wrench, the maximum permitted torque of 0.12 Nm must not be exceeded, otherwise the thread may be destroyed.



It is not allowed to connect for power supply the USB-C interface if the device execution is the PoE+, follow the description on the housing.



Use gloves when attaching the device to the DIN rail and when removing it. Cuts and injuries from sharp edges of adjacent parts can occur.

Installation:

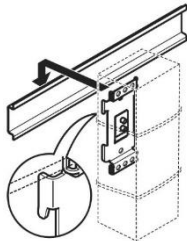


Fig. 7: Image Installation on DIN rail

Removal:

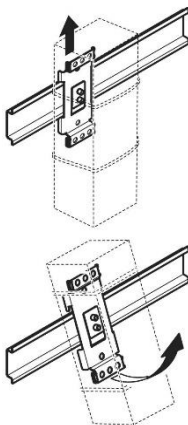


Fig. 8: Image Removal from DIN rail

5.2 Spacing

The distances $a = 10\text{ mm}$ / $b = 50\text{ mm}$ must be observed when installing neighboring parts on the DIN rail.

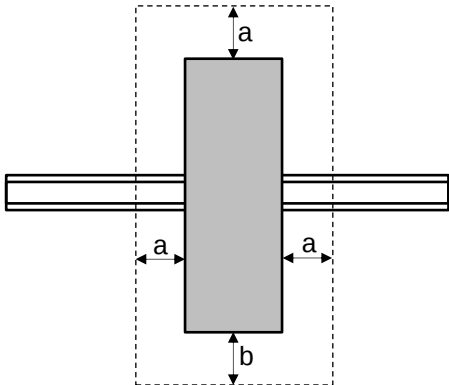


Fig. 9: Image Spacing on DIN rail upright mounting

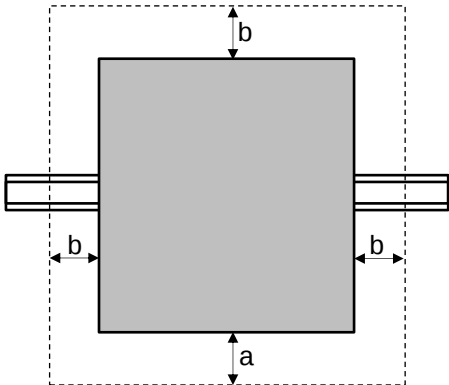


Fig. 10: Image Spacing on DIN rail recumbent mounting

5.3 Power Supply

The device can be supplied with a voltage on the two terminals 24 VDC & GND, as described in the Specifications chapter.



CH: The limit values for low-voltage systems are $\leq 2\text{ A}$ **and** $<120\text{ VDC}$.

6 Operation

The device can be configured with a normal USB stick. To do this, proceed as follows:

As soon as a USB mass storage device formatted as FAT32 is recognized by the operating system, the following options are possible using a text file on the USB mass storage device:

tdd.000.077			
Page	10	of	11



- Download (from device) data list
- Download (from device) Parameter
- Upload (to device) Parameter *
- Download (from device) Text Parameter
- Upload (to device) Text Parameter *

* *In order to upload to the device, the password from parameter PA52 must be included in the "passwd.csv" file. The password is not encrypted and **only** protects against accidental overwriting of the parameters.*

6.1 Configuration

If the USB mass storage device contains the correct folder according to the parameters, and the "paradown" file is also present, the "confdown.csv" file with the parameters is downloaded from the device.

If the USB mass storage device contains the correct folder according to the parameters, and it contains the "paraup" file, the device is configured according to the "confup.csv" file.

6.2 Text

If the USB mass storage device contains the correct folder according to the parameters, and it contains the "textdown" file, the "textdown.csv" file with the text is downloaded from the device.

If the USB mass storage device contains the correct folder according to the parameters, and it contains the "textup" file, the device is configured according to the "textup.csv" file.

7 Disposal

We accept the return our devices. They are either recycled by us or disposed of by a recycling company in accordance with legal requirements. Alternatively, old devices may also be disposed of at designated collection points.

8 Tables

For an overview of the tables, use the software specification, which can be downloaded from the TECHDOCK GmbH website.

tdd.000.077			
Page	11	of	11