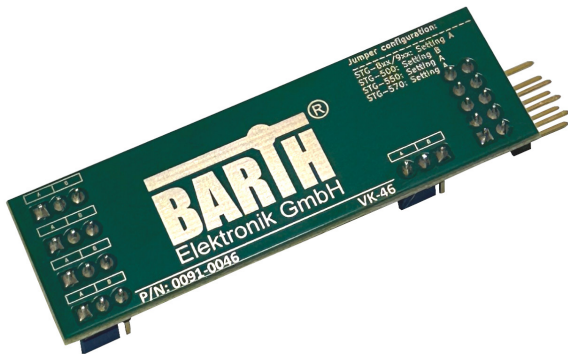


**Connection Cable VK-46  
Art. No. 0091-0046**

**MANUAL**



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## SAFETY INSTRUCTIONS

This manual contains instructions which you should follow to ensure your own personal safety, as well as to protect the product and the connected equipment. These instructions are highlighted in the manual by a warning symbol and are marked as follows according to the level of danger:



**Only qualified personnel should be allowed to install and work on this equipment. Qualified persons are defined as persons who are authorized to commission, to ground and to tag circuits, equipment and systems in accordance with established safety practices and standards.**



**Turn off the power supply before performing any wiring operations! Short circuits can be harmful, critical and can cause explosions and serious burns!**



**Please read this manual carefully and follow all safety instructions!**

## DESTINATED USE

The Connection Cable VK-46 is designed for universal measuring, controlling and regulating applications in combination with BARTH® Mini-PLCs. It must not be used for life critical, medical or fail safe applications.

### Compatible BARTH® Mini-PLCs:

1	STG-500
2	STG-580
3	STG-700
4	STG-800
5	STG-810
6	STG-820
7	STG-850
8	STG-950
9	MC-800
10	GT-800
11	GT-900
12	GT-950

### Compatible ST-LINK Programmer:

1	STLINK-V3
2	STLINK-V3SET
3	STLINK-V3PWR
4	STLINK-V3MINIE

## DISCLAIMER

**BARTH Elektronik GmbH assumes no liability for usage and functionality of the VK-46 in case of disregarding this manual. The strict accordance of this manual is important since the installation methods, peripheral connections, usage and maintenance can not be controlled by BARTH Elektronik GmbH. Therefore BARTH Elektronik GmbH assumes no liability for any claim.**

## 1 Product description

The picture below shows the BARTH® Connection Cable VK-46 (Art. No. 0091-0046).



### 1.1 Features

- Communication via TTL-232 & ISP
- Works with miCon-L & Open-Source programming
- Easy switching between BARTH® lococube Mini-PLCs

### 1.2 Applications

- BARTH® Mini-PLCs

### 1.3 General description

The VK-46 is a level shifter & RS232 driver/receiver, allowing for programming of supported BARTH® Mini-PLCs, using compatible ST-LINK programmer.

### 1.4 Delivery content

- BARTH® Connection Cable VK-46
- STLINK-V3MINIE + connector cable
- USB A to C cable

## 2 Connecting a BARTH® Mini-PLC



**The VK-46 must be installed and wired by a trained technician who knows and complies with both the universally applicable engineering rules and the regulations and standards that apply in specific cases.**

Please abide by the following instructions to ensure proper connection. Plug in the VK-46 into the BARTH® Mini-PLC with the printed BARTH® logo facing away from you, as shown below.



### 2.1 Setting A

Please use jumper configuration „Setting A“ for the following BARTH® Mini-PLCs:

1	STG-800
2	STG-810
3	STG-820
4	STG-850
5	STG-950
6	MC-800
7	GT-800
8	GT-900
9	GT-950

For configuration „Setting A“, the jumper are placed as indicated below.



### 2.2 Setting B

Please use jumper configuration „Setting B“ for the following BARTH® Mini-PLCs:

1	STG-500
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For configuration „Setting B“, the jumper are placed as indicated below



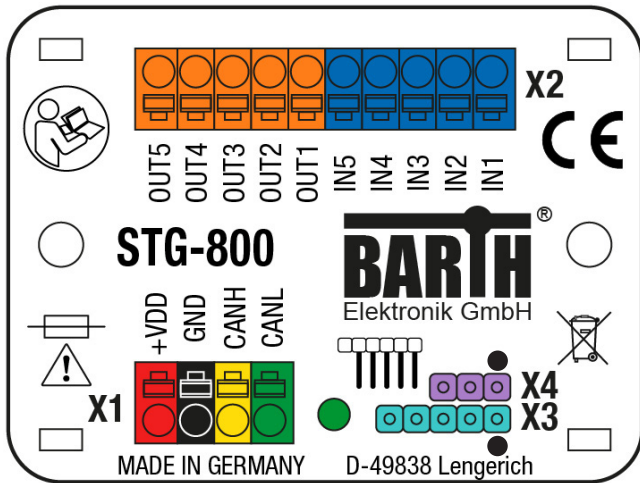
### 2.3 Setting AB

Please use jumper configuration „Setting AB“ for the following BARTH® Mini-PLCs:

1	STG-580
2	STG-700

For configuration „Setting AB“, the jumper are placed as indicated below.





### X3 connector: Open Source ISP interface

1●	+3V3	Positive power supply
2	GND	Ground terminal
3	SYS_SWDIO	System data IO
4	SYS_SWCLK	System clock
5	SYS_RESETN	System reset (inverted)

### X4 connector: TTL232 interface

1●	GND	Ground terminal
2	TX	TTL TX terminal
3	RX	TTL RX terminal

## 3 Appendix

### 3.1 Specifications

#### 3.1.1 General

<b>Hardware design</b>	Printed circuit board, using jumper to switch between +3V3 and +5V signal levels
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#### 3.1.2 Environmental conditions

<b>Operation temperature</b>	-20 to +60 °C (IEC 60068-2-1/2)
<b>Storage temperature</b>	-30 to +60 °C (IEC 60068-2-1/2)
<b>Relative humidity</b>	5 to 95% n-c (IEC 60068-2-30)
<b>Air pressure (in operation)</b>	500 to 1500 hPa
<b>Shock resistance</b>	min. 100 m/s <sup>2</sup> (IEC 60068-2-27)
<b>Vibration resistance</b>	min. 50 m/s <sup>2</sup> @ 10..100 Hz (IEC 60068-2-6)
<b>Degree of protection</b>	IP 00 (EN 50178, IEC 60529)
<b>Drop height</b>	1000 mm (IEC 60068-2-31)
<b>Free fall (packaged)</b>	1500 mm (IEC 60068-2-32)

#### 3.1.3 Weight and dimensions

<b>Weight</b>	9 g
<b>Dimensions</b>	73 x 13 x 22 mm (LxWxH)

### 3.1.4 Ordering information

<b>Ordering information</b>	Connection Cable VK-46 Art. No. 0091-0046
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### 3.2 Documents, videos and software

Detailed information, additional documents, application notes and videos relating to this product are downloadable from [www.barth-elektronik.de](http://www.barth-elektronik.de) and [www.micon-l.de](http://www.micon-l.de)

### 3.3 Disposal



**If you wish to dispose of the product, ask your local recycling centre or dealer for details about how to do this in accordance with the applicable disposal regulations.**

### 3.4 Conformity declaration

For the following designated product it is hereby confirmed, that the construction in that technical design brought by us in traffic corresponds to the standards specified below. In the event of any alternation which has not been approved by us being made to any device as designated below, this statement shall thereby be made invalid.

<b>Description</b>	Connection Cable
<b>Type</b>	VK-46
<b>Art. No.</b>	0091-0046
<b>Directive 2004/108/EG relating to electromagnetic compatibility (EMC)</b>	Applied norms: 2004/108/EG 2004/108/EC 2014/30/EU
<b>CE</b>	
<b>RoHS Directive 2011/65/EU</b>	We hereby declare that our product is compliant to the RoHS Directive on restriction of the use of certain hazardous substances in electrical and electronic appliances.
<b>UKCA</b>	BARTH Elektronik GmbH declares conformity of the product for which this manual is intended with the UKCA equivalents of the aforementioned CE regulations. We therefore deem the product to be in full compliance with UKCA regulations and take full legal responsibility for it. This declaration was issued on 30.11.2021.

BARTH® Elektronik GmbH  
Lengerich, 17.10.2024

*D. Barth*

Dipl.-Ing. (FH) D. Barth