



COMBICOM ACCESSORIES

INSTRUCTIONS FOR USE | INSTALLATION BLUETOOTH-ADAPTER

Translation of the original manual Document 20260008 EN 01



Preface

The hardware and software described in this document are products of KEB. The information contained in this document is valid at the time of publishing. KEB reserves the right to update this document in response to misprints, mistakes or technical changes.

Signal words and symbols

Certain procedures within this document can cause safety hazards during the installation or operation of the device. Refer to the safety warnings in this document when performing these procedures. Safety signs are also located on the device where applicable. A safety warning is marked by one of the following warning signs:

A DANGER	Dangerous situation, which will cause death or serious injury iif this safe- ty warning is ignored.
A WARNING	Dangerous situation, which may cause death or serious injury if this safety warning is ignored.
	Dangerous situation, which may cause minor injury if this safety warning is ignored.
NOTICE	Situation, which can cause damage to property if this safety warning is ignored.
<u>RESTRICTION</u>	

Used when the following statements depend on certain conditions or are only valid for certain ranges of values.



Used for informational messages or recommended procedures.

More symbols

- / Enumerations are marked with dots or indents.
- => Cross reference to another chapter or another page.



Note to further documentation. *www.keb.de/service/downloads*



Laws and guidelines

KEB Automation KG confirms with the EC declaration of conformity and the CE mark on the device nameplate that it complies with the essential safety requirements. The EC declaration of conformity can be downloaded on demand via our website.

Warranty and liability

The warranty and liability on design, material or workmanship for the acquired device is given in the general sales conditions.



Here you will find our general sales conditions. www.keb.de/terms-and-conditions



Further agreements or specifications require a written confirmation.

Support

Although multiple applications are referenced, not every case has been taking into account. If you require further information or if problems occur which are not referenced in the documentation, you can request the necessary information via the local KEB agency.

The use of our units in the target products is outside of our control and therefore lies exclusively in the area of responsibility of the customer.

The information contained in the technical documentation, as well as any user-specific advice in spoken and written and through tests, are made to best of our knowledge and information about the intended use. However, they are regarded as being only informal and changes are expressly reserved, in particular due to technical changes. This also applies to any violation of industrial property rights of a third-party. Selection of our units in view of their suitability for the intended use must be done generally by the user.

Tests can only be done within the intended end use of the product (application) by the customer. They must be repeated, even if only parts of hardware, software or the unit adjustment are modified.

Copyright

The customer may use the instructions for use as well as further documents or parts from it for internal purposes. Copyrights are with KEB and remain valid in its entirety.

This KEB product or parts thereof may contain third-party software, including free and/ or open source software. If applicable, the license terms of this software are contained in the instructions for use. The instructions for use are already available to you, can be downloaded free of charge from the KEB website or can be requested from the respective KEB contact person.

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Table of Contents

	Copyright	
	Table of Contents	
	List of Tables	
	List of Figures	6
		_
1	Basic Safety Instructions	7
	1.1 Target group	7
	1.2 Intended use	8
	1.3 Disposal	8
•	Due du et De e enintien	•
2	Product Description	9
	2.1 Intended use	
	2.2 Factory setting	
	2.3 Nameplate	10
3	Hardware1	1
J		
	3.1 Overview Bluetooth-Adapter	
	3.2 Technical data 3.3 Terminal assignment	
	3.4 Start-up	
	3.5 Status LED	
4	Software1	4
	4.1 COMBIVIS mobile App	14
	4.1.1 Functions and features of the COMBIVIS mobile App	
	4.1.2 Applications of the COMBIVIS mobile App	
	4.1.3 Connection setup	15
	4.1.4 Application examples of the COMBIVIS mobile App	
	4.2 KEB Elevator App	
_		
5	Certification2	2
	5.1 CE-Marking	22
	5.2 Declaration of Conformity	23
	5.3 Grant of Equipment Authorization FCC	24
	5.4 RED certification	25
~	Devision History	
b	Revision History 2	0

LIST OF TABLES

List of Tables

Figure 1:	Nameplate Bluetooth-Adapter	10
Figure 2:	Overview Bluetooth-Adapter	11
Figure 3:	Contact details service	16
Figure 4:	Connection menu	16
Figure 5:	Dashboard: Data	17
Figure 6:	Dashboard: Error	17
Figure 7:	Dashboard: I/O	17
Figure 8:	Dashboard: Favourites	17
Figure 9:	Parameter menu	18
Figure 10:	Parameter group	18
Figure 11:	Parameter selected	18
Figure 12:	Parameter "Edit mode"	18
Figure 13:	Create Backup file parameter list	19
Figure 14:	Create Backup 1/2	19
Figure 15:	Create Backup 2/2	19
Figure 16:	Download Backup	19
Figure 17:	Settings Offline Scope	20
Figure 18:	Offline Scope Recording	20
Figure 19:	Created File Offline Scope	20
Figure 20:	Recorded Data Offline Scope	20
Figure 21:	Declaration of Conformity to the RED Directive	23
Figure 22:	Grant of Equipment Authorization FCC	24
Figure 23:	RED certification	25

List of Figures

Factory settings	9
Technical data	11
Terminal assignment	12
Status LED	13
	Factory settings Technical data Terminal assignment Status LED

1 Basic Safety Instructions

The Bluetooth-Adapter has been developed and built in accordance with the state of the art and recognised safety regulations. Nevertheless, the function of the machine may cause danger to life and limb of the user or third parties or damage to the machine and other property.

NOTICE



Safety rules and hazards.

- The safety instructions listed in this manual apply in addition to the basic safety instructions for the drive controller !
- ► These can be found in the corresponding instructions for use.
- ► All instructions for use are available in the download area of *www.keb.de*.

Read the safety instructions carefully before using the adapter. Observe all warnings and instructions on the device and in the instructions for use.

- In case of malfunctions, disconnect the adapter from the power source.
- The adapter is supplied via the serial interface at which it is operated.
- In the event of a defect, have the adapter checked by qualified personnel before putting it back into operation.
- · Modifications to the adapter will void the manufacturer's responsibility.
- Clean the adapter only with a dry cloth.
- If you move the adapter from a cold to a warm environment, moisture may condense inside the adapter. In this case, wait about one hour before putting the adapter back into operation.

1.1 Target group

This manual is intended for use by qualified electricians only. Qualified electricians as defined in this manual must have the following qualifications:

- Knowledge and understanding of safety instructions.
- Skills for installation and assembly.
- Start-up and operation of the product.
- Understanding of the function in the used machine.
- Recognition of dangers and risks of electrical drive technology.
- Knowledge of DIN IEC 60364.
- Knowledge of EN 60664-1.
- Knowledge of national safety regulations (e.g. DGUV Regulation 3).

1.2 Intended use

The Bluetooth-Adapter is connected to the serial interface of a KEB drive controller and serves to transmit data from this interface via a Bluetooth Low Energy connection to a corresponding remote station. It is intended exclusively for this purpose and may only be used for this purpose. This also includes observing all the information in these instructions for use, especially the safety instructions. Any other use is considered improper and can lead to property damage or personal injury. It also means the immediate loss of the warranty. The manufacturer accepts no liability for damage caused by improper use.

1.3 Disposal

The packaging of the adapter consists exclusively of recyclable materials. Please return them to the "dual system" sorted accordingly. At the end of its service life, the adapter must not be disposed of with normal household waste. It must be taken to a collection point for the recycling of electrical and electronic equipment.

The "dustbin" symbol on the packaging indicates that the materials are recyclable according to their labelling. By reusing, recycling or otherwise recovering old appliances, you are making an important contribution to protecting our environment. Make sure that electronic waste does not end up in household waste, but is disposed of properly.

KES

2 Product Description

The Bluetooth-Adapter is used to connect KEB drive controllers or operators with DIN 66019 interface via Bluetooth connection using the COMBIVIS mobile app or the KEB Elevator app.

The Bluetooth-Adapter is not a standard Bluetooth-Adapter. It can be used exclusively for the communication with KEB devices with the interface specified above. The adapter must be plugged directly onto the interface.

2.1 Intended use

The KEB Bluetooth-Adapter is exclusively for operation with KEB drive controllers or operators. The operation of other electrical consumers is prohibited and can lead to the destruction of the devices.

The used semiconductors and components of KEB Automation KG are developed and dimensioned for the use in industrial products. If the product is used in machines, which work under exceptional conditions or if essential functions, life-supporting measures or an extraordinary safety step must be fulfilled, the necessary reliability and security must be ensured by the machine builder.

Operating our products outside the limits specified in the technical data will result in the loss of any claims for damages.

2.2 Factory setting

The adapter is delivered with the following settings (factory settings):

Settings	Values			
Connection interval	8ms			
Slave latency	0			
Advertising interval	20 ms			
Baud rate (bps)	38400			
Data bit	8			
Parity	No			
Stop bit	1			
Hardware flow control	No			
Command mode via "COMMAND:"	Yes			
Operating mode	Peripheral			
Device name	KEB BLE XXXXXX (LAP BT address)			
Transmission power	-2 dmb			
Table 1: Factory settings				

2.3 Nameplate





KEB

3 Hardware

3.1 Overview Bluetooth-Adapter



3.2 Technical data

Application	Description
Bluetooth	Frequency / max. transmission power: Bluetooth 2402-2480 MHz – 8 dBm/6.3 mW Empfangsempfindlichkeit -87 dBm
Connections	D-Sub-9 (male) RS485 standard
Voltage supply	Via serial interface
Dimensions	25x35x88mm (HxBxL)
Driver software	FTDI (FT232R) serial USB driver at: (https://www.ftdichip.com/Drivers/VCP.htm) No Bluetooth driver software required
Max. data rate	115 kbps
Ambient conditions	Operating temperature: -20 °C75 °C Storage temperature: -30 °C85 °C
Climatic category (EN60721-3-3)	3K3
Potential isolation	Internal potential isolation
Weight in kg	0.3
Table 2: Technical data	

HARDWARE

3.3 Terminal assignment

Pin	Designation	=> KEB control board	Properties	Specification		
1	FLASH-TERMINAL	In	Programming mode (not for customers)	Reserved (not wired)		
2	TxD	Out	Transmission signal	Not wired		
3	RxD	In	Receive signal	Not wired		
4	RxD-A	In	Receive signal negative	RS485 half and		
5	RxD-B	In	Receive signal positive	full duplex		
6	5V_DIAG_TERMI- NAL	Power	Voltage supply	@ F5 Lift opera- tor/S6/F6 control board: 5V ±20%		
7	0V_TERMINAL	Power	Reference potential RS232 [RS485] Reference potential Voltage supply	Reference poten- tial		
8	TxD-A	Out	Transmission signal negative	RS485 half and		
9	TxD-B	Out	Transmission signal positive	full duplex		
Table 3: Terminal assignment						

The adapter is supplied with power via the serial interface. Input voltage 5...12V (16V max).

3.4 Start-up

The Bluetooth-Adapter is visible to the user via the apps and can be paired with them. After Bluetooth pairing has been carried out with the pairing code shown on the Bluetooth-Adapter, the Bluetooth-Adapter is ready for operation.

After successful connection to the KEB drive controller, the user can access the following functions, among others:

- COMBIVIS mobile app supports the KEB drive controllers COMBIVERT S6 and COMBIVERT F6
- KEB Elevator App supports the KEB drive controllers COMBIVERT F5 with Lift Operator
- Dashboard for monitoring of current status values of the drive
- View of the parameter list and parameter values
- Creating and sending backups of the parameter list
- Contact to the KEB Service



3.5 Status LED

State	LED	
Advertising mode (connectable)	Permanently red	
Connected (not released)	Flashes blue every 300 ms	
Connected (release just given)	Flashes green every 300 ms (for 5 seconds)	
Connected (released)	Permanently green	
Data transmission (RX/TX active)	Flashes yellow every 300 ms	
Table 4: Status LED		

4 Software

4.1 COMBIVIS mobile App

Drive controllers perform complex tasks in machines and systems. The scope of functions is constantly growing and requires user-friendly interfaces to be able to manage them. In addition to the PC tool COMBIVIS 6, a simple and convenient operation of KEB drive controllers COMBIVERT F6 und S6 can be carried out via the App COMBIVIS mobile. The KEB app enables wireless communication via a smartphone or tablet.

This means that the status information of the drive can be read out easily via a user-friendly interface in order to use it for process monitoring and error diagnosis. The display and setting of parameters as well as the back-up and restoring of data is also done via App. For quick support by the worldwide KEB service, the contact details of the local contact person can be found via a menu item. COMBIVIS mobile is available free of charge for iOS and Android.

Available on Google Play Store and Apple App Store.



COMBIVIS mobile app in the Google Play Store https://play.google.com/store/apps/details?id=de.keb. combivismobile&hl=en





COMBIVIS mobile App in the Apple App Store https://apps.apple.com/app/combivis-mobile/id1399585561



4.1.1 Functions and features of the COMBIVIS mobile App

- The App supports the drive controllers of the COMBIVERT F6 and S6 series.
- Simple connection via WLAN and Bluetooth ¹⁾
- Diagnosis: Clear dashboard for monitoring current status values of the drive, list of occurred errors, status of the I/Os, operating history
- View of the parameter list and parameter values
- · Writing of parameters
- Creating a parameter favorites list
- Creating and sending backups of the parameter list
- Downloading backups to the drive controller
- Offline scope function
- Link to KEB homepage for easy search of product information, technical data, catalogues
- Contact details for the worldwide KEB service (telephone and e-mail)
- ¹⁾ The Bluetooth-Adapter described in this manual is required for the Bluetooth connection.



4.1.2 Applications of the COMBIVIS mobile App

Ambient conditions:

- Industrial environment, production, machinery
- Lift applications/elevator shaft with own KEB Elevator App for COMBIVERT F5
 drive controller

4.1.3 Connection setup

The adapter is displayed in the COMBIVIS mobile App if it is not connected to another mobile device. To use the adapter in the App, a key is required, which can be found on the housing. The connection setup is automated in the App and the user is prompted to enter the key in the correct place if necessary. Internally, the procedure is as follows:

The connection setup from the Bluetooth-Adapter to the COMBIVIS mobile App works via the "Just Works" method. This means that no key is required by the Bluetooth system. There is no Bluetooth bonding. Encryption that goes beyond the normal mechanisms of Bluetooth is not necessary.

After Bluetooth pairing is performed, the adapter expects writing of a defined write-only GATT characteristic with a key value. The value can be found on the housing of the adapter. The key is numeric and 6 characters long.

Until the correct key has been written, all other GATT Write Requests are answered with an error and otherwise ignored. If the correct key is not written within 30 seconds, the adapter terminates the Bluetooth connection.

After the correct key has been written, the adapter is ready for normal use. Further write requests on the key characteristic are ignored. This shifts the entry of the key from the operating system to the App.

The adapter does not store any coupling info, the KEB App stores the key for the adapter (no BLE bonding). Data transmission is not encrypted at Bluetooth level.

4.1.4 Application examples of the COMBIVIS mobile App

Service	4 🗖
	€6 €6
KEB Automation KG	
Your location is United States.	
Not correct? Use GPS to locate.	
Germany	
Barntrup 66 a (Maps	Leal
Dashboard Parameter Files	••• More
Figure 3: Contact details s	service
Carrier 🗢 7:51 AM)isconnect
KEB COMBIVERT F6	
KEB COMBIVERT F6 Software Version ConfigID 9287	
Software Version F6P V 2.7.0.x	
Software VersionF6P V 2.7.0.xConfigID9287	00

arrier ຈ Dashboard	7:52 AM		➡ F6	Carrier 奈 Dashboard		7:52 AM		۳ ا
Data Faults	I/O	History	*	Data	Faults	I/O	History	*
Inverter State	8: fault			44: ERROR		er unit dat	ta	
Operating mo				44: ERROR		er unit da	ta	
	2: velocity mo	ode		44: ERROR	invalid pow	rer unit dat	ta	
				44: ERROR	invalid pow	er unit dat	ta	
Speed			0 1/min	44: ERROR		er unit dat	ta	
				44: ERROR	1	er unit dat	ta	
Position 0		0	44: ERROR invalid power unit data					
				44: ERROR		er unit dat	ta	
Current 0 A		0 A	44: ERROR		er unit dat	ta		
				64: ERROR	•	type chan	ged	
				44: ERROR		er unit dat	ta	
				AA. EDDOD			and	
Dashboard Par	ameter	Files	••• More	Dashboard	Parameter	Fil	es	••• More
igure 5: L	Dashboar	d: Data		Figure 6:	Das	hboard	· Error	

Carrier 🗢 7:52 AM 🗐 F6	Carrier 🗢 7:52 AM 🗖 Dashboard			
Data Faults I/O History ★	Data Faults I/O History ★			
Digital Inputs	Done Done			
 I1 I2 I3 I4 	ru10 act apparent current			
■ 15 ■ 16	ru01 exception state			
I7 I8	ru02 warning bits O			
IA IB	ru03 warning state			
IC ID	ru04 supply unit state			
STO-1 STO-2 Digital Outputs	ru05 set value display O			
01 02	ru06 ramp out display O			
OA OB				
OC Relay				
Analog				
$\square \square \square \square \square$	Save Parameterlist			
Dashboard Parameter Files More	Dashboard Parameter Files More			
Figure 7: Dashboard: I/O	Figure 8: Dashboard: Favourites			

Carrier 🗢 7:52 AM Parameter Groups	P 56	Carrier 穼 Paramete	7:52 AM er Groups F6
Q Text, Address	Cancel	Q Text, A	Address
ru run parameters		ru	←
ru run parameters B		ru	controlword co00 0: empty controlword
de device info		de	modes of operation 2: velocity mode
st status info		st	velocity shift factor
dr drive parameters		dr	position rot.scale (bit)
vl velocity mode		vl	position source co04 0: channel A
		VI	speed control source co05 0: channel A
ds drive specific control paras		ds	system inversion co06 0: off
CO control parameters		со	non volatile memory state co07 0: data not stored
ps position control parameters		ps	reset options co08 0: no options
do digital output parameter		do	reset ctrl co09 0: reset inactive
fb fieldbus parameters		fb	position interpolator co10 4: B-Spline, 4 points avg + actual value
Dashboard Parameter Files	• • • More	Dashboard	Parameter Files More
- Figure 9: Parameter me	nu	Figure 1	0: Parameter group

arrier 奈	7:5	52 AM		Carrier 奈	7:5	52 AM	
controlword			+	controlword			
0: empty cont	olwo	rd		0: empty cont	rolwo	rd	
						1	
switch on	0	enable voltage	0				
no quick stop	0	enable operation	0	N	Write v	value	
op. mode spec. 4	0	op. mode spec. 5	0				
op. mode spec. 6	0	fault reset	0	switch on	0	enable voltage	
halt	0	op. mode spec. 9	0	no quick stop	0	enable operation	
reserved	0	manufacturer spec. 11	0	op. mode spec. 4	0	op. mode spec. 5	
manufacturer spec. 12	0	manufacturer spec. 13	0	op. mode spec. 6	0	fault reset	
manufacturer spec. 14	0	brake ctrl 15	0	halt	0	op. mode spec. 9	
				reserved	0	manufacturer spec. 11	
				manufacturer	~	manufacturer	
Edit mode				Edit mode			
igure 11: Parameter selected Figure 12: Parameter "Edit mod							



Carrier 奈 Files	7:54 AM	F 6	Carrier 🗢 Files	7:54 AM	F6
Parameterlists	Offline Scope	FTP	Parameterlists	Offline Scope	FTP
	Create Backup			Create Backup	
Time: 0	6 % 357 / 2 00:01 ds17 bp filter coeff.	283	Backup fo	Dr F6P V 2.7.0.2 F6P V 2.7.0.x 9287	x ×
Backup f	Cancel for F6P V 2.7.0.x	×	File name Creation time Description: 24112021	Backup for F6	P V 2.7.0.x.d :54:12
Device ConfigID File name Creation tim Description:	- 1 - 1				
24112021	-	.	Ba	ckup for F6P V 2.7.0.x. Download	dw5
Backup f	for F6P	+	Do	ownload as a rec	cipe
11	Parameter Files	••• More	Dastibuaru	Cancel	Mute
Figure 15:	Create Back	up 2/2	Figure 16:	Download B	Backup

KEB







4.2 KEB Elevator App

Available on Google Play Store and Apple App Store.



KEB Elevator App in the Google Play Store https://play.google.com/store/apps/details?id=com.kebamerica.elevator_app&hl=en&gl=US





KEB Elevator App in the Apple App Store https://apps.apple.com/au/app/keb-elevator/id1479590944?I=en



5 Certification

5.1 CE-Marking

CE marked Bluetooth-Adapters are have been developed and manufactured in compliance with the regulations of the European directives *RED:* 2014/53/EU and *Hazardous Substances:* 2011/65/EU (incl. 2015/863/EU).



5.2 Declaration of Conformity

Declaration of Conformity to the RED Directive.

EU DE	ECLARATION OF	CONFORMITY KE	В
Document N	No. / month.year: ce_ca_F	ED-58060-BT-adaptor-a_en.docx / 1	2.2021
Manufacturer:	: KEB Automation Südstraße 38 32683 BARNTRI Germany		
Product type:	Part no.	0058060-0060	
The above giv	ven product is in accordance wit	h the following directives of the Europea	an Union
Number: Text:	RED : 2014 / 53 / EU Directive on the availability on th	e market of Radio Equipment.	
Number: Text:		f the laws of the Member States relating on the azardous substances in electrical and electron	
Responsible:	KEB Automation KG Südstraße 38 32683 BARNTRUP		
Place, date	Barntrup, 13 December 2021		
Issued by: U.U.	by wet welt stadt / Conformance Officer	W. Wiele / Technical Manager	
any assurance	e of quality.	he named directives, but does not conta	in
The safety ins		uction manual are to be followed.	

5.3 Grant of Equipment Authorization FCC

ТСВ		GRANT OF EQUIPMENT AUTHORIZATION	TCB
		Certification	
		ssued Under the Authority of the	
	Fed	leral Communications Commission	
		Ву:	
		Bay Area Compliance Laboratory Corp. 1274 Anvilwood Avenue	Date of Grant: 11/24/2021
		Sunnyvale, CA 94089	Application Dated: 11/24/2021
KEB Automation I	(G		
Suedstrasse 38			
Barntrup, 32683			
Germany			
Attention: Winfrie	d Hovestadt , Approva	ll engineer	
			E and is
		ATION is hereby issued to the named GRANTE oment identified hereon for use under the Comm	
	Rules and Regulations lis		
	FCC IDENTIFIER:	2A2AG-KEB0060	
		KEB Automation KG	
		Digital Transmission System	
	Notes:	Bluetooth-Adapter	
Grant Notes	FCC Rule Parts	Frequency Output Range (MHZ) Watts	Frequency Emission Tolerance Designator
	15C	2402.0 - 2480.0 0.000973	
		A second and a second and a second a se	alle
Output power listed is	conducted.	A.C. TERO NY	- Alle
		121 NORD IN	S VA
			2 VA
			Tak
			M
		MAR M Y// A S	★ 例
			e 0
			2
		* COMMISSION	1
		10/0/10/0	1 and a second sec
		Minim Dor	
		ANNULLING AND	



5.4 RED certification



6 Revision History

Version	Date	Description
00	2021-03	Recreation based on the manual of the USB serial converter 20094859
01	2022-01	Series version

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