Original Operating Instructions
Converter Module 5012

Type: **5012**

Document No.: **BA 5012 EN Rev3**

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Content

1 General aspects

1.1 Introduction

These operating instructions are a helpful guide for ensuring the successful and safe operation of the converter module 5012 . They contain important information on how to operate the controller safely, correctly and efficiently. Observing the operating instructions will help to prevent hazards, reduce costs of repair and downtimes and increase the reliability and life of the device.

All illustrations and drawings in these operating instructions are shown for illustration purposes and are not authoritative detailed designs.

The operating instructions always have to be accessible at the device. They have to be read and applied by each person who is required to work with/on the device.

This work may involve, for example :

- operation
- troubleshooting during operation
- servicing
- maintenance (upkeep, inspection, repair) and/or
- transport

This should be confirmed by the operating company in writing.

1.2 Warning notes

The following warning notes are used in these operating instructions:

⚠DANGER

This warning level indicates an imminent hazardous situation.

If the hazardous situation is not prevented, this will result in death or severe injury.

Follow the instructions that accompany this warning to prevent the risk of death and severe personal injury.

⚠WARNING

This warning level indicates an potentially hazardous situation.

If the hazardous situation is not prevented, this may result in death or severe injury.

Follow the instructions that accompany this warning to prevent the potential risk of death and severe personal injury.

⚠CAUTION

This warning level indicates an potentially hazardous situation.

If the hazardous situation is not prevented, this may result in slight or moderate injuries.

Follow the instructions that accompany this warning to prevent the injury of persons.

CAUTION

This warning level indicates potential damage to property.

If this situation is not prevented, it may result in damage to property.

Follow the instructions that accompany this warning to prevent damage to property.

NOTICE

A notice indicates additional information that will make the handling of the device easier.

1.3 Copyright protection

These operating instructions have to be treated as confidential. They may only be used by authorised staff. Access by third parties may only be granted upon written agreement of BFI Automation.

All documents are protected in keeping with the German copyright law.

The disclosure and reproduction of documentation, in whole or in part, as well as the exploitation and communication of its content shall not be permitted unless expressly stated otherwise. Offenders are liable for prosecution and the payment of damages.

We reserve all rights to exercise industrial property rights.

1.4 Disposal information

The flame detector is equipped with electrical and electronic components and must be disposed separate from household waste. Follow the local and actual regulations for waste disposal.

1.5 Warranty

Read these operating instructions carefully and in full before operating the converter module 5012 SD!

The manufacturer is not liable for damage or operating malfunctions that result from the operating instructions not being observed.

The operating company has to supplement the operating instructions with operating instructions on the basis of national regulations on accident prevention and environmental protection, including information on supervision and notification requirements with respect to special operating circumstances, e.g. regarding organisation of work, working processes and staff deployed.

The recognised technical rules for safe and professional working also have to be observed in addition to the operating instructions and the regulations on accident prevention applicable to the country and place of use.

The warranty shall become void, for example, in the event of:

- inappropriate use
- use of impermissible equipment
- incorrect connection
- prior works that are not part of the supplied product or service
- non-use of original spares and accessories
- conversion, if this has not been harmonised with BFI Automation
- non-performance of specified maintenance work

NOTICE

It is recommended that the operator of the device concludes a service contract with BFI Automation. This guarantees that the device is regularly checked by our service staff and ensures that any required wearing and spare parts are available without long delivery periods.

1.6 Obligation of the operating company

The converter module 5012 SD may cause hazards if it is operated inappropriately or in an improper condition.

The operating company is under the obligation to operate the machine in proper state only. The operating company has to secure hazardous areas that exist between BFI devices and the customer's own equipment.

The operating company has to appoint and instruct responsible staff:

- Only deploy trained or instructed staff.
- Clearly set out the responsibilities of the staff with regard to operation, set-up, maintenance and repair.
- Regularly check that staff are safety conscious and aware of hazards and are observing the operating instructions.
- Before starting work, staff who are assigned to work with/on the device have to have read and understood the operating instructions, in particular the chapter on "Safety", as well as the relevant regulations.
- The operating instructions and relevant regulations have to be stored in such a way that they are accessible to operating and maintenance staff.
- Set out who will have responsibility for device operation and ensure that this person has the authority to overrule any unsafe instructions of third parties.

NOTICE

Generally valid legal and other binding regulations on accident prevention and environmental protection have to be observed and instructed, in addition to the operating instructions.

1.7 Liability disclaimer

All technical information, data and guidance on device operation that are contained within these operating instructions are, to the best of our knowledge, correct at the time of printing, taking into account our present understanding and experience.

We reserve the right to make technical changes with respect to the further development of the compact flame controller outlined in these operating instructions. No claims can be made based on the specifications, illustrations and descriptions of these operating instructions.

We shall not be liable for damage or operating malfunctions that result from operating errors, inappropriate repairs or the non-observance of the operating instructions. We expressly state that only original spare parts and accessories approved by us may be used. This also applies to the components of other manufacturers that have been used.

The installation or use of non-approved spare and accessory parts and any unauthorized retrofits and modifications are not permitted for safety reasons and exclude any liability by BFI Automation for consequential damages.

BFI Automation is liable for possible errors or omissions with the exclusion of additional claims entered into in the framework of the warranty obligations conceded to in the contract. Claims for damages, on whatever legal basis they may be, shall be excluded.

Translations into foreign languages are carried out in good faith. We cannot accept any liability for translation errors; this also applies where the translation has been carried out or has been commissioned by us. The original text alone shall be binding.

Descriptions and illustrations do not necessarily depict the delivered product or a possible spare parts order. Drawings and graphics are not to scale.

1.8 Declaration of conformity

BFI Automation Mindermann GmbH
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42579 Heiligenhaus
Germany

Tel.: +49 2056 98946 0
Web: www.bfi-automation.de

EU Konformitätserklärung
EC Declaration of Conformity

Produkt *Product*	**Konverter-Modul 5012** *Converter Module 5012*
Typ *Type*	**5012** *5012*

Hiermit erklären wir, dass der bezeichnete Flammenwächter, in seiner Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung, den grundlegenden Sicherheitsanforderungen folgender EU-Verordnungen und -Richtlinien entspricht:

We hereby declare that the designated flame detector, in their design and construction as well as in the version that we place on the market, comply with the essential safety requirements of the following EU regulations and directives:

Richtlinien *Directives*	2014/35/EU	Niederspannungsrichtlinie *Low voltage directive*
	2014/30/EU	EMV Richtlinie *EMC directive*
Normen *Standards*	EN 60664-1:2002 EN 61000-6-2:2005; EN 55022:2010	

Ausgestellt durch
Issued by
BFI Automation Mindermann GmbH

Rechtsverbindliche Unterschrift
Legally binding signature

Name	Funktion *Function*	Ort, Datum *Place, Date*
Michael Thomas	Prokurist *Authorized Officer*	Heiligenhaus, den 26.06.2018

1.9 Address of the manufacturer

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2 Safety

2.1 Intended use

The converter box 5012 is intended for power supply and functional enhancement of the BFI compact flame controller CFC3000. It provides a powerful switching relays and allows with its extra features and current outputs a precise evaluation of the flame signal.

⚠WARNING

Danger when improperly used !

The device may cause hazards if it is not used as intended and/or for any other purposes.

The device has to be used only for the purposes for which it is intended.

The procedures described in the operating instructions have to be observed.

The converter box 5012 must not be used for the supply of BFI compact flame controller CFC3000 with built-in heating. In this case, the plug-in power supply module 3002 is recommended.

The manufacturer/supplier shall not be liable for damage resulting from use for non-intended purposes. The user/operating company alone shall bear the risk.

2.2 Requirements on persons

NOTICE

Work on/with the device may only be performed by persons authorized to do so based on their training and qualification. Furthermore, such persons have to have been commissioned by the operating company.

Do not allow any persons who are being apprenticed, educated, instructed or on a general training programme to work on the device without the constant supervision of an experienced person.

Persons who are under the influence of drugs, alcohol or medication that affects reactivity shall not be permitted to carry out work on the device.

Connection, set-up, maintenance and repair work may only be carried out by qualified specialist staff.

This device may cause hazards if it is operated inappropriately by untrained staff or if it is not used for its intended purpose.

Generally valid legal and other binding regulations on accident prevention and environmental protection in addition to basic health and safety requirements have to be observed. The operating company has to instruct its staff accordingly.

2.3 Safety instructions

The following instructions on accident prevention have to be observed when operating the converter module 5012.

NOTICE

Only operate the device if it is in a proper state !

- Do not remove or disable safety devices.
- Check for externally noticeable damage and defects prior to using the device ! Immediately notify the appropriate authority/person of any changes that occur (including changes in operating performance). If necessary, stop and secure the device immediately.
- Allow only authorised specialist staff to carry out set-up and/or maintenance work.
- Replace worn or defective parts.
- Use suitable maintenance tools only.
- After repair work, refit all safety devices and carry out electrical and mechanical checks.
- Check the operating instructions for details of displays as well as switch-on and switch-off procedures.
- Prior to switching on the device, make sure that no-one can be endangered by the device!
- The operating company is responsible for ensuring that the device is only operated in a proper state and that account is taken of all the appropriate safety requirements and provisions.
- The operating instructions always have to be kept close to the device and be readily at hand.
- Any non-compliance with the safety instructions outlined in these operating instructions may lead to damage to property, personal injury or even death.

2.4 Safety devices

2.4.1 Fundamental aspects

Check the safety equipment and locking devices on the device for safe operational condition.

Only operate the device if all safety devices are present and enabled. The operating company or operator of the compact flame controller is responsible for the proper operation of the device.

NOTICE

The device has been fitted with warning and danger signs for the protection of operating staff. These signs have to be observed. Damaged or illegible signs have to be replaced immediately.

2.4.2 Safety devices on the compact flame controller

The converter module 5012 is equipped with the following safety devices:

- IP50 housing (protection against accidental contact)
- Fuse for powerinput
- Fuse for relay output contacts
- Optional IP66-protection for variance in plastic housing

2.5 Safety instructions in case of maintenance and troubleshooting

2.5.1 Fundamental aspects

- Deadlines set or indicated in the operating instructions for repetitive checks / inspections shall have to be observed !
- Appropriate workshop equipment is essential for performing maintenance work.
- In conformity with the electrical regulations, work on the electrical equipment of the system may only be carried out by an electrical specialist or by trained staff under the direction and supervision of an electrical specialist.
- The adjustment, maintenance and inspection activities and deadlines stipulated by BFI Automation, including information on the replacement of parts / assemblies, have to be observed! These tasks may only be carried out by authorised specialist staff.
- Operating staff have to be informed before maintenance or other special work is carried out. A supervisor has to be appointed.
- When working on the plug, the cable must be disconnected from the power supply.
- Screw connections which have been loosened during maintenance and servicing work, have to be tightened.
- If maintenance and repairs require safety devices to be dismantled, these devices have to be remounted and checked as soon as the maintenance and repair work has been completed.
- Operating and auxiliary materials as well as exchanged parts have to be disposed of in a safe and eco-friendly way.
- Spare parts supplied by BFI Automation or approved of by BFI Automation only may be used.

2.5.2 Electrical / electronic devices

⚠DANGER

Danger to life caused by electrical current!

Contact with live wires or components presents a danger to life !

Before working on electrical components, disconnect the compact flame controller from the mains power supply!

NOTICE

In keeping with the electrical regulations, work on electrical / electronic parts / components may only be carried out by electrical specialists.

Important rules of conduct

- Check the device in regular intervals. Any defects or faults ascertained have to be corrected immediately. Switch off the machine until the defects have been corrected.
- System components, on which inspection, maintenance and repair work to be carried out, must - if required - be switched off. First check the de-energized parts for voltage and adjacent, live parts isolate!
- If work is required on live parts, a second person has to be assigned who can disconnect the power supply in case of an emergency. Only use insulated tools !
- Fuses must not be repaired or bypassed. Only original fuses with the specified current use!

2.5.3 Testing in keeping with the German Workplace Safety Ordinance (BetrSichV)

In case of the coupling or installation of devices from various manufacturers or suppliers, the operating company has to carry out a precise test, prior to start-up, in keeping with the German Workplace Safety Ordinance (BetrSichV) in force and the applicable electrical regulations.

In case of queries, please get in touch with BFI Automation.

2.5.4 Safety test prior to initial operation

⚠WARNING

Danger of injury and material damage if improperly used!

Improper use of the converter module 5012 can lead to injury or even death and to material damage!

In order to ensure correct operation, the compact flame controller must be tested several times for all applications by starting and stopping the burner several times. In all cases the flame relay must switch off reliably in case if the flame is not detected. Carry out these tests whilst several neighbouring burners are started and stopped and different boiler outputs are used. This is an indispensable prerequisite for a safe and correct operation of the device!

3 Technical data

3.1 General characteristic features

- Relay loadable with max. 250VAC/1A / 300VA
- Current output of the CFC 3000 looped (amplitude)
- Additional current output in dependence of the flame modulation frequency, end frequency adjustable in 16 steps
- Additional current outputin dependence of the DC-signal
- Both additional mA outputs adjustable to 0/4 to20mA
- Fused loop of the 24 V DC power supply of the CFC 3000
- Converts RS232 signals of CFC3000 into RS485 signals for longer distances (max. 1.200 m).
- Network of up to 64 flame monitoring systems with CFC NET software for operator in control room.
- Freely allocatable bus addresses between 0 and 63
- Inbuilt BUS termination resistor
- Supply voltage selectable between 24 V DC and100-240 V AC
- DIN rail or wall mounting

3.2 Factory settings of the converter 5012

The converter is delivered with the following settings:

Initial value current outputs: 4 mA (DIP 1 = ON)

Current Relay Function (CRF): Off (DIP 2 = OFF)

Sensitivity change-over: Off (DIP 3 = OFF)

BUS termination: Off (DIP 4 = OFF)

Address: 0 (DIP 5/6 = OFF and address switch = 0)

Frequency switch: 60 HZ

3.3 Electrical system, Optical and Mechanical Data

Power Supply Input	24 V DC (terminals 29 and 30) 100-240 V AC (terminals 16 and 17)
Power Supply Out for CFC3000	24 V DC
External fuse	max. 1 A, slow blow
Current supply for CFC3000 Current consumption, total	max. 0.2 A max. 0.300 A at DC-supply max. 0.050 A at 230 V AC supply max. 0.115 A at 115 V AC supply
Power consumption	approx. 7.2W
Relay	SPDT VDE 0110, class C 250 V Max. swichting voltage 250 V, resistive load max. switching current 1 A, resistive load max. switching power 300 VA
Quantity Current outputs: Current	3 0(4) to 20 mA
Interface: USB RS 485	 read only read only
Protection class Standard housing IP66-housing	 IP 20 IP66
Protection	II
Mounting method	Terminal housing for DIN rail, 35 mm or wall mounting
Ambient temperature	-20 °C to +60 °C
Dimensions	99.7 x 75 x 140 mm (heights incl. USB-cable)
Weight Standard housing IP66-Gehäuse	 approx. 400 g approx. 2.5 kg

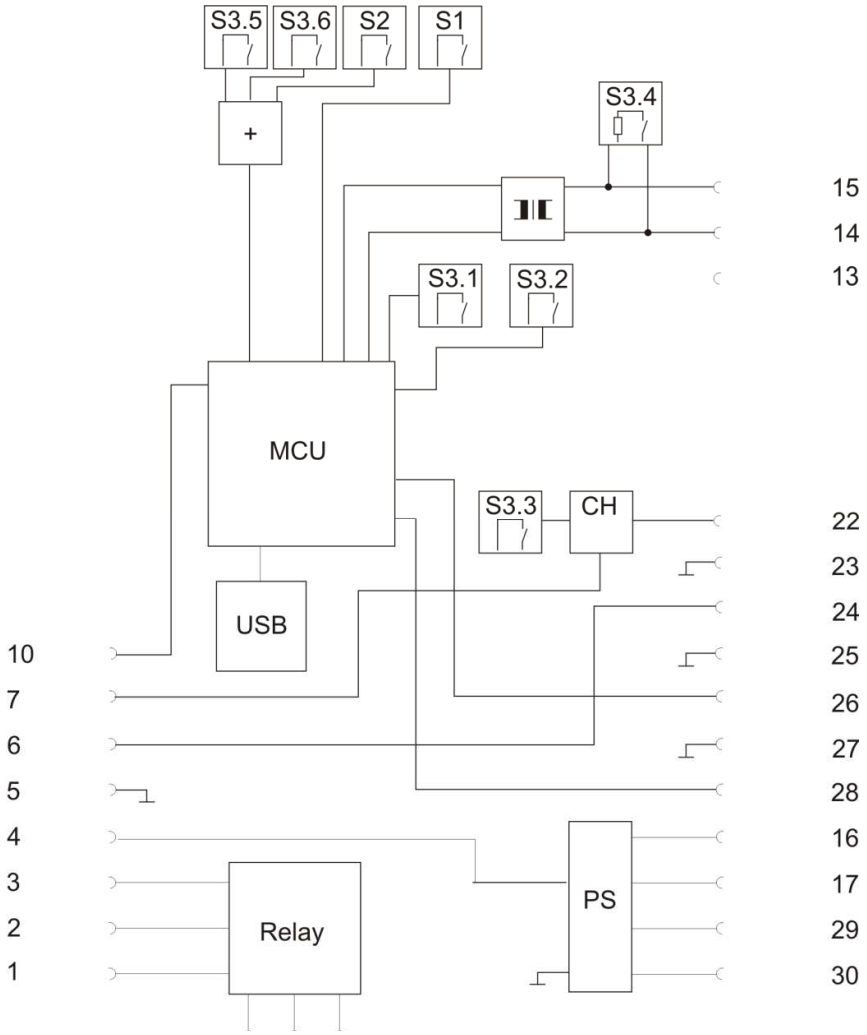
3.4 Weight

Standard	approx 0.4	kg
IP66-housing	approx. 2.5	kg

3.5 Dimensions

	Standard [mm]	IP66 [mm]
Length	99.7	256
Width	75	236
Height	115	150

3.6 Block diagram with connection table



Connector	KW6-cable color	Connection
1	White	Relay root
2	Brown	Relay „ON“
3	Pink	Relay „OFF“
4	Green	Power supply 24 VDC
5	Yellow	Power supply 0V (GND)
6	Grey	Current output CFC 0(4)…20 mA
7	Blue	Change-over 2nd parameter set
8	-	Not used
9	-	Not used
10	Red	RS 232 (R_x, read only)
11	-	Not used
12	-	Not used
13	-	RS485 shield
14	-	RS485 – dataoutput
15	-	RS485 + dataoutput
16	-	AC Power Supply Input natural N
17	-	AC Power Supply Input phase L1
18	-	Relay root
19	-	Relay „OFF“
20	-	Relay „ON“
21	-	Not used
22	-	Input channel 2 change-over
23	-	Current output Amplitude (-)
24	-	Current output Amplitude (+)
25	-	Current output Frequency (-)
26	-	Current output Frequency (+)
27	-	Current output DC-raw signal (-)
28	-	Current output DC-raw signal (+)
29	-	DC Power Supply Input 0V (GND)
30	-	DC Power Supply Input +24 VDC

4 Transport, Installation and Connection

NOTICE

All installation and connection work may be carried out by qualified and approved specialist staff only !
The legal regulations as well as adjustment instructions of the plant operator have to be observed!

4.1 Scope of delivery

- Converter module 5012
- Operating instructions BA 5012 EN

Refer to the order papers for the exact scope of delivery and compare with the delivery note.

Checking for completeness

Check the entire delivery for completeness against the accompanying delivery note. Please refer to our terms of sale and delivery otherwise.

Report any damage

After arrival of the device and accessories, notify the shipping agent, the insurance company and BFI Automation immediately in case of any damage caused by transport or inadequate packaging.

Take steps to minimise and prevent further damage.

Report the insurance case to the insurance company without delay and transmit the full claim documents at once in order to expedite the claims settlement (at the latest in sufficient time before the expiry of any periods of preclusion and/or limitation relating to the compensation claims against third parties).

4.2 Packaging

The converter module 5012 is shipped in different packaging materials.

The most frequently used packaging materials are cardboard and plastics (foils, foamed material).

NOTICE

Packaging has to be disposed of in an environmentally friendly way and in accordance with the relevant provisions on disposal.

4.3 Forwarding instructions

NOTICE

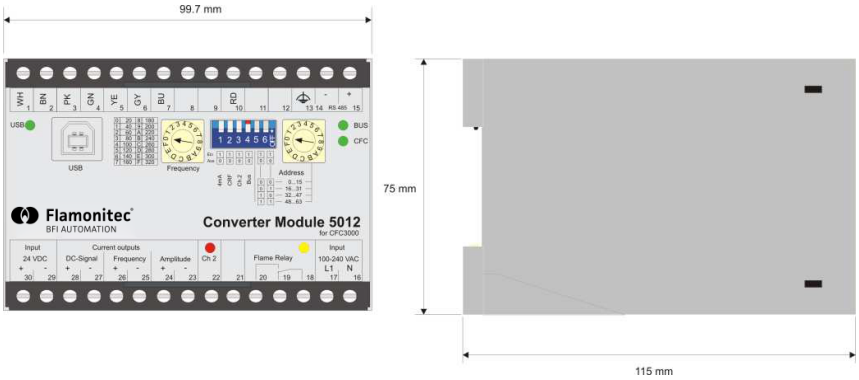
Do not drop the device during transport and do not subject to heavy impacts. Do not subject the device to any humidity.

4.4 Weight

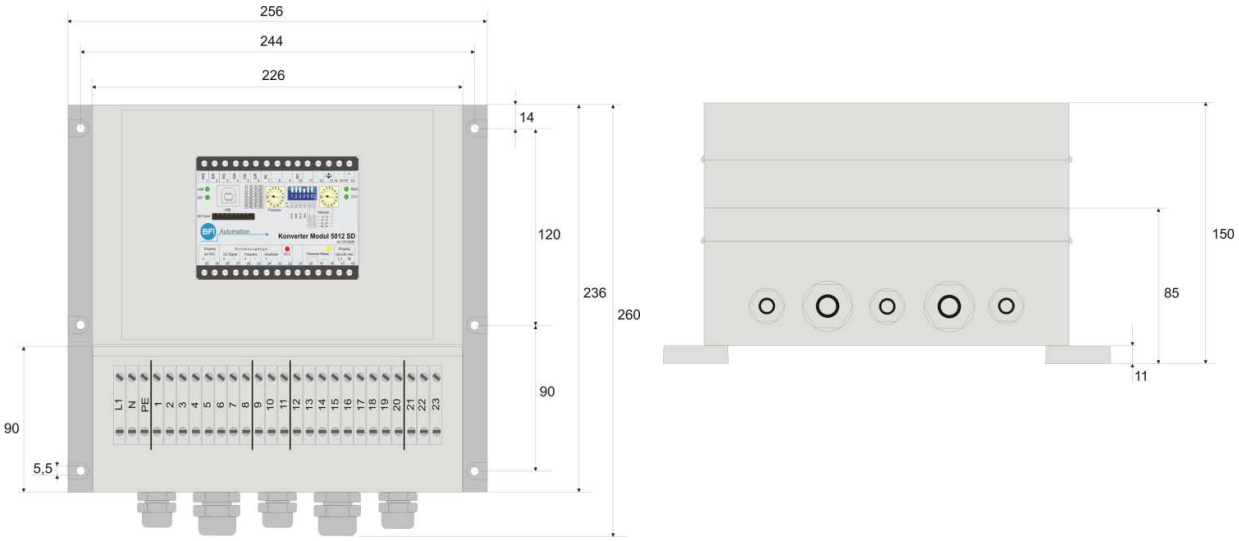
Standard housing	approx. 0.4 kg
IP66-housing	approx. 2.5 kg

4.5 Space requirement

Standard



IP66-housing



4.6 Connection

4.6.1 Electrical connection

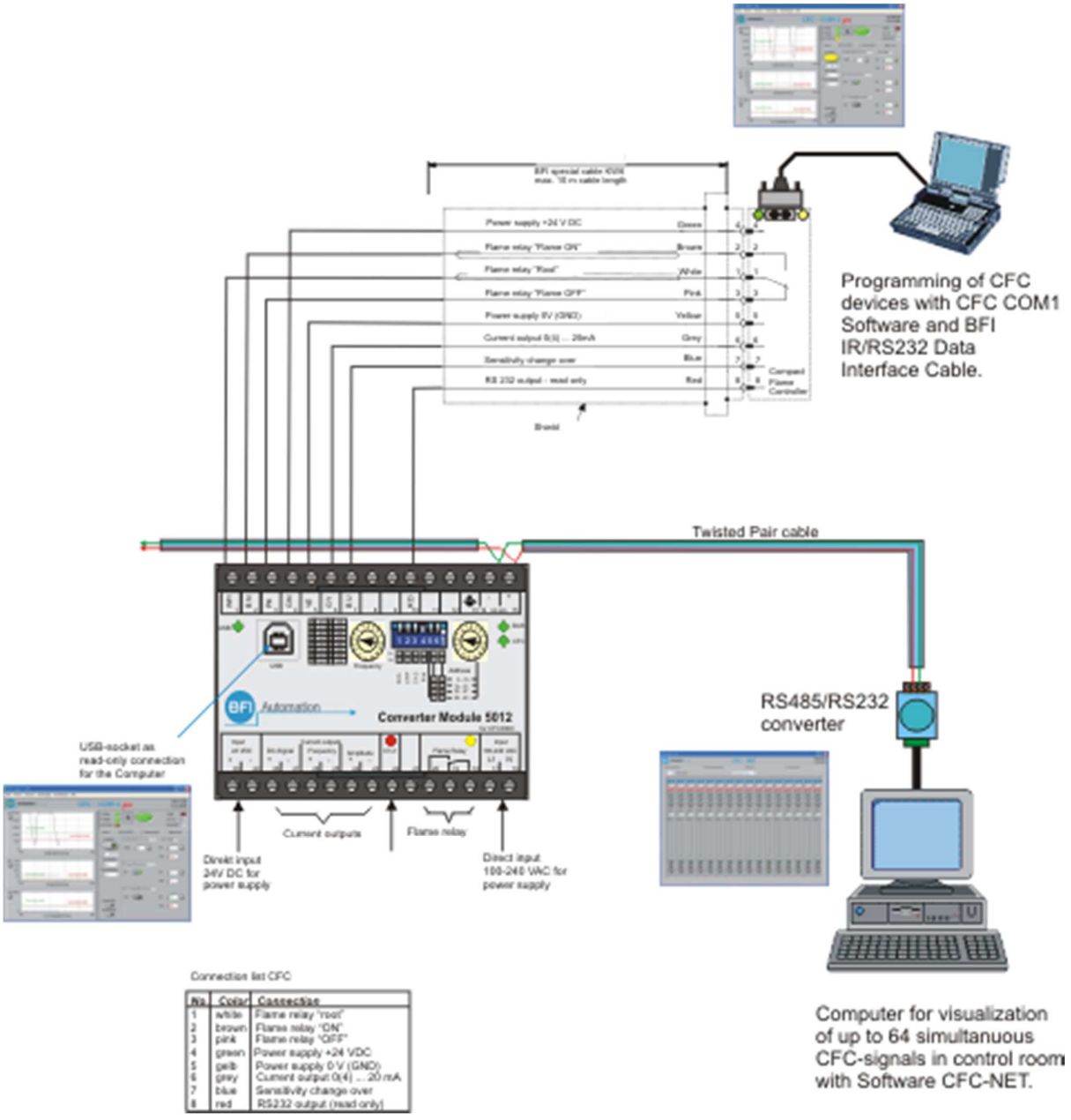
⚠DANGER

Danger to life through electric current!
When connecting the safety instructions and local safe-tyinstructions!
Remove the connection data in the chapter technical data and the subsequent wiring diagram.
Check compliance of external power supply with the values shown on the terminal voltages (24 VDC or 100-240 V AC).
Before connecting check the device and the leads for visible damage.
Attach and engage the converter on the 35 mm DIN rail.

NOTICE

Before connecting the compact flame controller CFC3000 check separate operating instructions of the device note!

4.6.2 Network Configuration



Connection list CFC

No.	Color	Connection
1	white	Flame relay "root"
2	brown	Flame relay "ON"
3	pink	Flame relay "OFF"
4	green	Power supply +24 VDC
5	gelb	Power supply 0 V (GND)
6	grey	Current output 0(4) ... 20 mA
7	blue	Sensitivity change over
8	red	RS232 output (read only)

Connector No. 5012	IP66-housing terminals	KW6-cable colors	Connection
1	1	white	Flame relay root
2	2	brown	Flame relay „On“
3	3	pink	Flame relay „Off“
4	4	green	Power supply 24VDC
5	5	yellow	Power supply 0V (GND)
6	6	gray	Current output 0(4)…20mA
7	7	blue	Sensitivity change-over
8	-	-	Not used
9	-	-	Not used
10	8	red	RS 232 (R_x read only)
11	-	-	Not used
12	-	-	Not used
13	9	-	RS485 shield
14	10	-	RS485 – Data output
15	11	-	RS485 +Data output
16	N	-	Supply input N
17	L1	-	Supply input L1
18	23	-	Relay root
19	22	-	Relay „Off“
20	21	-	Relay „On“
21	-	-	Not used
22	20	-	Input sensitivity change-over
23	15	-	Current output DC-signal (-)
24	14	-	Current output DC-signal (+)
25	17	-	Current output frequency (-)
26	16	-	Current output frequency (+)
27	19	-	Current output amplitude (-)
28	18	-	Current output amplitude (+)
29	13	-	Input supply 0V DC
30	12	-	Input supply 24VDC

4.7 Storage

Do not unpack the packed compact flame controller and accessories.

The following conditions apply to storage:

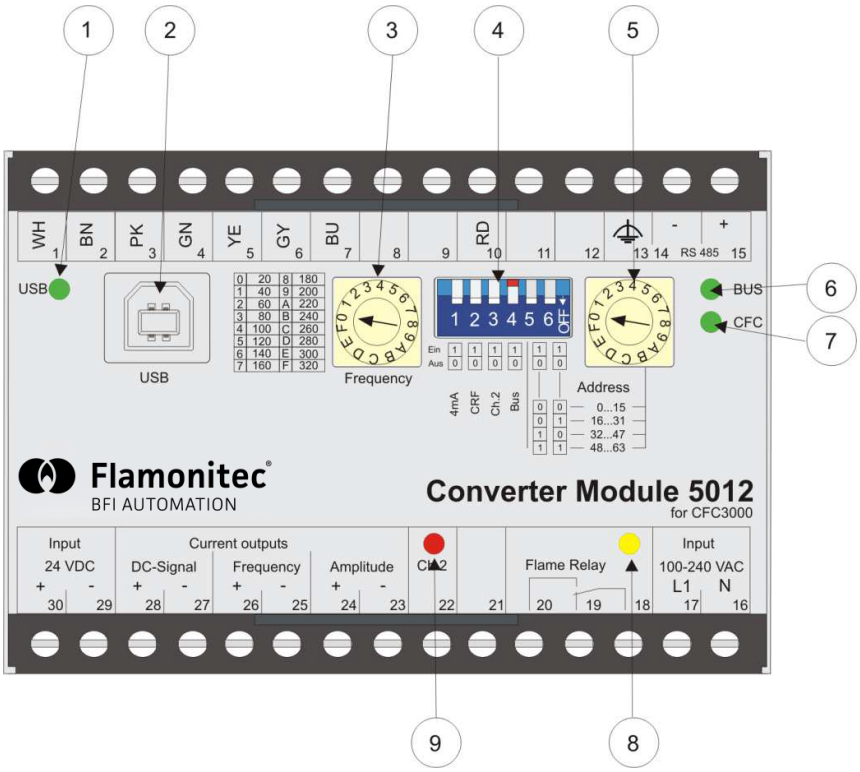
- Store in a dry place. Maximum relative humidity 60%. Ensure that the packages are not stored outdoors. In addition, It has to be assured that the floor in the storage area will remain dry throughout the storage period.
- Protect from direct sunlight. Storage temperature: 15 degrees to 25 degrees C (59 degrees to 77 degrees F).
- Store in a dust-free location.
- Avoid mechanical vibrations and damage.

5 Description

5.1 Functional description

The converter box 5012 has been specially developed for the Compact Flame Controller CFC3000.
It serves as a safety equipment in combination with the Compact Flame Controller CFC3000.For higher contact ratings the converter box provides a higher-duty flame relay that is driven by the flame relay of CFC3000.
The Converter Box 5012 provides 3 mA output signals. The Flame Modulation Amplitude is generated by the CFC3000 and passed through to the mA output terminals for amplitude output. In addition, a signal proportional to main frequency of flame modulation current signal is generated, which can be adapted to the maximum main frequency with its final value. The third current signal is the direct radiation component of the flame depends (DC signal) and only available with IR detectors.

5.2 Controls and displays



1. Status LED - USB
2. USB connector
3. Selector for frequency range (mA out frequency)
4. DIP-switch
   - 4.1. Selection 0…20mA or 4…20mA
   - 4.2. Selection CRF (**C**urrent-**R**elay-**F**unction)
   - 4.3. Manual Selection of parameter set 2
   - 4.4. Selection BUS-termination
   - 4.5. Selection BUS-address range
   - 4.6. Selection BUS-address range
5. Selection BUS-Address
6. Status LED – BUS connected
7. Status LED – CFC connected
8. Status LED - Flame relay „ON“
9. Status LED - Channel 2 active

5.3 Frequency setting

With the rotary switch **3** the maximum frequency value can be defined, leading to acurrent of 20 mA at the frequency output (terminal 26). Choose one of the following maximum values:

Switch position	*Maximum frequency*
0	**20**
1	**40**
2	**60**
3	**80**
4	**100**
5	**120**
6	**140**
7	**160**
8	**180**
9	**200**
A	**220**
B	**240**
C	**260**
D	**280**
E	**300**
F	**320**

5.4 6 DIP switch

5.4.1 Current output range

DIP switch1 selects whether the current outputs of the converter box 5012 have a range of 0 ... 20 mA or 4 ... 20 mA.

NOTICE

Only when the spanis set to 4 ... 20mA, a line break with the software CFC-NET can be detected!

5.4.2 Current-Relay-Function (CRF)

DIP switch 2 activates the Current-Relay-Function of converter module 5012. Here the generated current output is only active if the flame relay is switched on.

NOTICE

The switch affects the output current for the frequency and the DC-raw signal only as these were generated by the converter box 5012. The current relay function for the amplitude signal is set via the software CFC Com1at compact flame controller CFC3000!

5.4.3 Channel *2 (Ch.2)*

DIP switch 3 selects manually the second parameter set of the CFC3000. Status LED (9) indicates when parameter set 2 is active.

NOTICE

By default, the parameterset 1 is active. Besides the manual selection with DIP-switch 3 a remote selection of parameter set 2 can be done by providing 24 V DC at the terminal 22.

5.4.4 BUS termination

DIP switch 4 activates the interal BUS termination.

NOTICE

In a network the last device in a RS485 bus must be terminated only.

5.4.5 BUS addressing

Addressing the Converter Box 5012 is made up of the setting of the DIP switches 5 and 4, and the address rotary switch. With the address rotary switch 16 addresses can be selected. The additional DIP switches 5 and 4, the address selection is extended to 4 banks. Thus, a total number of 64 gives addresses. The software CFC-NET provides each bank as a "Bank" is.

5.4.5.1 Adr. 5

DIP switch 5 sets the highest Bit of the address to “ON”.

NOTICE

See BUS addressing 5.4.7!

5.4.5.2 Adr. 4

DIP switch 6 sets the second highest Bit of the address to “ON”.

NOTICE

See BUS addressing 5.4.7!

5.4.5.3 Address *rotary switch*

The 5012 can be set to a bus address between 0 and 63. With the address rotary switches only addresses can be set between 0 and 15, are therefore in the DIP switch, two switches (DIP switches 5 and 6) that extends the addressable range from 0 to 63.

The address ranges are adjusted according to the following table:

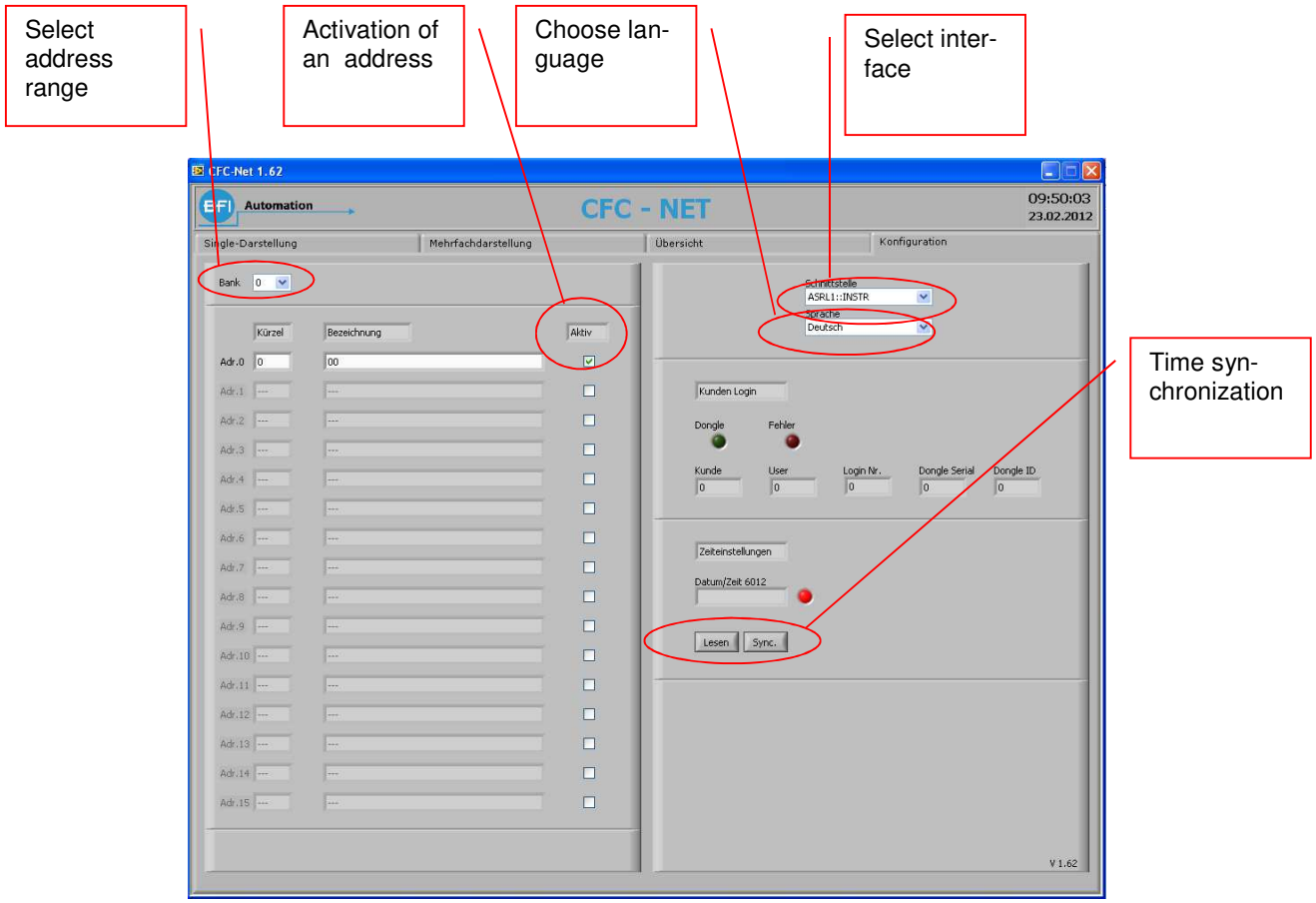
DIP 4.5	DIP 4.6	Rotary Switch 5	BUS Address
0	0	0 – F	0 – 15
0	1	0 – F	16 – 31
1	0	0 – F	32 – 47
1	1	0 – F	48 – 63

5.5 CFC-NET

The software CFC NET is used to communicate between control room and converter box 5012.

5.5.1 Configuration

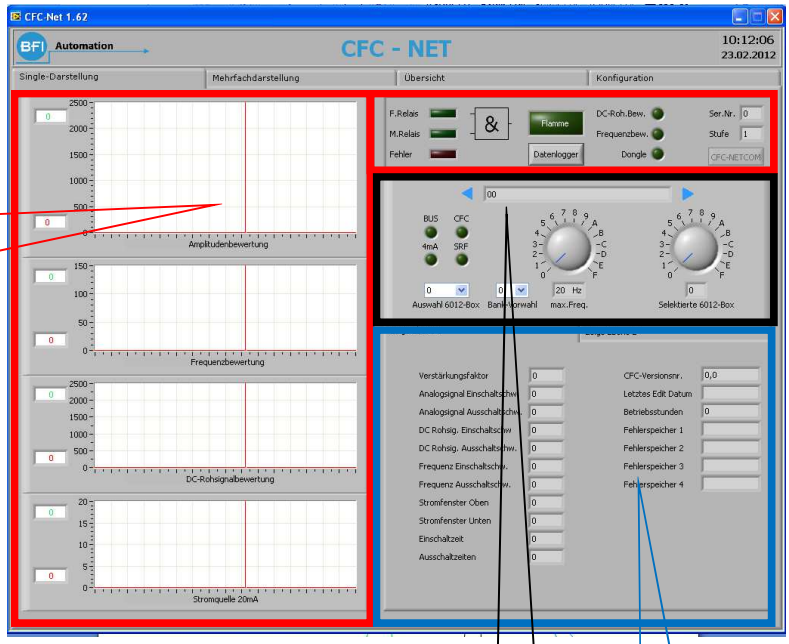
After starting the software CFC NET,select the computer interface and preferred language on the tab "Configuration". Now select address range and activate single bus addresses were 5012 boxes are connected.



All connected network devices 5012 will get their time stamp from the network computer once per day. Time synch can be done immediately by activating “Read” button, followed by “Synch” button. The whole time synch process will take a few minutes. After successful synchronization,the LED is green next to the date/time window. This synchronization must be carried out again after taking off the converter from power supply.

5.5.2 Single Mode

In this mode the software CFC NET communicates with the selected converter box 5012 only.



Amplitude, frequency, DC-raw signal and currentsource, as well as the status of the relay

Settings at thecon-verter

Parameter of the CFC 3000

Select the converter box 5012 you wish to display here.

NOTICE

The selection is made via the drop down menus"Selection converter box" and "Unit Selection".

6 Commisioning

⚠WARNING

Danger of injury and material damage if improperly used!

Improper use of the compact flame controller can lead to injury or even death and to material damage!

To operate the 5012 also refer to the separate operating instructions of the compact flame controller CFC3000 and the operating manual of the power supplies 3002 and 5002!

6.1 Connection of converter module 5012

NOTICE

To connect theconverter boxto theflame detector, observethe separate operating instructionsof the compactflame controller!

6.2 Test of the converter module 5012

To ensure safe operation, the converter box must be repeatedly tested in all the applications by being turned on and off under the intended load. Here,the connected device must function properly after each power-up.

7 Care and Maintenance

The converter module 5012 is maintenance-free.

For cleaning, use a moist cloth to wipe the housing from the outside only and clean the lens in regular intervals.

8 Failures

Problem	Cause	Remedy
None of the connected deviceworks	Power supply doesn't work	Check supply voltage Check connections Check fuses Change power supply
No communication to the BUS-System	Interrupted communi-cation	Check connections Check addressing Check buscollosion
Switching signal at K1 is not connected through	Signal interrupted	Check connections Check fuses

9 Order data

The converter module 5012 is available from BFI Automation Mindermann GmbH under the following order data:

Type	Part-No.
Converter module 5012	6020-5012-00
Converter module 5012 with IP66-housing	6020-5012-01

Type	Part-No.
Software package CFC-Com1 with IRDA/USB-interface cable	6040-4901-00
IRDA/USB-interface cable, 1.5m	6040-4810-10
IRDA/USB-interface cable, 3m	6040-4810-13