

CES OMEGA FLEX

Controls

BAS Radio Module



Assembly and Operating Manual





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1 About this manual

This manual will help you to put into service and use the OMEGA FLEX BAS Radio Module safely and conveniently for the intended purpose. For a detailed explanation of the OMEGA FLEX system and its administration, please read the manual of the locking device you control with the BAS Radio Module.

If you do not understand the functions of the OMEGA FLEX system, please contact your CES partner for further information.

1.1 Design features



Refers to other documents



Indicates additional information and tips



Indicates warnings in step-by-step instructions and particularly important information.

1.2 Target group of this manual

This manual is intended for

- trained assembly personnel
- maintenance personnel
- operators

The necessary expertise regarding the intended use of the product are presumed for the use of this manual.

1.3 Validity of this manual

This manual applies to:

• CES OMEGA FLEX BAS Radio Module



Always use the latest version of this manual. The version number of this manual is shown on the cover page. You can get the latest version free of cost under www.ces.eu

1.4 Manufacturer and service

C.Ed. Schulte GmbH Zylinderschlossfabrik Friedrichstr. 243 42551 Velbert

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www.ces.eu

For service assistance, please contact your CES partner.

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2 For your safety

2.1 EU Declaration of Conformity

You can find the EU Declaration of Conformity on the Internet at www.ces.eu.

2.2 Intended use

The BAS Radio Module is used to radio-control OMEGA FLEX locking devices. It is exclusively intended for this purpose and may only be used for this. BAS Radio Module may never be altered in any way without written permission from C.Ed. Schulte GmbH Zylinderschlossfabrik.

All other uses are considered improper use and may lead to material damage or even personal injuries. C.Ed. Schulte GmbH Zylinderschlossfabrik assumes no liability for damage caused by improper use.

2.3 Safety instructions in this manual

NOTICE

"Notice" warns against hazards which may lead to property damage.



"Caution" warns against hazards which may result in minor to moderate injuries.

2.4 Basic safety instructions

2.4.1 Danger of personal injury

Danger of explosion

• Live parts may cause explosion. Do not use parts in potentially explosive areas.

2.4.2 Danger of damage to material assets

Transportation

• Do not drop the device on the floor, on hard surfaces or objects.

Assembly

The device contains highly sensitive electronic components, which can be damaged or destroyed through electrostatic charges. Therefore, do not assemble the device in areas affected by electrostatic charge.

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- Make sure that wiring is exclusively carried out by skilled electricians or partners trained by CES.
- For assembly and dismantling, use the tools indicated in the "Assembly" section only.

Operation

• Protect the electronic components against water and other liquids.

Maintenance

- Always have repairs performed by qualified personnel.
- Use only the accessories and spare parts recommended by CES.

Danger due to climatic influences

- Do not use the device in corrosive atmospheres (chlorine, ammonia, lime water).
- Do not use the device in areas with high dust formation.
- Do not use the device near heat sources.

Observe the maximum permissible temperatures as well as the air humidity data during use, see "Technical data" on page 28.

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2.5 Manufacturer warranty

The following damage is not covered by the manufacturer's warranty:

- Damage to the exterior mechanical parts as well as subsequent damage arising from normal wear and tear
- Damage caused by external events or influences
- Damage caused by deficient assembly
- Damage caused by deficient maintenance
- Damage caused by incorrect operation
- Damage caused by overvoltage
- Damage caused by fire, water or smoke

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BRO2272-2

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3 About the OMEGA FLEX system

3.1 Locking devices

Locking devices are built into the door or installed close to it and control the access there:



The electronic handle set **Long shield ILS** is also available as mechanical locking device (Long shield MLS). This allows you to combine the electronic and mechanical handle sets in a uniform design.

3.2 Locking media

Locking media can be used to open doors fitted with OMEGA FLEX locking devices:



A combination key is a mechanical key with a built-in transponder for combining mechanical locking cylinders with electronic locking devices in a locking system.

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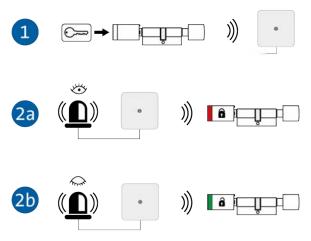
4 The CES OMEGA FLEX BAS Radio Module

4.1 About the CES OMEGA FLEX BAS Radio Module



The BAS Radio Module allows you to integrate burglar alarm systems (BAS) into your OMEGA FLEX system. The BAS Radio Module is connected to the burglar alarm system and ensures that electronic cylinders grant access only when the alarm system is not activated.

Operating principle



- 1. The electronic cylinder reads an authorised locking medium. Thereupon, the electronic cylinder requests the burglar alarm system status from the BAS Radio Module.
- 2a. If the burglar alarm system has been activated, access is denied.
- 2b. If the burglar alarm system has not been activated, access is granted.

4.2 Optional accessories

SMA rod antenna - article number: 248583V

The SMA rod antenna allows you to extend the radio range.



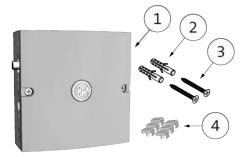
BAS Radio Module with SMA rod antenna

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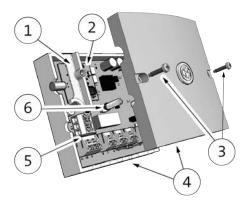
5 Scope of delivery and parts designation

5.1 Scope of delivery



- 1 1 BAS Radio Module
- 2 2 dowels
- 3 2 fixing screws
- 4 6 solder pins (see "Parts designation" below)

5.2 Parts designation



- 1 Hold-down clamp for the URC
- 2 URC
- 3 Case screws
- 4 Case
- Plug connectors

 (When delivered, the screw terminal is mounted, solder pins included in the delivery can be optionally assembled)
- 6 Tamper switch with spring

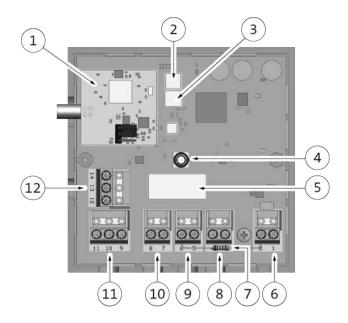
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6 Connections and wiring

6.1 Connections and switches

Relay board



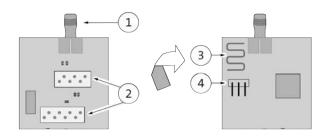
1 URC (see "URC" on the facing page) 2 Coupling button 3 DIP switch (see "Setting the radio channel" on page 17) 4 Tamper switch 5 Bridges 6 Power supply* 7 Resistance (1.8k Ω , 250mW) 8 Opto-isolator input 2* 9 Opto-isolator input 1* 10 Plug connector for tamper switch* 11 Relay output 1* 12 Relay output 2*

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^{*}(When delivered, the screw terminal is mounted, solder pins – included in the delivery – can be optionally assembled)



URC



- 1 Port for SMA rod antenna
- 2 Micro plug
- 3 Internal antenna
- 4 Jumper to select antenna

About URCs

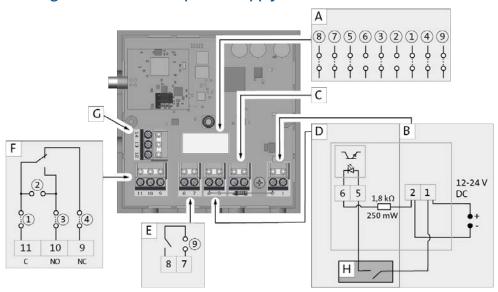
The URC (Universal Radio Control) can release, program and read events in OMEGA FLEX locking devices wirelessly. URCs can be integrated directly into access controls, or they can be controlled by access controls. Depending on the programming, URCs can be used for a wide variety of purposes.

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6.2 Wiring

6.2.1 Wiring without external power supply source



	Connection	Function	Description
	no.		
Α		Bridges	For information on how to use wire bridges or resistors, please
		ū	refer to (see "How to use the bridges" on page 16)
В	1	Power supply	12-24V AC/DC power supply
	2	•	
С	3	Opto-isolator input 2	Currently not in use
	4	•	
D	5	Opto-isolator input 1	Input for the activation signal of the burglar alarm system (if
	6		the burglar alarm system is activated, this input is constantly
	0		active)
Е	7	Tamper switch	How to connect the integrated tamper switch
	8	•	
F	9	Relay output 1	Potential-free switching output "Acknowledgement" to connect
	10	-	the burglar alarm system (will switch when the burglar alarm
	11		system has been activated)
G	12	Relay output 2	Currently not in use
	13	•	
		-	
	14		
Н		Switch, e.g. from burglar alarm centre	potential-free

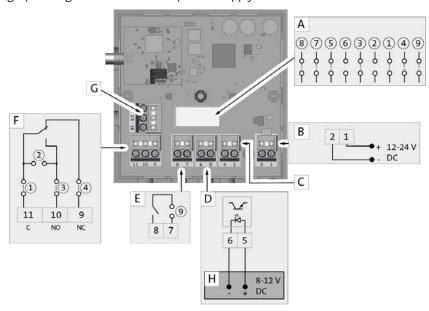
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6.2.2 Wiring with external power supply source (BAS)



When delivered, a resistor between B (power supply) and D (opto-isolator input 1) is preassembled for wiring **without** external power supply source. Remove the resistor before setting up wiring with an external power supply source!



	Connection no.	Function	Description
A		Bridges	For information on how to use wire bridges or resistors, please refer to (see "How to use the bridges" on the next page)
В	1	Power supply	12-24V AC/DC power supply
	2		
С	3	Opto-isolator input 2	Currently not in use
	4	-	
D	5	Opto-isolator input 1	Input for the activation signal of the burglar alarm system (if
	6		the burglar alarm system is activated, this input is constantly
			active)
Е	7	Tamper switch	How to connect the integrated tamper switch
	8		
F	9	Relay output 1	Potential-free switching output "Acknowledgement" to connect
	10	-	the burglar alarm system (will switch when the burglar alarm
	11	-	system has been activated)
G	12	Relay output 2	Currently not in use
	13	-	
	14	-	
Н		BAS	Switching voltage 8-12V DC

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6.2.3 How to use the bridges

You can either use the bridges as a 0 ohmic resistor, or you can replace them with the line resistors defined by the BAS.

Bridge	Delivery condition	Bridge or resistor required/optional	Belongs to
8	closed	required	Relay output 2
7	closed	required	
5	closed	required	
6	open	optional	
3	closed	required	Relay output 1
2	open	optional	
1	closed	required	
4	closed	required	
9	closed	required	Tamper switch

6.2.4 Connecting a burglar alarm system

Connection principle:

- 1. The BAS activation signal is connected to the opto-isolator input 1.
- 2. Relay output 1 signals to the BAS that the BAS Radio Module is active.



6.2.5 Using the tamper switch

If you use the tamper switch, a switching operation will be triggered as soon as the cover is opend (cover open - switch open, cover closed - switch closed).

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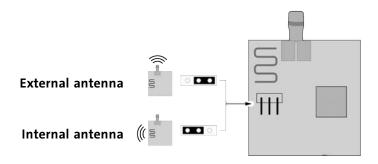


7 Configuration

7.1 Selecting the antenna

The URC is equipped with an internal antenna and an SMA port for an external antenna. An external antenna allows you to extend the radio range.

With the URC jumpers, you can set which antenna is to be used:

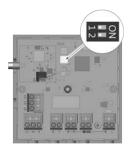


1

The external SMA rod antenna is available as an accessory (see "Optional accessories" on page 10).

7.2 Setting the radio channel

If the radio reception of one channel is disturbed, you can change the radio channel and thus change the frequency in order to establish a better radio connection.



You can set the radio channel with the DIP switch.

	Switch			
	1	2	Radio channel	Frequency
	0	0	1	868.1
ON/OFF	0	1	2	868.2
ONJOFF	1	0	3	868.3
	1	1	4	868.4

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8 Assembly



Before assembly configure the BAS Radio Module first (see "Configuration" on the previous page).

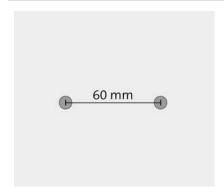
Tools required:

Tool		Required for
	6 mm drill bit	Drill holes for fixing screws
×	PZ2 Phillips screwdriver	Fixing screws

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Assembly



1. Drill the holes for the fixing screws at a distance of 60 mm.



Alternatively, you can use the drill holes of an existing flush-mounted socket if they are at a distance of 60 mm.

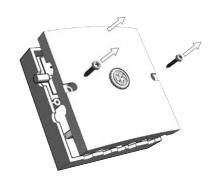




2. Insert the dowels, and screw in the fixing screws. In doing so, make sure to leave a clearance of approx. 2mm between the screw head and the wall.

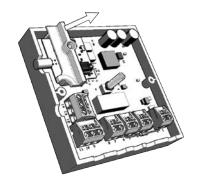


for mineral substrates (brick, concrete, etc.), use the DOWELS and FIXING SCREWS which are included in the delivery. For all other substrates you can purchase suitable fixing material at your expert shop for fixing technology.

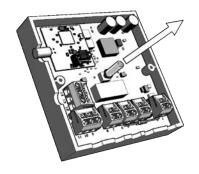


3. Loosen the screws in the case, and remove the case cover.

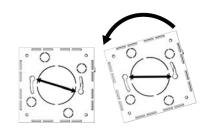




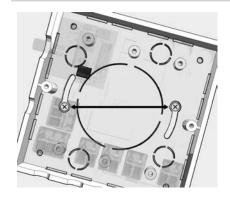
4. Remove the HOLD-DOWN CLAMP, and put it aside.



5. Remove the spring from the TAMPER SWITCH, and put it aside.



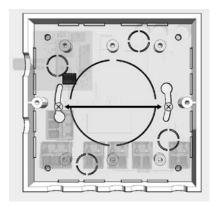
6. Incline the case a little bit so that the big holes on the rear side form a horizontal line.



7. Move the big holes above the fixing screw heads.

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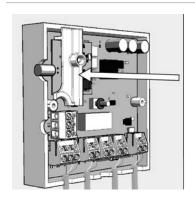




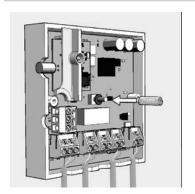
8. Turn the case to the left until it has reached a horizontal position.

Turning the case will attach it firmly.



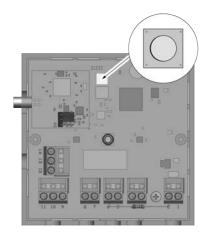


10. Place the hold-down clamp back onto the URC.

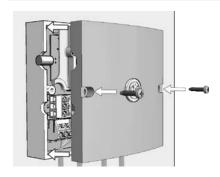


11. Place the spring back onto the tamper switch.





12. Before you close the case with the screws, couple the BAS Radio Module to the desired locking devices (see "How to couple locking devices" on page 24).



13. Place the case cover back, and firmly attach the screws in the case.

Now, assembly of the BAS Radio Module is complete.

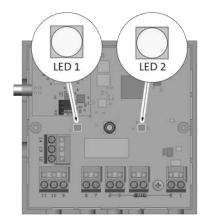


1. Optional: Attach the SMA rod antenna (see "Optional accessories" on page 10).

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9 Signalling



LED 1

Blue The coupling mode is active (see "How to couple locking devices" on the next page).	
--	--

LED 2	
Green	No voltage applied to the opto-isolator input 1. Access is granted for authorised locking media.
Red	Because the burglar alarm system is activated, voltage is applied to the opto-isolator input 1. Access is denied even for authorised locking media.

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10 How to control locking devices

10.1 How to couple locking devices

If you want to control a locking device with a BAS Radio Module, you have to couple the locking device to the radio module EMA.

To be able to couple and control a locking device, the **URC mode** of the locking device has to be activated. As soon as you activate the URC mode, the locking device automatically tries to couple to the relevant module.



You can couple a maximum number of four locking devices.

Required master media:

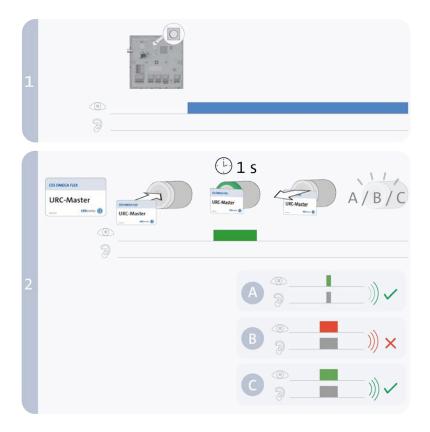
- URC-Master
- 1

The URC-Master does *not* have to be authorised first.

How to proceed:



As an example, the picture shows an electronic cylinder, but the procedure is identical for other locking devices.



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1. Press the coupling button.

Now, the BAS Radio Module is in coupling mode. The LED is continuously illuminated in blue.



If you press the coupling button again, you switch off the coupling mode. After five minutes, the coupling mode will end automatically.

To end the URC mode, hold the URC-Master for approx. 1 second in the reading field of the locking device.

One of the following signals will appear:

A: 1x short green flash and 1x short beep	Coupling has been successful	
B: 1x long red flash and 1x long beep	Coupling is not possible	
C: 1x long green flash and 1x long beep	Coupling has already been established	

If coupling has been accomplished successfully, the URC mode is activated, and the BAS Radio Module will control the locking device. The URC mode will be activated until you deactivate it with the URC-Master.

If coupling could not be established successfully, the URC mode will not be activated. Make sure that the BAS Radio Module is in coupling mode and in the near vicinity of the device, and repeat the coupling process.



When a locking device has been coupled successfully, it will automatically couple again to the coupled BAS Radio Module after restart.

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10.2 How to decouple locking devices

To decouple a locking device from a URC, you have to deactivate the URC mode. If the URC mode is deactivated, the locking device will no longer be controlled by the BAS Radio Module, and it no longer searches for other radio modules EMA to couple to.

Required master media:

- URC-Master
- The URC-Master does *not* have to be authorised first.

How to proceed:



As an example, the picture shows an electronic cylinder, but the procedure is identical for other locking devices.



1. Hold the URC-Master for two seconds in the reading field of the locking device.

The following signal appears:

2x short green flashes

The locking device now decouples from the coupled BAS Radio Module. The BAS Radio Module will delete the locking device from its memory, which creates new space for another locking device. The URC mode of the locking device has now been deactivated, and the BAS Radio Module will no longer control the locking device.

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11 Disposal

11.1 Notes on disposal

Device

In accordance with the Waste Electrical and Electronic Equipment recycling (WEEE) Regulations, every consumer has a duty to dispose of old electronic/electrical appliances safely and separately from household waste. It is forbidden to dispose of electronic devices in the household waste. You can bring old devices free of charge to the local (council's) collection points. Or you can send the device to C.Ed. Schulte GmbH Zylinderschlossfabrik, Velbert/Germany. Please make sure correct postage is paid for the return.



The symbol with the crossed-out dustbin indicates that old electrical appliances must not be disposed of with household waste.

Electronic equipment contains a variety of substances and materials. If waste electrical and electronic equipment (WEEE) is not disposed of correctly, environmental and health risks may arise due to the pollutants contained. In addition, recyclable materials can be recovered and recycled through proper disposal, which makes a significant contribution to the preservation of natural resources.

Packaging

Packaging of the components is made from environmentally friendly, reusable materials. Specifically, these are:

- Outer packaging and inlays made of cardboard
- Inlays and protective foils made of polyethylene (PE)



Please dispose of the packaging in an environmentally friendly way by means of waste separation.

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12 Technical data

12.1 Equipment features

Product	BAS Radio Module
Article number	342397V
Online radio frequency	868 MHz
Radio range between URC and	Internal antenna: max. 15m
locking device	External antenna: max. 25m
Encrypted data transmission	128 Bit/AES
Admissible temperature range	-25 °C to +70 °C
Inadmissible ambient conditions	Not suitable for use in corrosive atmospheres
	(chlorine, ammonium, lime water)
Rel. humidity	095% rH
Power consumption	Max. 3W
Supply voltage	12V-24V DC in accordance with DIN EN 60950-1
Assembly	Wall assembly, surface-mounted, indoors
Protection class	IP20
Cable type	J-Y(St)-Y Xx2x0.6 mm² preferred
	Flexible or rigid cables with a cross-section of at least 0.5 mm ² are also
	admissible

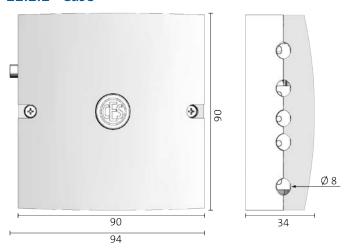
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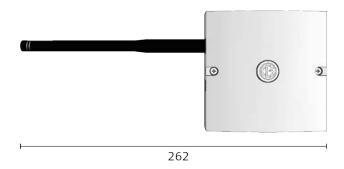
12.2 Dimensions

All dimensions in mm.

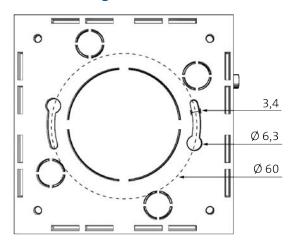
12.2.1 Case



Case with SMA rod antenna



12.2.2 Drilling dimensions



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