

# SIEMENS

## **Cerberus® CS1140 Fire detection system**

### **Commissioning 'Extinguishing'**

EP7F

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<b>About this document</b> .....	<b>1</b>
<b>1 Safety regulations</b> .....	<b>3</b>
1.1 Signal words and symbols .....	3
1.2 Safety-relevant working instructions .....	4
<b>8 Procedure</b> .....	<b>16</b>
<b>9 Preparation of hardware</b> .....	<b>17</b>
9.1 Control module 'Extinguishing' E3G080 .....	17
9.2 Dual sector extinguishing p.c.b K5L020 .....	17
9.3 Emergency operation link E3G110 .....	18
9.4 Operating unit 'Extinguishing' B3Q440 .....	18
9.5 Control terminal AlgoPilot B3Q460/48x, B3Q660/68x .....	19
<b>10 Calibration on E3G080</b> .....	<b>19</b>
10.1 Line voltages E3G080 from index $\cong$ 'AB' (Type FM) .....	19
10.2 Automatic calibration .....	20
<b>11 User function</b> .....	<b>21</b>
11.1 Notes for parameterization 'Extinguishing' (E3G080) via AlgoWorks .....	21
<b>12 Performance checks</b> .....	<b>23</b>
12.1 Performance check in 'Normal operating condition' .....	23
12.2 Individual control functions .....	25
12.3 Notes .....	25
<b>13 Overview of operating functions</b> .....	<b>26</b>
13.1 Functions 'Extinguishing control -> REVISION' and 'Extinguishing control -> TEST' .....	26
13.2 AlgoPilot 'CT11' list of functions 'SECTION' .....	26
<b>14 Error diagnosis</b> .....	<b>27</b>
14.1 Fault identification at the operation unit extinguishing B3Q440 .....	27
14.2 Identification of fault at the E3G080 .....	28



# About this document

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## Purpose of the document

This document describes the commissioning of the hardware modules of the control units CS1140/45 with extinguishing section. The consistent observance of the instructions ensures a trouble-free and safe application.

## Scope

This document contains information valid for the software variant EP7F.

## Target group

Group of persons	Activity	Qualification
Commissioning personnel	The configuration of the products, devices or systems for specific customers at the place of installation. They check serviceability and officially clear the product, device or system for use by the operator / customer. They are also responsible for trouble-shooting.	They have had the training appropriate to their function and to the commissioning of the products, devices or systems and have attended the technical training courses for commissioning personnel.

## Reference documents

Information in	Document
1260	Description of hardware plug-in modules (CS1140 'Modular')
004665	Operating instructions AlgoPilot B3Q4..
004598	Operating instructions AlgoPilot B3Q6..
005590	Operating instructions 'Extinguishing' with AlgoPilot B3Q4..
005113	Operating instructions 'Extinguishing' with AlgoPilot B3Q6..
005377	Compact control unit CI1145
006516	Inscription strip templates for indication and operation equipment

## Operational and safety regulations



Before persons begin work on the system, they must have read and understood the related documents, in particular Chapter 1 'Safety regulations'.


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### Disregard of the safety regulations

Before they are delivered, the products are tested to ensure they function correctly when used properly. Siemens disclaims all liability for damage or injuries caused by the incorrect application of the instructions or disregard of warnings of danger contained in the documentation. This applies in particular to:

- Personal injuries or damage caused by improper use and incorrect use;
- Personal injuries or damage caused by disregarding safety instructions in the documentation or on the product;
- Personal injuries or damage caused by poor maintenance or a lack of maintenance.

### Standard symbols

(...)	Additional information
'.....'	Definition of names
	Details see page ....., or document .....

### Document identification

Position	Signification
Title page	– System names – Product type – Purpose of the document
Last page      bottom left bottom right	– Document number – Date of version – Manual – Register

### Modification index

Version	Date	Brief description
e5109a	05. 2003	Commissioning of the hardware Extinguishing, Product release version EP7F
005109_d_en_--	07.2004	Table Line voltages, Indication Loss of extinguishing agent, several minor changes

### Training

Siemens Fire & Security Products offers a comprehensive training program for all products. Information on training courses can be found in the Siemens intranet under <http://web4.cerberus.ch/>.

### Download

The most recently released technical documents for customers can be found in the Siemens intranet under <http://web4.cerberus.ch/>.

# 1 Safety regulations

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This chapter describes the danger levels and the relevant safety regulations applicable for the use of the Cerberus® products. Please read the work instructions as well as the chapter 'About this document' before beginning with the work.

## 1.1 Signal words and symbols

### 1.1.1 Signal words and their meaning

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The danger level – that is, the severity and probability of danger – is indicated by the signal words listed below. Non-observance may lead to the consequences indicated:

#### **DANGER**

Imminent danger!

- May cause danger to life or serious bodily injury!

#### **WARNING**

Dangerous situation!

- May cause serious bodily harm!

#### **CAUTION**

May cause dangerous situations!

- May cause light injuries!

#### **NOTE**

Possibly harmful situation!

- May cause damage to the product or to objects in the immediate vicinity of the product!

### 1.1.2 Symbols and their meaning

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The symbols listed below indicate the nature and origin of danger.



General danger

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Electrical voltage

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#### **Example for a danger warning**

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**DANGER External voltage**

Disconnect the module from the power supply.

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### 1.1.3 Classification and meaning of additional symbols

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Tips and information.

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## 1.2 Safety-relevant working instructions

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### Country-specific standards

The products are developed and produced in compliance with the relevant international and European safety standards. Should additional country-specific, local safety standards or regulations concerning project planning, assembly, installation, operation and disposal of the product apply in the place of operation, then these standards or regulations must also be taken into account in addition to the safety regulations mentioned in the product documentation.

### Electrical installations



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#### **DANGER Work on electrical installations**

Work on electrical installations may only be carried out by qualified electricians or instructed persons working under the guidance and supervision of a qualified electrician, in accordance with the electrotechnical regulations.

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- Control units must be disconnected from the power supply during commissioning or maintenance work.
- Terminals with an external voltage supply must be provided with a sign 'DANGER – External voltage'.
- Mains leads to the control unit must be installed separately and provided with a clearly marked fuse.
- Earthing must be carried out in compliance with local safety regulations.
- When work is carried out in explosion-hazardous areas, the appropriate safety precautions must be taken.

#### **Assembly, installation, commissioning and inspection work**

- If any tools such as ladders are required, safe and suitable devices must be used.
- Prevention of spurious tripping of the remote transmission must be assured.
- Always inform the plant fire brigade before testing the remote transmission.
- The activation of fire control installations for test purposes must not cause damage to the system or parts thereof.
- Fire control installations must only be activated after the test has been completed and the system has been handed over to the customer.
- Third party systems or devices must only be activated in the presence of the responsible person.
- When work on management stations and system terminals is performed, the safety regulations of the connected sub-systems must be observed. This especially applies when switching-off system components.
- In the case of extinguishing systems, always use the "General installation instructions" as a guideline. This guideline is available on request.

#### **Testing the product operability**

- Evacuate and cordon off extinguishing sector.
- Inform people about the possibility of occurring fog and noise.
- Inform people before testing alarm devices; take the possibility of panic reactions into account.
- Inform the alarm and fault receiving stations connected to the system before running the tests.



### **Modifications to the system design and the product**

Modifications to a system or to individual products may cause faults or malfunctioning. Please request written approval from us and the relevant authorities concerning intended system modifications and system extensions.

### **Modules and spare parts**

- Locally procured modules and spare parts must comply with the technical specifications laid down by the manufacturer. This compliance is always ensured for original spare parts supplied by us.
- Only use fuses with the specific fuse characteristics.
- Wrong battery types and improper battery exchange may introduce the danger of explosion. Only use the specified battery type or an equivalent battery type recommended by the manufacturer.
- Batteries require environmentally safe disposal. They must be handed in at the local collecting points.
- Please take into account that the extinguishing agent cylinders are pressurized and must be exchanged in compliance with the local safety regulations.

## 2 Procedure

Step	Detail information chapter
<b>1. Preparation of electronic modules</b> ⇨ Set switch and resistors on E3G080 ⇨ Calibration control lines on K5L020 ⇨ To shunt line links on E3G110 ⇨ Set switches and resistors on B3Q440 ⇨ Insert inscription strips	3.1 3.2 3.3 3.4 3.5
<b>2. Initial switch-on</b> ⇨ First set switch 'S1' on the E3G080 to 'ON' Note: 'S1' -> 'ON' = hardware and software blocking of all E3G080 outputs	3.1
<b>3. Measure voltage at E3G080</b> Check voltage of all peripheral equipment connected to the E3G080 ⇨ Ensure rest potential throughout the area	4.1
<b>4. Initialize automatic calibration function on E3G080</b> This function calibrates the valve current and registers and stores which lines are connected. First ensure that: <ul style="list-style-type: none"> <li>- no signalling contact is in active mode</li> <li>- all lines are connected including the line termination</li> <li>- the impedance range chosen for the valve lines is correct ('R60/61')</li> </ul> ⇨ Press key 'S4' (set switch 'S1' to ON) Meaning of LEDs H1....H4 on E3G080	4        3.1   4.2
<b>5. Performance check</b> First ensure, that the user functions have been set correctly ⇨ Carry out 'Normal operating condition' control function ⇨ Carry out individual control functions Note: <ul style="list-style-type: none"> <li>- Functions 'Extinguishing REVISION' und 'Extinguishing TEST'</li> <li>- Extent of available functions in SECTION list</li> </ul>	5.1 6.1 6.2 7.1 7.2

### Important



In some countries, with CO<sub>2</sub>-extinguishing systems with a risk to life (CO<sub>2</sub>-concentration >5Vol%) a so-called 'Coincidence of the vital functions' is required (vital functions must be guaranteed).

### Examples:

- an electrical and a mechanical/pneumatic delay device in AND operation  
→ for this purpose the E3G080 has 2 different valve activating outputs
  - Compulsory pre-warning also functions in the event of a fault (e.g. caused by lightning etc.)  
→ use pneumatic sirens
  - automatic activation of extinguishing is guaranteed even if the main central processing unit malfunctions  
→ use optional emergency operation link E3G110
- etc.

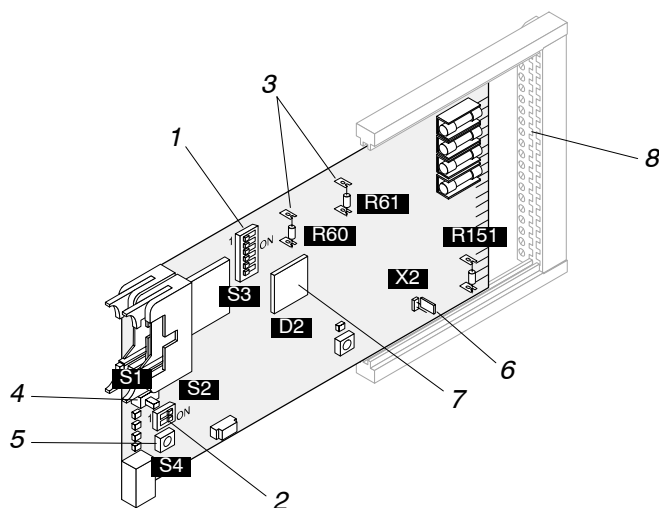


When commissioning, ensure that the local requirements are fully complied with. If the system operator asks for a concept which deviates from the regulations, then he must bear the responsibility.

# 3 Preparation of hardware

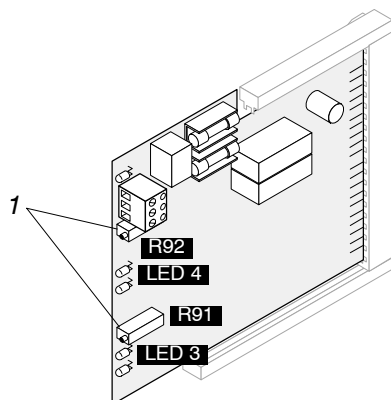
## 3.1 Control module 'Extinguishing' E3G080

Pos.	Component	Preparation	Default
1	Programming switch 'S3': I-Bus address	set according to system documentation	Address 0
2	Programming switch 'S2': Determine emergency operation concept	set according to system documentation S2-1/2 -> 'OFF' = no function if $\mu$ P E3G080 malfunctions ☞ see also description in document 1260	all switches to 'ON'
3	Resistors 'R60/61'	Activating device 1 is between 16 ... 160 $\Omega$ : -> Remove 'R60' (71K5) Activating device 2 is between 16...160 $\Omega$ : -> Remove 'R61' (71K5)	'R60/61' inserted -> for activating device 161...320 $\Omega$
4	Maintenance switch 'S1': Test to block all outputs, without real activation (activation test LEDs 'H1'...'H4')	set to 'ON', so that when switching on for the first time, all outputs are blocked (meaning of the LEDs see chapter 4.2)	set to 'OFF'
5	Maintenance switch 'S4': For initialization of commissioning functions	only effective if switch 'S1' is set to 'ON' ☞ description see chapter 4.2	-
6	Jumper 'X2': Ground fault monitoring 'LON-Bus'	Ground fault monitoring ☞ see also in document 004594 set as described in document 1260, chapter 'Ground fault monitoring'	removed (inactive)
7	$\mu$ P 'D2'	check version, see Release notes docu 004767	inserted
8	Connection level	check that all peripheral equipment planned is connected (according to system documentation)	-



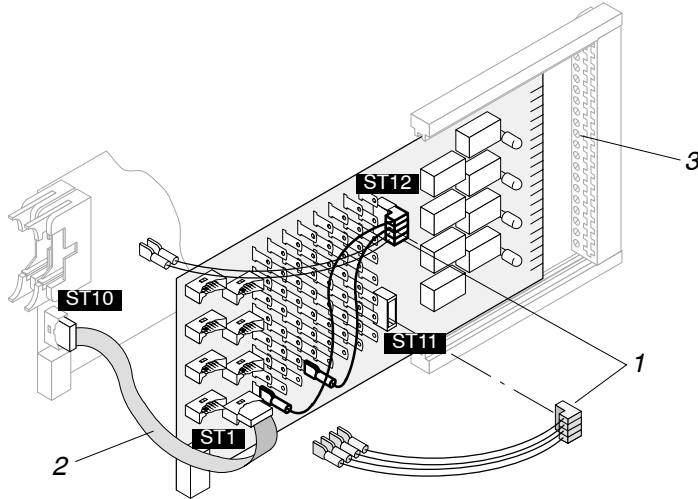
## 3.2 Dual sector extinguishing p.c.b K5L020

Pos.	Component	Preparation	Default
1	Potentiometer 'R91'/R92': Calibration of control lines	Procedure ☞ see description in document 1260	-



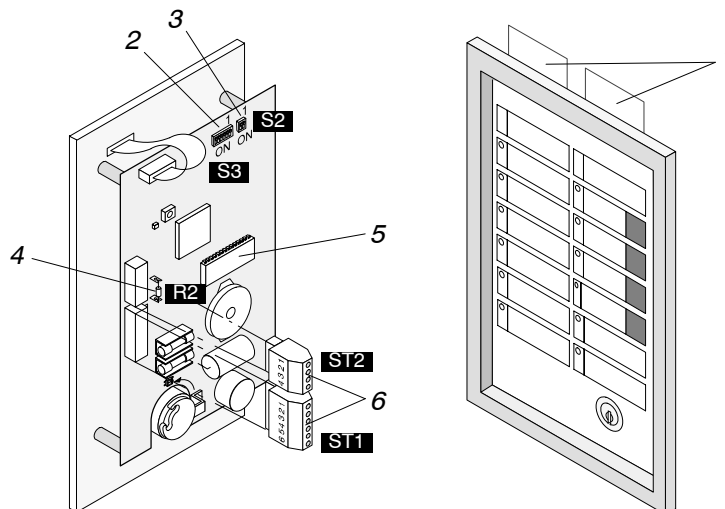
### 3.3 Emergency operation link E3G110

Pos.	Component	Preparation	Default
1	Distributor cable: Line links of the extinguishing sections	to connect and to shunt according to system documentation	not inserted (contained in module)
2	Flat cable F12A100/F12A470: Connection to line module connector 'ST10'	connect according to system documentation ☞ Details see also description in document 1260	order separately
3	Connection level	check that all peripheral equipment planned is connected (according to the system documentation)	-



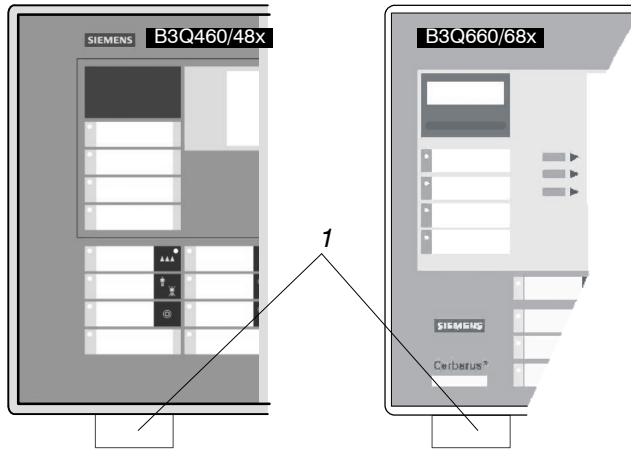
### 3.4 Operating unit 'Extinguishing' B3Q440

Pos.	Component	Preparation	Default
1	Inscription strips	insert	not insert -> delivered with strips in 'english' for operating unit 'extinguishing B3Q440 and AlgoPilot, or to be created with Word template DOT (document 006516)
2	Programming switch 'S3': Equipment address	set according to system documentation	Address 1 ('OFF')
3	Programming switch 'S2': Key click, Buzzer	set according to system documentation 'S2-1' -> 'ON' = Key click active 'S2-2' -> 'ON' = Buzzer active	set to 'OFF'
4	Resistor 'R2': Line termination for the communication to E3G080	set according to system documentation, is <b>not</b> the <b>last</b> device, remove resistor 'R2', see description in document 1260 -> E3G080	inserted
5	EPROM 'D1'	check version, see Release notes docu 004767	inserted
6	Plug-in terminals 'ST1' / 'ST2'	connect according to system documentation	supplied with B3Q440



### 3.5 Control terminal AlgoPilot B3Q460/48x, B3Q660/68x

Pos.	Component	Preparation	Default
1	Inscription strips	insert	-> delivered with strips in 'english' for AlgoPilot B3Q460/48x, B3Q660/68x, or to be created with Word template (document 006516)



## 4 Calibration on E3G080

Each output and each input is controlled and set accordingly. In doing so, the relays for the valve actuation are blocked by both the hardware and software; the valves can no longer be activated. The illuminated warning panel and the horn are blocked by the software only. Before initiating the automatic calibration, the tension at the terminals must be checked. All switches must be in "Rest" position (see the following table).

### 4.1 Line voltages E3G080 from index $\geq$ 'AB' (Type FM)

Type of line	Terminals X10-..	Line voltage 'quiescent' (line termination with 4k75)	Monitoring current	Line voltage 'open line'	Line voltage 'short circuit'	Line voltage 'active' Section
<b>Control lines</b> 'Sector valve' 'Main valve'	1/2 2/3	without R60/61 $\Rightarrow$ <b>80..800mV</b> with R60/61 $\Rightarrow$ <b>0.3...1.6V</b>	5mA	$\geq$ 880mV $\geq$ 1.75V	$\leq$ 100mV $\leq$ 200mV	24...30V
<b>Control lines</b> 'Alarm horn' 'Illuminated warning panel'	4/5 6/7	<b>2.3V <math>\pm</math>10%</b>	0.5mA	$\geq$ 3.5V	$\leq$ 350mV	24...30V *
<b>Detection lines</b> 'Manual activation' 'Stop/blocking button'	8/9 9/10	<b>22.3V <math>\pm</math>10%</b>	4.7mA	$\geq$ 25V	$\leq$ 2.6V	3...12V
<b>Detection lines</b> 'Loss of extinguishing agent' 'Extinguishing blocked'	12/13 14/15	<b>2.3V <math>\pm</math>10%</b>	0.5mA	$\geq$ 3.5V	$\leq$ 350mV	400mV..1.3V
<b>Detection line</b> 'Extinguishing activated'	16/17	19,6V **	resistor 2k25	$\geq$ 22V	$\leq$ 2.7V **	3...14V **
<b>Control console for B3Q440</b> serial interface	18/19	Voltage cannot be measured with a voltmeter				

\* reversed polarity in 'active' status

\*\* with mains operating 29V

→ Details see document 1260

## 4.2 Automatic calibration

### System power up

1. Press 'S4' key once (service switch 'S1' must be in position ON)

→ Situation A:

When all in-/outputs are in order, or when there is no change to the configuration, or when the monitoring has been deactivated, all LEDs 'H1'...'H4' are flashing simultaneously during approx. 5 seconds; afterwards the **deactivated control lines** are briefly displayed in sequence in short time intervals (see table below). The initialisation (calibration) is completed; proceed to step 5.

→ Situation B:

When in-/outputs are faulty, or when the configuration has been changed, the LEDs 'H1'/'H3' and 'H2'/'H4' are flashing alternately during approx. 5 seconds, then the **faulty** and **deactivated control lines** are briefly displayed in sequence in short time intervals (see table below).

2. Remedy fault and/or change configuration
3. Press service key 'S4' once to read in the new situation
  - the LEDs react in accordance with situation B
4. Press service key 'S4' once to acknowledge the new situation
  - the LEDs react in accordance with situation A
5. Set service switch 'S1' to OFF
  - The extinguishing activation is ready for operation.

### 4.2.1 Status indication on E3G080

**Note:** Each pending fault signal is visible approx. 4 sec. (sequential display)

Function In-/Output	LED				De-activated	Short circuit	Open line
	'H1'	'H2'	'H3'	'H4'			
Sector valve delayed	●				continuously on	rapid flashing	slow flashing
Main valve non-delayed		●					
Horn	●	●					
Illuminated warning panel			●				
Manual actuation (spec. button yellow)	●		●				
Emergency stop-/Blocking key		●	●				
Loss of extinguishing agent	●	●	●				
Extinguishing blocked				●			
Extinguishing released	●			●			

The LEDs marked by black spots stand for the in-/output concerned;

e.g. control line Extinguishing released -> LED 'H1' + 'H4' flash or light up simultaneously

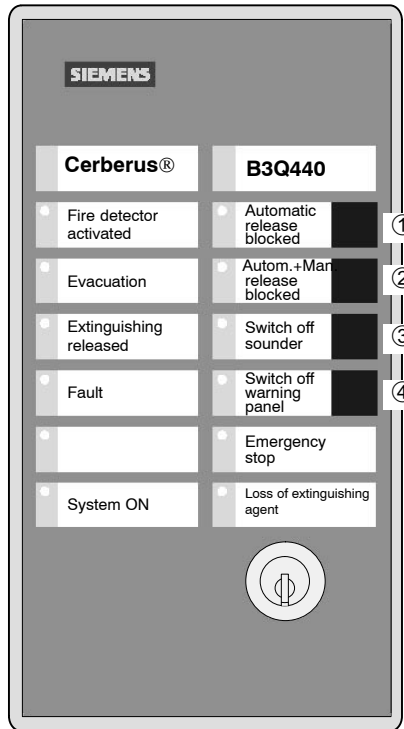


### Important

When an extinguishing command has missed prior to the calibration and has been reported as faulty, this fault is deleted afterwards.

## 5 User function

### 5.1 Notes for parameterization 'Extinguishing' (E3G080) via AlgoWorks



Function, Outline description	Action on system	AlgoWorks	
		Value	Default 1)
<b>Acknowledgement 'Extinguishing released'</b> – Acknowledgement active (confirmation message) – Acknowledgement inactive	autom. acknowledgement –	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Detection line 'Stop-/Blocking button'</b> – Autom.+ Manual release blocked – Autom. release blocked	no extinguishing release no extinguishing release	<b>0</b> <b>1</b>	0
<b>Activation time</b> Permissible operating time main valve Value 0...240: → active for 0...240 sec. Value 255: → active until reset	–	<b>0..240</b> <b>255</b>	120
<b>Flooding time</b> Permissible operating time sector valve Value 0...240: → active for 0...240 sec. Value 255: → active until reset	–	<b>0..240</b> <b>255</b>	30
<b>Evacuation time</b> Delay sector valve 0...240 sec.	–	<b>0..240</b>	16
<b>Evacuation time upon STOP</b> – no restart (Evacuation time is <b>not</b> reset) – new start (Evacuation time is reset)	time continues running time is restarted	<b>0</b> <b>1</b>	0
<b>Activation and running mode of alarm horn</b> – Pre-alarm/evacuation/actuated → continuous – Pr-alarm → pulsating/evacuation/actuated → continuous – Pre-alarm → continuous/evacuation/actuated → pulsating – Pre-alarm/evacuation/actuated → pulsating – Evacuation/actuated → continuous – Evacuation/actuated → pulsating	Horn activated according to programming	<b>0</b> <b>8</b> <b>16</b> <b>24</b> <b>1</b> <b>17</b>	0
<b>Switch off alarm horn</b> – switch off via AlgoPilot 'CT' or 'B3Q440' ③ – switch off via 'B3Q440' ③ only	Horn turned off Horn turned off	<b>0</b> <b>2</b>	2

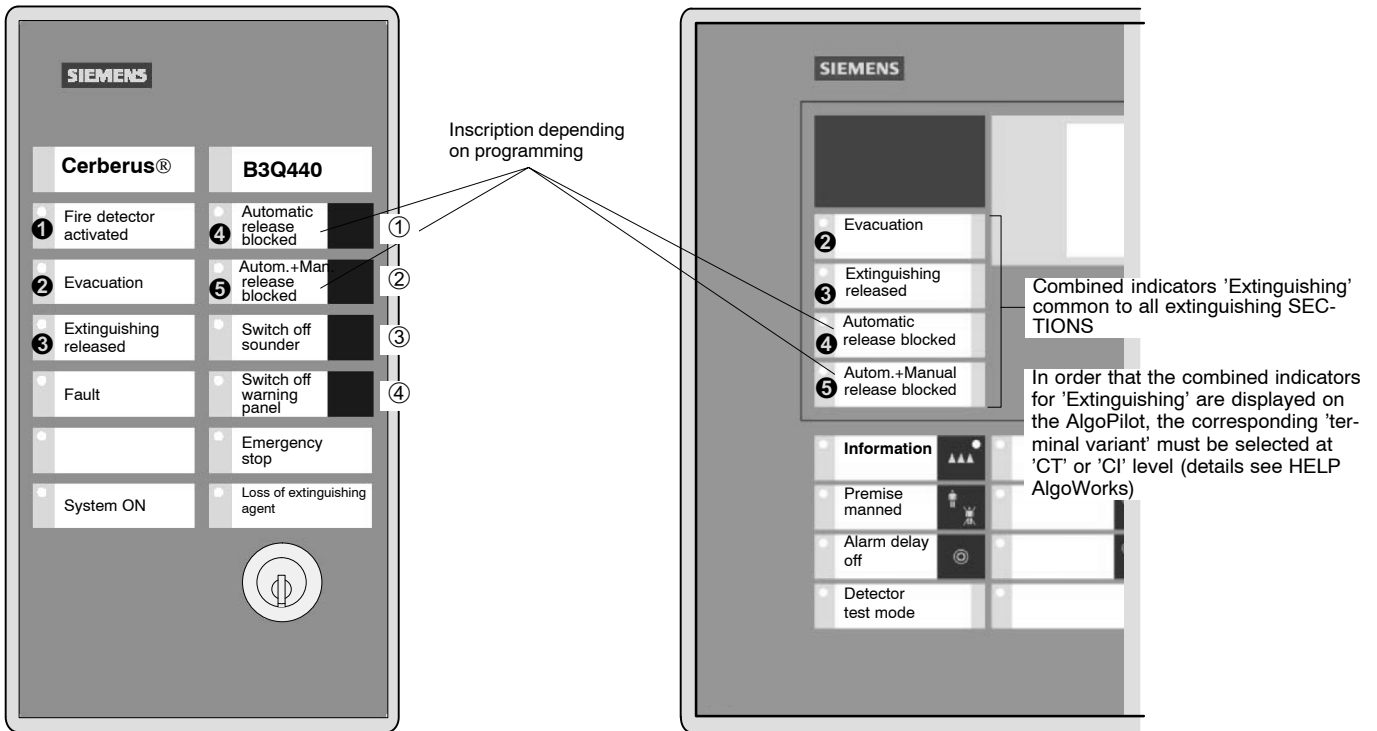
<b>Deactivating and running mode of warning panel</b> - active until reset -> continuous on - active until reset -> flashing - continuous on until switch off via 'B3Q440' ④ - flashing until switch off via 'B3Q440' ④	warning panel activated according to programming	1 9 4 12	1
<b>Extinguishing agent LOSS</b> - Autom. + manual activation of extinguishing blocked and fault - fault only	no extinguishing release extinguishing release possible	0 1	0
<b>Lines fault (open line, short circuit)</b> <b>Stop-/Blocking button // Exting. manual call point</b> - Message only // Message and autom.+ man. extinguishing blocked - Message and autom.+ manual extinguishing blocked // Message and autom.+ manual extinguishing blocked - Message only // Message only - Message and autom.+ manual extinguishing blocked // Message only	exting. release possible // no extinguishing release no extinguishing release // no extinguishing release  exting. release possible // exting. release possible no extinguishing release // exting. release possible	0 1  2 3	0
<b>LED 'Operation'</b> - inactive upon 'Fault' or 'Extinguishing blocked' - always active	—	0 1	1
<b>Key 'Switch off sounder' ③</b> - always operating - only if key switch is turned on	—	0 1	1
<b>LED 'Power supply fault'</b> - active if supply fault in CC/CI (control unit) - not used	—	0 1	1
<b>Line input 'Extinguishing blocked / Emergency stop'</b> - Extinguishing blocking - Extinguishing blocking / stop	blocking only blocking and stop	0 1	0
<b>Exting. manual call point</b> - no funktion if extinguishing is blocked - manual fire alarm if extinguishing is blocked	no extinguishing release no extinguishing release	0 1	0
<b>Emergency stop -&gt; Reset blocked</b> - Emergency stop active - Emergency stop inactive	cannot be reset after emerg. stop —	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
<b>Function Blocking keys ①, ②</b> - blocking - blocking / emergency stop - emergency stop - no funktion	no extinguishing release no extinguishing release no extinguishing release extinguishing release possible	0 1 2 3	0

1) Default values are laid down according to each country



# 6 Performance checks

## 6.1 Performance check in 'Normal operating condition'



	Test functions	The following devices are activated
1	Activate 1 fire detector in extinguishing SECTION	⇨ Alarm organization control unit (in mode 'manned' V1/V2) <ul style="list-style-type: none"> <li>- LED ❶ 'Fire detector activated'</li> <li>- Extinguishing horn</li> <li>- Fire control installations, if existing</li> </ul> <b>After 'Reset':</b> <ul style="list-style-type: none"> <li>⇨ Alarm- and reference messages must be erased</li> </ul>
2	Activate 1,2 or 3 fire detectors in the same ZONE depending on configuration  <b>Note:</b> <i>Detectors must be simultaneously on 'Danger level 3' in order that 'Evacuation' is generated.</i>	⇨ Alarm organization control unit (⇨ Remote transmission) <ul style="list-style-type: none"> <li>- LED ❶ 'Fire detector activated'</li> <li>- LED ❷ 'Evacuation'</li> <li>- Extinguishing horn</li> <li>- Illuminated warning panel</li> <li>- Fire control installations, if existing</li> <li>- Main valve</li> </ul> <b>Upon expiry of the delay period:</b> <ul style="list-style-type: none"> <li>⇨ Sector valve</li> <li>Message and LED ❸ 'Extinguishing released' (after acknowledgement)</li> </ul> <b>After 'Reset':</b> <ul style="list-style-type: none"> <li>⇨ all alarm- and reference messages must be erased</li> <li>possibly fault 'Extinguishing NOT ready'</li> </ul>

3	Activate manually	⇨ Alarm organization control unit (⇨ Remote transmission) <ul style="list-style-type: none"> <li>- LED ② 'Evacuation'</li> <li>- Extinguishing horn</li> <li>- Illuminated warning panel</li> <li>- Fire control installations, if existing</li> <li>- Main valve</li> </ul> <b>Upon expiry of the evacuation period:</b> <ul style="list-style-type: none"> <li>⇨ Sector valve</li> <li>Message and LED ③ 'Extinguishing released' (after acknowledgement)</li> </ul> <b>After 'Reset':</b> <ul style="list-style-type: none"> <li>⇨ all alarm- and reference messages must be erased</li> <li>possibly fault 'extinguishing NOT ready' + 'Glass broken'</li> </ul>
4	Activate signal 'Extinguishing activated' (if existing)	⇨ Alarm organization control unit (⇨ Remote transmission) <ul style="list-style-type: none"> <li>- LED ③ 'Extinguishing released'</li> <li>- Extinguishing horn</li> <li>- Illuminated warning panel</li> <li>- Fire control installations, if existing</li> </ul> <b>After 'Reset':</b> <ul style="list-style-type: none"> <li>⇨ all alarm- and reference messages must be erased</li> <li>possibly fault 'extinguishing NOT ready'</li> </ul>

**In addition:**

If emergency operation link E3G110 has been used

→ Set control unit to 'Emergency operation' (keep 'Restart' key on the CPU depressed)

	Test function	The following devices or functions are activated
5	Activate fire detectors in extinguishing SECTION  <b>Note:</b> <i>The detectors in the extinguishing SECTION must be divided between 2 different lines or modules.</i>	⇨ Emergency alarm at AlgoPilot 'CT11' (⇨ Remote transmission) <ul style="list-style-type: none"> <li>- LED ① 'Fire detector activated'</li> <li>- LED ② 'Evacuation'</li> <li>- Extinguishing horn</li> <li>- Illuminated warning panel</li> <li>- Main valve</li> </ul> <b>Upon expiry of the delay period:</b> <ul style="list-style-type: none"> <li>⇨ Sector valve</li> <li>- Message and LED ③ 'Extinguishing released'</li> </ul>

## 6.2 Individual control functions

	Control functions	Comment
1	Check evacuation time	<b>Dependent on parameterization</b> ⇨ must correspond to the parameterized time
2	Check alarm horn switch-off function	<b>Dependent on parameterization</b> ⇨ may only be possible either from the operating unit extinguishing 'B3Q440' or the operating unit extinguishing 'B3Q440' and AlgoPilot 'CT11' ⇨ Switch-off must always be possible except during the 'Evacuation' phase ⇨ Check whether alarm horn cannot be switched off during 'Evacuation'
3	Check illuminated warning panel switch-off function	<b>Dependent on parameterization</b> ⇨ either active until 'Reset' or active until switched off separately via the operating unit extinguishing 'B3Q440'
4	Check the duty cycle of main- and sector valve	<b>Dependent on parameterization</b> ⇨ either active until 'Reset' or active during the time specified
5	Check line monitoring	⇨ Induce a short circuit or open line for all peripheral equipment in quiescent state connected and check whether in each case a fault results ⇨ With 'valve lines' it is essential to induce open line <b>and</b> short circuit
6	Check ZONE affiliation	⇨ In each detector ZONE belonging to the extinguishing SECTION activate 1 detector and check whether the extinguishing horn is activated <b>Dependent on parameterization</b> ⇨ In each detector ZONE belonging to the extinguishing SECTION, activate 2 (or 3) detectors and check whether the 'Evacuation' phase is initiated
7	Check 'Blocking' function via AlgoPilot 'CT11' / list of functions 'SECTION'	⇨ choose list of functions 'SECTION' and check following functions: – autom. & man. activation of extinguishing BLOCKING / ENABLE – Extinguishing → REVISION / terminate – Extinguishing → TEST / terminate Here the corresponding LEDs ❶, ❷ at the operating unit extinguishing 'B3Q440' and AlgoPilot 'CT11' must always on
8	Check 'Blocking' function via operating unit extinguishing / keys ❶, ❷	⇨ Check at the extinguishing control panel whether by means of both keys ❶, ❷ activation of extinguishing can be blocked accordingly Here the corresponding LEDs ❶, ❷ at the operating unit extinguishing 'B3Q440' and AlgoPilot 'CT11' must always on

## 6.3 Notes

### Use of valve actuators

Ensure that the minimum trigger current (comply with manufacturers' instructions) can also be achieved without difficulty even with emergency power operation (operating voltage 23.5V). Balance the difference between the 'internal resistance valve actuators' (e.g. 1.5 Ω) and the 'minimum line impedance' (16Ω) with series resistor.

### Operation with emergency operation link E3G110

Never plug-in or un-plug the supply cable or I-bus flat cable on the module when power is switched on.

Ensure that the detection line only contains detectors which belong to the extinguishing SECTION.



### Important

When using the E3G110 with collective line module E3M080 **only use E3M080 from Index 'BC' onwards.**

# 7 Overview of operating functions

## 7.1 Functions 'Extinguishing control -> REVISION' and 'Extinguishing control -> TEST'

Function	Purpose	achieved	blocked
<b>Extinguishing control -&gt; REVISION</b>	Permits activation of sequence of functions <b>with-out</b> horn, illuminated warning panel and valves ('active' status visible at maintenance LEDs E3G080 see following table chapter 7.1.1) Permits the disconnection of the path 'Extinguishing released' via AlgoPilot, e.g. for the testing of third party extinguishing systems etc.	<ul style="list-style-type: none"> <li>⇨ via AlgoPilot 'CT11'</li> <li>⇨ via switch 'S1' on E3G080</li> </ul>	<ul style="list-style-type: none"> <li>⇨ Valves</li> <li>⇨ Illuminated warning panel</li> <li>⇨ Alarm horn</li> <li>⇨ Path 'Extinguishing released'</li> </ul>
<b>Extinguishing control -&gt; TEST</b>	Permits normal sequence, but without activating the valves	⇨ via AlgoPilot 'CT11'	⇨ Valves

### 7.1.1 Anzeigen Test-LEDs

LED	State	Active	Short circuit	Open line
H1	Sector valve	continuously on	rapid flashing	slow flashing
H2	Main valve			
H3	Alarm horn			
H4	Illuminated warning panel			

LEDs H1...H4 are always active

## 7.2 AlgoPilot 'CT11' list of functions 'SECTION'

Function list SECTION 'extinguishing' (based on standard text 'english international')	Notes
<b>BLOCKING autom. extinguishing</b>	⇨ also possible at operating unit extinguishing 1)
<b>ENABLING autom. extinguishing</b>	
<b>BLOCKING autom. &amp; man. exting. release</b>	⇨ also possible at operating unit extinguishing 1)
<b>ENABLING autom. &amp; man. exting. release</b>	
all DETECTOR zones -> OFF	⇨ concerns all detectors in the extinguishing SECTION
all DETECTOR zones -> ON	
all DETECTOR zones -> TEST	
all DETECTOR zones -> TEST OFF	
all DETECTOR zones -> INSTALL. TEST	
all DETECTOR zones -> INSTALL. TEST OFF	
<b>Extinguishing control -&gt; REVISION</b> <b>Extinguishing control -&gt; REVISION OFF</b>	⇨ blocks valves, horn, illuminated warning panel, acknowledgement Is also possible on E3G080 by means of switch 'S1'
<b>Extinguishing control -&gt; TEST</b> <b>Extinguishing control -&gt; TEST OFF</b>	⇨ blocks valves
<b>Initiate TEST 'horn'</b>	⇨ briefly activates alarm horn (approx. 5 sec.)
<b>Initiate TEST 'warning panel'</b>	⇨ briefly activates illuminated warning panel (approx. 5 sec.)

1) Blocking and enabling also possible 'alternating'  
Blocking via AlgoPilot 'CT11' and enabling via 'B3Q440' or vice versa

# 8 Error diagnosis

All faults at the inputs/outputs of the E3G080 are **individually** displayed at the AlgoPilot. For each of the 4 outputs an LED is provided on the E3G080 for error diagnosis (see chapter 4.2). Separate LEDs are not provided for the inputs, but a special mode enables the identification of each faulty or deactivated input and output.

## 8.1 Fault identification at the operation unit extinguishing B3Q440

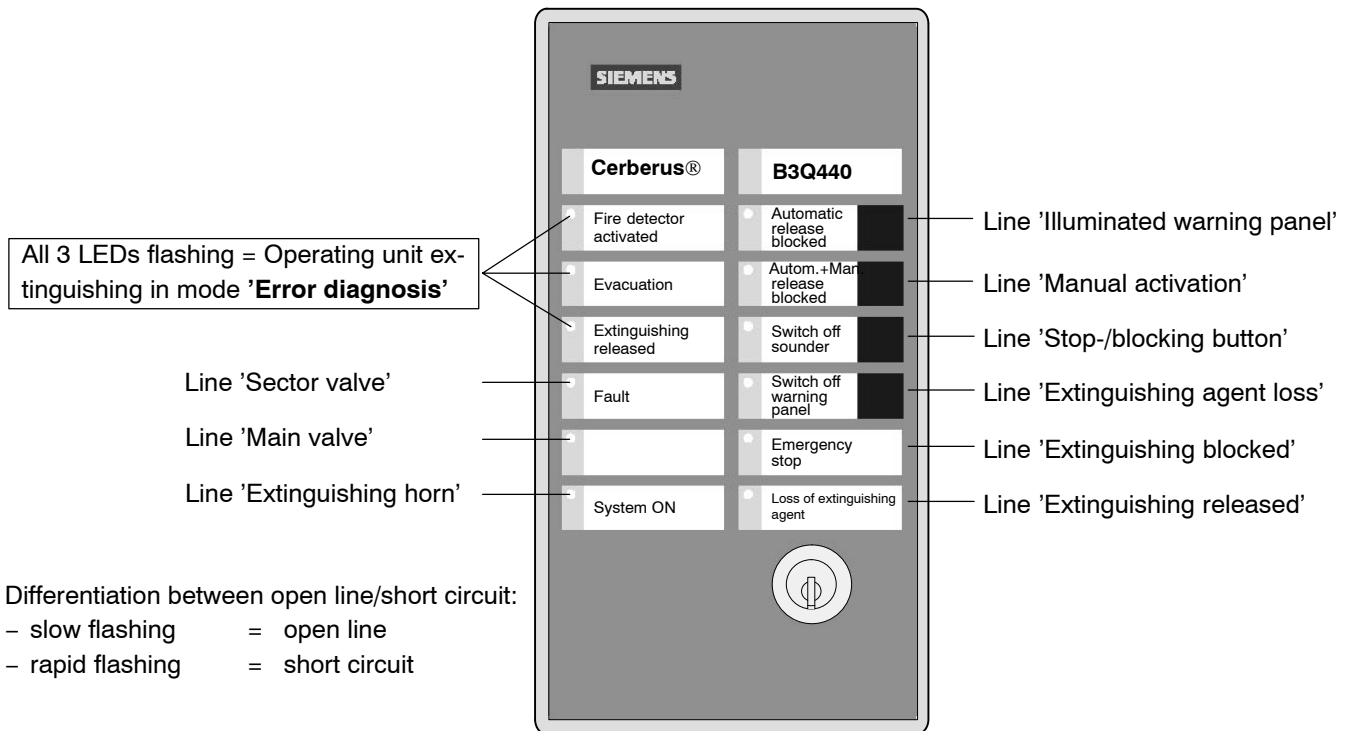


**NOTE**

Functions only when a fault is pending

**Procedure:**

1. If fault set switch 'S1' (E3G080) to 'ON'
2. Press 'S4' key (E3G080) **once**
3. LEDs 'Fire detector activated' / 'Evacuation' and 'Extinguishing released' **flash** simultaneously
4. Identify the input/output concerned according to the diagram below



5. Cancelling function: Set switch 'S1' to 'OFF'

## 8.2 Identification of fault at the E3G080

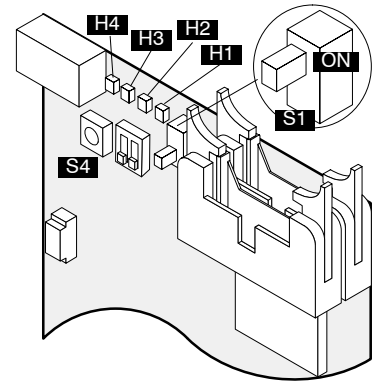


### NOTE

Functions only when a fault is pending

#### Procedure:

1. If fault, set switch 'S1' (E3G080) to 'ON'
2. Press key 'S4' (E3G080) **once**
3. LED H1, H3 and H2, H4 flash in push-pull circuit for approx. 3 sec.
4. Identify the inputs/outputs concerned according to table below
5. Set switch 'S1' to 'OFF'



**Note:** Each pending fault signal is visible approx. 4 sec. (sequential display)

Function	LED				Short circuit	Open line	De-activated
	'H1'	'H2'	'H3'	'H4'			
Sector valve delayed	●				rapid flashing	slow flashing	continuously on
Main valve non-delayed		●					
Horn	●	●					
Illuminated warning panel			●				
Manual actuation (spec. button yellow)	●		●				
Emergency stop-/Blocking button		●	●				
Loss of extinguishing agent	●	●	●				
Extinguishing blocked				●			
Extinguishing released	●			●			



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