AlgoRex® CS1140
Fire detection system
Planning
EP7F
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1 About this document

Goal and purpose
This document describes how to plan the hardware components of the CS1140 control panel. Safe applications will result from consistently following these instructions.

Scope of validity
This document contains information about all CS1140 components for ≥EP7F, including order numbers.

Target audience
This product documentation and the operating instructions are intended for the following people, who carry out a particular job and have been trained for it.

<table>
<thead>
<tr>
<th>Group of persons</th>
<th>Activity</th>
<th>Qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>The Project Manager is responsible for the local project management. He co-ordinates the schedules of all groups of people working on a project as well as resources. He also continuously obtains the technical information required for project realization.</td>
<td>He has had the technical training appropriate to his function and the size of a project or the product line used in the project and has attended the training courses for project managers at the supplier's works.</td>
</tr>
</tbody>
</table>

Reference documents

<table>
<thead>
<tr>
<th>Information in</th>
<th>Document</th>
</tr>
</thead>
<tbody>
<tr>
<td>825</td>
<td>Characteristics of collective detector lines</td>
</tr>
<tr>
<td>1204</td>
<td>Fire alarm signal in explosion-hazardous areas</td>
</tr>
<tr>
<td>001260</td>
<td>Description of hardware plug-in modules (CS1140 'Modular')</td>
</tr>
<tr>
<td>1274</td>
<td>Assembly instructions for housing series H47...</td>
</tr>
<tr>
<td>1275</td>
<td>Assembly instructions for housing series H67...</td>
</tr>
<tr>
<td>1393</td>
<td>Assembly instructions for housing series H26.../H28...</td>
</tr>
<tr>
<td>001508</td>
<td>Guidelines for connection factors, capacity, line resistance etc.</td>
</tr>
<tr>
<td>1669</td>
<td>PSA interface board, technical specification</td>
</tr>
<tr>
<td>1683</td>
<td>Lightning and surge protection for fire detection installations</td>
</tr>
<tr>
<td>1971</td>
<td>Assembly instructions for housing series H37...</td>
</tr>
<tr>
<td>004282</td>
<td>FlashTool operating instructions</td>
</tr>
<tr>
<td>008516</td>
<td>Designation strip templates for display and operating devices</td>
</tr>
<tr>
<td>A6V10062437</td>
<td>NK8000 Installation, Function &amp; Configuration, Commissioning, etc.</td>
</tr>
<tr>
<td>008478</td>
<td>Procedure for planning a Sinteso™ detector line (FD20)</td>
</tr>
</tbody>
</table>

Operational and safety regulations

Before groups of persons begin work on the system they must have read and understood the related documents, in particular Chapter 2 "Safety regulations".
Disregard of the safety regulations
Products are designed for proper use, and before they are delivered they are tested to ensure they function correctly. 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.

Conventions

(...)
Supplemental information

...
Comments

.....
Definition of descriptions

--> For details see page ...., or document .....,
Configuration sheets to be completed

E3X10.
Stands for E3X102, E3X103

E3X10x
Stands for E3X102, E3X103

Document identification

<table>
<thead>
<tr>
<th>Location</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>Title page</td>
<td>– System name</td>
</tr>
<tr>
<td></td>
<td>– Product type</td>
</tr>
<tr>
<td></td>
<td>– Document purpose</td>
</tr>
<tr>
<td>Last page bottom left</td>
<td>– Document number</td>
</tr>
<tr>
<td></td>
<td>– Date of issue</td>
</tr>
<tr>
<td>Last page bottom right</td>
<td>– Manual</td>
</tr>
<tr>
<td></td>
<td>– Register</td>
</tr>
</tbody>
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Revision history

<table>
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<tr>
<th>Version</th>
<th>Date</th>
<th>Brief description</th>
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</thead>
<tbody>
<tr>
<td>008725_h_en--</td>
<td>06.2011</td>
<td>Chap. 8.2 Option with requirements added</td>
</tr>
<tr>
<td>008725_g_en--</td>
<td>12.2010</td>
<td>Changes from E3M140 to E3M141, new diagrams of B3Q661 and battery changes</td>
</tr>
<tr>
<td>008725_f_en--</td>
<td>08.2009</td>
<td>Adjustment to EN54-2, EN54-4, minor changes</td>
</tr>
<tr>
<td>008725_e_en--</td>
<td>07.2008</td>
<td>Chap. 41.8 positioning adjusted, Chap. 41.12 K3I110 added, Chap. 38 new graphics added, minor changes</td>
</tr>
<tr>
<td>008725_d_en--</td>
<td>04.2008</td>
<td>Various corrections, order numbers changed from 6 to 10 digits, 'Asia/Pacific' component removed, E3H020 superseded by E3H021, graphics adapted, Z3S070 superseded by Z3S071, minor changes</td>
</tr>
<tr>
<td>008725_c_en--</td>
<td>10.2006</td>
<td>K1H021 is replaced by K1H022 (Cerloop application) Corrections; Z3S080 is cleared</td>
</tr>
<tr>
<td>008725_b_en--</td>
<td>04.2005</td>
<td>OSS replaced by PSP, minor changes</td>
</tr>
<tr>
<td>008725_a_en--</td>
<td>02.2005</td>
<td>Edition EP7F-Z1, replaces Quicksilver document 4595</td>
</tr>
</tbody>
</table>

Training courses

Siemens offers the training required for all products. Information about courses is available on the Siemens Intranet.

download

Current documentation is available on the Siemens Intranet.

Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSP</td>
<td>Product Support Platform</td>
</tr>
</tbody>
</table>
2 Safety regulations

This chapter describes the danger levels and the relevant safety regulations applicable for the use of our products. Please read the work instructions as well as the chapter 1 "About this document" before beginning any work.

2.1 Signal words and symbols

2.1.1 Classification and meaning of signal words

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 minor injuries!

NOTE
Possibly harmful situation!
- May cause damage to the product or to objects in the immediate vicinity of the product!

2.1.2 Symbols and their meaning

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

<table>
<thead>
<tr>
<th>Signal word</th>
<th>General dangers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Electrical voltage</td>
</tr>
</tbody>
</table>

Example of an indication of danger

DANGER
External voltage
Disconnect the component from the power supply.
2.1.3 Classification and meaning of additional symbols

- **Tips and information.**

- **STOP**
  Refers to extremely important or critical decisions to be taken into account before continuing the work.

2.2 Safety-relevant working instructions

**Country-specific standards**

The products are developed and produced in compliance with the relevant European safety standards. Should additional country-specific, local safety standards or regulations concerning 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**

<table>
<thead>
<tr>
<th><strong>DANGER</strong></th>
<th>Work on electrical installations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work on electrical installations may only be carried out by qualified electricians or by instructed persons working under the guidance and supervision of a qualified electrician, in accordance with the electrotechnical regulations.</td>
<td></td>
</tr>
</tbody>
</table>

- Control panels must be disconnected from the power supply during commissioning or maintenance work whenever possible.
- Connection terminals with an external voltage supply must be provided with a sign reading 'DANGER – External voltage'.
- Mains leads to the control panel 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 or accessories such as ladders are required, safe and suitable devices must be used.
- Spurious activation of the remote transmission must be reliably prevented.
- Always inform the fire brigade before testing the remote transmission.
- The activation of fire controls for test purposes must not cause damage to the system or parts thereof.
- Fire controls must only be activated after the test has been completed and the system has been definitely 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. These guidelines are available on request.
Testing the product operability
- Evacuate and cordon off the extinguishing sector.
- Inform people about the possibility of fogging 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 carrying out the tests.

Changes to the system configuration and products
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.

Components and spare parts
- Locally procured components and spare parts must comply with the technical specifications laid down by the manufacturer. This compliance is always ensured with original spare parts.
- Only use fuses with the specified fuse characteristics.
- Wrong battery types and improper battery changing lead to a risk 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 replaced in compliance with the local safety regulations.
### Main features of CS1140

- Fire detection system that can be configured in a modular manner
- 2150 detectors possible per CC1143; 980 detectors possible per CC1142; 600 detectors possible per CI1142
- For processing collective and addressable detectors
- Logical and physical structure totally separate
- Control panel module as main CPU (for larger systems)
- Operating terminal as main CPU (for smaller to medium-sized systems)
- Interfaces for VdS peripheral devices, printer, PSA/pager, host systems, PLC
- Different input and output modules
- Extinguishing control module that functions autonomously
- Special mimic display activation module
- Multiple detector logic
- Parameterizable detector algorithms for interactive and Sinteso™ detectors
- Central panel electronics can be installed in 4 different housing series
- Up to 16 freely selectable station types per C bus
- Convenient operation thanks to softkeys and large display
- Up to 64 independent logical AREAS (organizational levels)
- SINGLE AREA or MULTIPLE AREA operation
- Event memory with sub-menu / search functions
- Integrated real-time clock with backup battery
- Automatic summer/winter time changeover
- Integrated degraded mode function
- Flexible detector parameterization via maintenance PC

### Systems that can be connected

<table>
<thead>
<tr>
<th>AlgoRex® DS11</th>
<th>Collective</th>
</tr>
</thead>
<tbody>
<tr>
<td>AnalogPLUS</td>
<td></td>
</tr>
<tr>
<td>interactive + ex interactive + wireless (radio)</td>
<td></td>
</tr>
<tr>
<td>Sinteso™ FD20 addressed</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operation</th>
<th>CS1140 control panel pallet</th>
</tr>
</thead>
<tbody>
<tr>
<td>AlgoWorks</td>
<td>Gateway</td>
</tr>
</tbody>
</table>

### Systems that can be connected

<table>
<thead>
<tr>
<th>Operation</th>
<th>CS1140 control panel pallet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main CPU B3Q…</td>
<td>Main CPU CI11</td>
</tr>
<tr>
<td>CC11</td>
<td>E3X10x</td>
</tr>
<tr>
<td>CT11</td>
<td></td>
</tr>
</tbody>
</table>

### Features

- Windows-based configuration software
- Older detector systems
  - collective detectors MS6 / MS7 / MS9
  - Addressable detectors MS9i / MS9i-PLUS / MS716i
  - CBA8000/TS9000
## Overview of technical data for CS1140

<table>
<thead>
<tr>
<th>Operating voltage</th>
<th>115 / 230 VAC +10 % / –15 % 50...60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power consumption</td>
<td>40...320 VA (per converter B2F020) 30...350 VA (per converter B2F040)</td>
</tr>
<tr>
<td>Battery operations should the mains fail</td>
<td>Switchover without interruption</td>
</tr>
<tr>
<td>– Standard duration</td>
<td>12...24 h</td>
</tr>
<tr>
<td>– optional</td>
<td>up to 72 h (see page 99)</td>
</tr>
<tr>
<td>Ambient conditions</td>
<td></td>
</tr>
<tr>
<td>Temperature during operation</td>
<td>-5°C ... +40 °C</td>
</tr>
<tr>
<td>Air humidity</td>
<td>-20 °C... +60 °C</td>
</tr>
<tr>
<td>– Standard duration</td>
<td>max. 95%, no moisture condensation, according to 3K5 class as defined in IEC 721-3-3</td>
</tr>
<tr>
<td>IP protection category (EN 60529 / IEC 529)</td>
<td></td>
</tr>
<tr>
<td>– Control panel</td>
<td>IP50 H38 housing</td>
</tr>
<tr>
<td></td>
<td>IP30 H47/67 housing</td>
</tr>
<tr>
<td>– Remote AlgoPilot operating unit</td>
<td>IP30 H37 housing</td>
</tr>
<tr>
<td></td>
<td>IP52 H26G220 housing</td>
</tr>
<tr>
<td></td>
<td>IP40 H28G200 housing</td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
</tr>
<tr>
<td>– Control panel in housing H38... H47... H67... H88...</td>
<td>W = 520 mm, H = 602 mm, D = 100 mm / 155 mm</td>
</tr>
<tr>
<td></td>
<td>W = 434 mm, H = 735 mm, D = 300 mm</td>
</tr>
<tr>
<td></td>
<td>W = 434 mm, H = 1130 mm, D = 300 mm</td>
</tr>
<tr>
<td></td>
<td>W = 600 mm, H = 2110 mm, D = 300 mm</td>
</tr>
<tr>
<td></td>
<td>W = 366 mm, H = 219 mm, D = 76 mm</td>
</tr>
<tr>
<td>– Remote operating unit in housing H26G220 H28G200 H37G...</td>
<td>W = 520 mm, H = 300 mm, D = 70 mm</td>
</tr>
<tr>
<td></td>
<td>W = 510 mm, H = 54 mm, D = 200 mm (214 mm)</td>
</tr>
<tr>
<td>Color</td>
<td></td>
</tr>
<tr>
<td>– Control panel housing in housing H38... H47... / H67... / H88...</td>
<td>RAL 7035 light gray</td>
</tr>
<tr>
<td>– Front of AlgoPilot B3Q... operating unit</td>
<td>RAL 9006 silver, Pantone 427C, 431C gray</td>
</tr>
<tr>
<td>– Housing for operating consoles H26G220 H28G200 H28T... H37...</td>
<td>Pantone 421 gray RAL 7035 light gray IE110 dark gray RAL 7035 light gray</td>
</tr>
</tbody>
</table>
Logical and physical structure

The logical structure in the CS1140 fire detection system is totally separate from the physical structure. This allows for maximum flexibility. Display and operation are oriented towards geographical and organizational aspects and are not dependent on the detector network’s effective hardware installation.

Geographical conditions (→ building structure)

Logical structure
The logical structure is a map of a system’s geographical circumstances. It can be flexibly adapted to the building structure, room use, etc.

The logical structure within a control panel is independent of the line arrangement of the detector network.

Link
The lowest levels of the two structures are linked to one another. The physical units (e.g. detectors) at each logical or geographical location are determined.

Physical structure
The physical structure is a map of the hardware. It is provided by the hardware installation. The number of levels used depends on the hardware used.
There are 6 levels of communication in the CS1140 fire detection system:

**C bus**
- Local data bus between control panel(s), operating console(s) and gateway(s)

**I bus**
- Internal data bus between the individual plug-in modules in the control panel (line modules, control modules, etc.)

**D bus (interactive detector line / AnalogPLUS bus / collective detector line)**
- Local detector bus; links the detector with the control panel

**FDnet**
- Local device bus; links the Sinteso™ devices with the control panel

**LON bus**
- Local data bus for floor display and operating terminal, mimic display converter and I/O card

**Data bus**
- Local data bus for parallel displays, mimic displays or relays
### 6.1 Overview of buses

<table>
<thead>
<tr>
<th>Features</th>
<th>C bus</th>
<th>I bus</th>
<th>LON bus</th>
<th>Data bus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Field of application</strong></td>
<td>local system bus</td>
<td>internal in control panel</td>
<td>local data bus for floor</td>
<td>local data bus for parallel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>repeater display</td>
<td>display, mimic displays or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>relays</td>
</tr>
<tr>
<td><strong>Transfer speed</strong></td>
<td>57 kbaud</td>
<td>1000 kbaud</td>
<td>78 kbaud</td>
<td>SPI bus 2 kHz</td>
</tr>
<tr>
<td><strong>Length of line</strong></td>
<td>max. 1000 m (G51 Ø0.8: 1400m)</td>
<td>max. 3 m (inside housing only)</td>
<td>max. 500 m as free topology</td>
<td>max. 1000 m as stub line</td>
</tr>
<tr>
<td><strong>Number of participants</strong></td>
<td>... 16 C bus stations (+3 wires for degraded mode)</td>
<td>... 16 I bus plug-in modules</td>
<td>... 32 LON bus devices</td>
<td>... 24 max. 8 addresses</td>
</tr>
<tr>
<td><strong>Number of wires</strong></td>
<td>26</td>
<td>2</td>
<td>2</td>
<td>(+3 wires for supply)</td>
</tr>
<tr>
<td><strong>Cable type</strong></td>
<td>twisted</td>
<td>flat cable</td>
<td>twisted</td>
<td>twisted</td>
</tr>
<tr>
<td><strong>Loop line</strong></td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td><strong>T-branch</strong></td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td><strong>Short-circuit-proof</strong></td>
<td>yes (every participant with isolator)</td>
<td>–</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Network structure</strong></td>
<td>master/master</td>
<td>master/slave</td>
<td>master/slave</td>
<td>master/slave</td>
</tr>
<tr>
<td><strong>Prompt</strong></td>
<td>event-controlled, presence-monitored</td>
<td>event-controlled</td>
<td>presence monitoring</td>
<td>in cycles</td>
</tr>
<tr>
<td><strong>Principle</strong></td>
<td>serial bus</td>
<td>serial bus</td>
<td>network</td>
<td>serial bus</td>
</tr>
<tr>
<td></td>
<td>– Cerberus protocol</td>
<td>– Cerberus protocol</td>
<td>– Echelon chip (LON protocol)</td>
<td>– Cerberus specific telegram</td>
</tr>
<tr>
<td></td>
<td>– collision detection</td>
<td>– SPI/Motorola</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Special feature</strong></td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Features</th>
<th>D bus interactive</th>
<th>AnalogPLUS bus</th>
<th>Collective line</th>
<th>FDNet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Field of application</strong></td>
<td>for interactive detectors</td>
<td>for AnalogPLUS detectors</td>
<td>for collective MS67/9 detectors</td>
<td>for Sinteso devices</td>
</tr>
<tr>
<td><strong>Transfer speed</strong></td>
<td>4.8 kbaud</td>
<td>2 messages/sec.</td>
<td>(AC signal)</td>
<td>4 messages/sec.</td>
</tr>
<tr>
<td><strong>Length of line</strong></td>
<td>see doc. 001508 (max. 1200/300 nF)</td>
<td>see doc. 001508 (max. 1500/300 nF)</td>
<td>see doc. 001508 (max.50/150/250/4μ F)</td>
<td>see doc. 001508 (max.210/330 nF)</td>
</tr>
<tr>
<td><strong>Number of participants</strong></td>
<td>... 128 D bus devices (interactive)</td>
<td>... 128 D bus devices (AnalogPLUS)</td>
<td>... 1 address (max. 25 detectors)</td>
<td>... 126 FDnet devices (Sinteso)</td>
</tr>
<tr>
<td><strong>Number of wires</strong></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Cable type</strong></td>
<td>twisted</td>
<td>twisted</td>
<td>twisted</td>
<td>all cable types permitted</td>
</tr>
<tr>
<td><strong>Loop line</strong></td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td><strong>T-branch</strong></td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td><strong>Short-circuit-proof</strong></td>
<td>yes (participants depending on type with/without isolators)</td>
<td>yes (every participant with isolators)</td>
<td>no</td>
<td>yes (every participant with isolators)</td>
</tr>
<tr>
<td><strong>Network structure</strong></td>
<td>master/slave</td>
<td>master/slave</td>
<td>master/slave</td>
<td>master/slave</td>
</tr>
<tr>
<td><strong>Prompt</strong></td>
<td>in cycles</td>
<td>in cycles</td>
<td>in cycles</td>
<td>in cycles</td>
</tr>
<tr>
<td></td>
<td>– typ. every 3 sec.</td>
<td>– typ. every 64 sec.</td>
<td>– typ. every 32 sec.</td>
<td>– typ. every 32 sec.</td>
</tr>
<tr>
<td></td>
<td>– interrupt in event of alarm</td>
<td>– interrupt in event of alarm</td>
<td>– interrupt in event of alarm</td>
<td>– interrupt in event of alarm</td>
</tr>
<tr>
<td><strong>Principle</strong></td>
<td>sensor/actor bus</td>
<td>sensor/actor bus</td>
<td>conventional</td>
<td>sensor/actor bus</td>
</tr>
<tr>
<td></td>
<td>– Cerberus protocol ‘K51’</td>
<td>– Cerberus protocol ‘K31’</td>
<td>– current gain principle</td>
<td>– Siemens protocol ‘P2’</td>
</tr>
<tr>
<td></td>
<td>– serial 8 bit</td>
<td>– serial 8 bit</td>
<td>– voltage thresholds</td>
<td>– serial 32 bit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>– starting up: daisy-chain</td>
</tr>
<tr>
<td><strong>Special feature</strong></td>
<td>detector parameters</td>
<td>–</td>
<td>–</td>
<td>diff. parameter sets can be chosen</td>
</tr>
</tbody>
</table>

1) calibrated for cable impedance: 50 Ω (MICC) / 110 Ω (G51, Ø0.8 mm not shielded)
2) 500 nF for unshielded cables
7 C bus stations

Max. 16 stations (participants) can be operated in the C bus network.
- Any stations (CC, CI, CT, CK) in any arrangement are possible below the limits stated below
- max. 64 AREAS

- 4 different types of stations
- loop line max. 1400 m with G51 ø 0.8 mm

7.1 Station

- Participants on C bus network
- Several stations can be accommodated in the same housing or housings distributed geographically.

7.2 Station type

- Distinguished by function and illustrated by a particular component
- Certain components can be used for different station types

Station types available:
- CI11 Combination of main CPU and operating unit (AlgoPilot)
- CC11 Main CPU
- CT11 Operating unit (AlgoPilot)
- CA11 Parallel operating unit
- CK11 Gateway (e.g. conversion from C bus protocol → CERLOOP protocol)
7.3 Meaning of the endings 42, 43

- Provides information about the outline quantities (see section 8) or the size of the RAM available:
  - Cx1142 2x512Kx8 bits
  - Cx1143 4x512Kx8 bits

7.4 Hardware

<table>
<thead>
<tr>
<th>Station type</th>
<th>Component</th>
<th>Function 'Main CPU'</th>
<th>Function 'Operation'</th>
<th>Function 'Gateway'</th>
</tr>
</thead>
<tbody>
<tr>
<td>CI1142</td>
<td>AlgoPilot B3Q661/681/686</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>CC1142</td>
<td>E3X102</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC1143</td>
<td>E3X103</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT1142</td>
<td>AlgoPilot B3Q661/681/686</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>CA1142</td>
<td>AlgoPilot B3Q661/681/686</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CK1143</td>
<td>E3H021</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

→ Components for 'Asia/Pacific'

<table>
<thead>
<tr>
<th>Station type</th>
<th>Component</th>
<th>Function 'Main CPU'</th>
<th>Function 'Operation'</th>
<th>Function 'Gateway'</th>
</tr>
</thead>
<tbody>
<tr>
<td>CI1143</td>
<td>AlgoPilot B3Q566</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>CT1143</td>
<td>AlgoPilot B3Q566</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>CA1142</td>
<td>AlgoPilot B3Q566</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.5 Parallel operating unit

One parallel ('CA') operating unit can be connected to each AlgoPilot ('CT'/‘CI’) operating unit.

7.5.1 General features/limitations

- The connected parallel operating unit simulates (mirrors) the standard operating unit (same mapping)
- The standard operating unit and parallel operating unit can be operated at the same time
- Permits > 16 operations per C bus network
- Serial communication (RS232), i.e. can only be activated via a stub line (no safety circuit)
- Monitored at both ends for communication breakdowns
- Recommended modem types: Zyxel xxx. Other modems: To be assessed locally for the case in hand

7.5.2 'CA' parallel operating unit

- Same hardware as the standard operating unit B3Q661/681/686/566
- As of EP7F all AlgoRex terminal types and character sets are supported
- For software required see page 21
7.5.3 'CT11 visualizer for WINDOWS' remote control software

- For operating platform needed, see document 006824
- Terminal types supported: B3Q661/681/686/566
- For details, also see document A6V10225450
### 7.6 Logical AREAS

- Max. 4 AREAS can be configured within one CPU ('CI' or 'CC').
- CPU-wide AREAS are not possible.
- CPU-wide controls are possible.
- Operating units ('CT'/CI') can be assigned to any AREAS.
- Gateway assignments should only be made per station, not per AREA! In order to avoid CERLOOP address problems, a C bus station must not be split over two gateways!
8 Planning conforming to EN54-2

8.1 Binding functions

When planning the fire control panel, ensure that binding functions are planned correctly in accordance with standard EN54-2 (e.g. detection, alarming, remote transmission).

No more than one binding function may fail in the event a simple fault on fire control panels with more than 512 detectors. When using bus-based I/O modules in particular, ensure that binding functions are not concentrated on one line but spread over various lines. We would highly recommend using loop technology.

8.2 Options with requirements

The following options with requirements are available on fire detection system Algorex CS1140. The chapter numbers belong to EN54-2.

Indications:
- 7.13 Alarm counter
- 8.3 Fault signals from points
- 8.4 Total loss of the power supply

Controls:
- 7.11 Delays to outputs
- 7.12.2 Dependencies on more than one alarm signal Type B
- 9.5 Disablement of addressable points
- 10 Test conditions

Outputs:
- 7.8 Output to fire alarm devices
- 7.9.1 Output to fire alarm routing equipment
- 7.10.1 Outputs to fire protection equipment Type A
- 7.10.2 Outputs to fire protection equipment Type B
- 7.10.3 Outputs to fire protection equipment Type C
- 8.9 Output to fault warning routing equipment

Inputs:
- 7.9.2 Alarm confirmation input from fire alarm routing equipment
- 7.10.4 Fault monitoring of fire protection equipment

8.3 Outputs for triggering fire controls

In accordance with EN54-2, the state of the fire protection equipment (fire controls) of types B (without confirmation) and C (with confirmation) must be displayed using separate light-emitting display elements. The freely programmable LED on the B3Q661/B3Q681/B3Q686 can be used for this purpose. The active state must be displayed separately for fire controls which are controlled and those with confirmation, using one red LED in each case. If type B and C fire controls occur at the same time or if freely programmable LEDs are used elsewhere, a parallel display B3R051 should be provided.
9 Outline quantities of C bus participants

This section describes the limits of the various station types in terms of quantities. Any performance limits which may be dependent on outline quantities are not covered.

▶ The details provided in the relevant Release Notes or the corresponding edition of this document should be used for earlier EPs with the exception of the ‘Maximum number of links in control objects 4 and 6 (RAM)’ section of this document which applies as of EP4.

The station type is selected depending on the prevailing requirements. The following variants are available:

<table>
<thead>
<tr>
<th>Station type</th>
<th>Components</th>
<th>Flash ROM (2x1024Kx8 bits)</th>
<th>SRAM soldered in</th>
<th>EPROM kit</th>
<th>RAM set</th>
</tr>
</thead>
<tbody>
<tr>
<td>CI1142</td>
<td>AlgoPilot B3Q661/681/686</td>
<td>CI500xxx</td>
<td>2x512Kx8 bits</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>CI1143</td>
<td>E3X102</td>
<td>CCO0xxx</td>
<td>2x512Kx8 bits</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>CC1143</td>
<td>E3X103</td>
<td>CCO0xxx</td>
<td>4x512Kx8 bits</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>CT1142</td>
<td>AlgoPilot B3Q661/681/686</td>
<td>CTO00xxx</td>
<td>2x512Kx8 bits</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>CA1142</td>
<td>AlgoPilot B3Q661/681/686</td>
<td>CAX00xxx</td>
<td>2x512Kx8 bits</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>CK1143</td>
<td>E3H021</td>
<td>CKY00xxx</td>
<td>8x512Kx8 bits</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

▶ ‘Asia/Pacific’ components

<table>
<thead>
<tr>
<th>Station type</th>
<th>Components</th>
<th>Flash ROM (2x1024Kx8 bits)</th>
<th>SRAM soldered in</th>
<th>EPROM kit</th>
<th>RAM set</th>
</tr>
</thead>
<tbody>
<tr>
<td>CI1143</td>
<td>AlgoPilot B3Q566</td>
<td>CIYT1xxx</td>
<td>4x512Kx8 bits</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>CT1143</td>
<td>AlgoPilot B3Q566</td>
<td>CTTY1xxx</td>
<td>4x512Kx8 bits</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>CA1143</td>
<td>AlgoPilot B3Q566</td>
<td>CAYT1xxx</td>
<td>4x512Kx8 bits</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

National variants of program files: 00 = international; T1 = China simple; TE = China traditional; TL = Korea standard; T5 = Thailand
9.1 Main CPU (CI/CC) limitation

The limits within the station types are given by hard- and software. Verify all given limits for each required station by going through this flow chart.

Maximum number of devices per station (RAM)
This limitation is for the CI1142, CC1142, CC1143 station types and depends on how the logical structure is formed. The limit values, depending on the estimated average number or ELEMENTS per OBJECT, can be found in the following diagram.

**Max. number of devices**

<table>
<thead>
<tr>
<th>ELEMENTS per OBJECT (average)</th>
<th>CI1142 (B3Q460/480/670)</th>
<th>CC1142</th>
<th>CI1143</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: Average of 3 ELEMENTS per OBJECT
Result: Max. 3000 devices

Example: Average of 5 ELEMENTS per OBJECT
Control panel assignment: 300 devices
Free memory space: 600 devices (-200 reserve) (For use of this value, see page 26 'Max. number of texts')

| Important: |
| The curve is for the values entered for EP5. |
| The above limit value must however be corrected downwards for the following configuration. |

Number of OBJECTS per SECTION (on average) < 3

<table>
<thead>
<tr>
<th>CI1142:</th>
<th>CC1142:</th>
<th>CC1143:</th>
</tr>
</thead>
<tbody>
<tr>
<td>–15 %</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Use of ELEMENT texts

<table>
<thead>
<tr>
<th>CI1142:</th>
<th>CC1142:</th>
<th>CC1143:</th>
</tr>
</thead>
<tbody>
<tr>
<td>–20 %</td>
<td>–10 %</td>
<td>–10 %</td>
</tr>
</tbody>
</table>
Outline quantities of C bus participants

New definition of the number of devices to count:

<table>
<thead>
<tr>
<th>Structure</th>
<th>Number of devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>● D bus participants with their own D bus address (e.g. DOT1151, DO1131, DM1154, DCW1151, DOW1171...)</td>
<td>1</td>
</tr>
<tr>
<td>● FDnet participants with their own FDnet address (e.g. DOOT2x1, DO2x1, DM2x1, DS221 ...)</td>
<td>1</td>
</tr>
<tr>
<td>● Every used input or output of a FDnet, interactive or AnalogPLUS line module</td>
<td>2</td>
</tr>
<tr>
<td>Example: DC1157 with 3 inputs (\rightarrow) 6 devices</td>
<td></td>
</tr>
<tr>
<td>DC1154 with 1 output and 1 input for confirmation message (\rightarrow) 4 devices</td>
<td></td>
</tr>
<tr>
<td>DC1222 with 4 inputs (\rightarrow) 8 devices</td>
<td></td>
</tr>
<tr>
<td>DCIO222 with 4 outputs and 4 inputs (\rightarrow) 16 devices</td>
<td></td>
</tr>
<tr>
<td>● Purely logical controls: Every 'Control ELEMENT' or 'Control OBJECT' that is not directly linked to a channel</td>
<td>2</td>
</tr>
<tr>
<td>● Collective lines (e.g. 1 line of the E3M080 plug-in module)</td>
<td>2</td>
</tr>
<tr>
<td>● Inputs of plug-in modules (e.g. E3X10x (\rightarrow) Q4, E3L020 (\rightarrow) I2, K51110 (\rightarrow) LONin, external LON device (\rightarrow) LONin))</td>
<td>2</td>
</tr>
<tr>
<td>● Outputs of plug-in modules (e.g. E3X10x (\rightarrow) Q3, E3G050 (\rightarrow) Q1, K51110 (\rightarrow) LONout, external LON device (\rightarrow) LONout)</td>
<td>2</td>
</tr>
<tr>
<td>● Parallel displays/mimic displays (equipped with up to 384 LEDs / relays)</td>
<td>20</td>
</tr>
</tbody>
</table>

Limitation in the logical structure
The limits of the logical structure depend on the node type, the highest possible CSX number and the maximum number of digits on the display. These limits are provided by the system and are not dependent on the size of memory.

'Limits of logical structure' table

<table>
<thead>
<tr>
<th>Maximum number of AREAS per STATION</th>
<th>Maximum number of SECTIONS per AREA</th>
<th>Maximum number of OBJECTS per SECTION</th>
<th>Maximum number of ELEMENTS per OBJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>... 4</td>
<td>... 255</td>
<td>... 255</td>
<td>... 99 International 5: ... 255</td>
</tr>
</tbody>
</table>

Maximum number of links in control objects 4 and 6 (RAM)
1 to 16 links can be programmed to activate control object 4 or 6. Every link needs a particular volume of RAM.
The maximum number of links is therefore limited as shown in the following diagrams. Important:
- If controls are produced which span several CPUs (control object 6), all links must be counted twice: Once in the control panel from which they originated and once in the control panel to which they are linked.

Note:
- In order to optimize the performance of your system, you must keep the number of controls spanning several CPUs as low as possible.
- Max. 40 controls spanning several CPUs (control object 6) are permitted per C bus.
Example:
CI1142 with 150 control objects with an average of 9 links.

The intersect between the number of control objects (150) and the number of links (9) must fall within the permitted area.

'Limit values for controls' diagram for CI1142 and CC1142

Number of links per control object

'Limit values for controls' diagram for CC1143

Number of links per control object

Maximum number of time channel OBJECTS
A maximum of 16 time channel OBJECTS are permitted per station.

Maximum number of I bus components

<table>
<thead>
<tr>
<th>Station type</th>
<th>CI1142</th>
<th>CC1142</th>
<th>CC1143</th>
</tr>
</thead>
<tbody>
<tr>
<td>I bus components</td>
<td>16 1)</td>
<td>16 1)</td>
<td>16 1)</td>
</tr>
<tr>
<td>1) Limitation due to software</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Approximate value (depending on housing size and/or 5V power consumption)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Battery charging element (integrated in E3X10x) counts as one I bus plug-in module</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Outline quantities of C bus participants

Limitation due to 5V power consumption
All I bus components are supplied with 24 V and 5 V. The power available for the 5 V supply is limited after the CPU:

<table>
<thead>
<tr>
<th>'Main CPU'</th>
<th>Power available</th>
</tr>
</thead>
<tbody>
<tr>
<td>E3X10x</td>
<td>1.100mA</td>
</tr>
<tr>
<td>B3Q... / E3C011</td>
<td>250mA</td>
</tr>
</tbody>
</table>

'5 V power consumption of I bus components' table

<table>
<thead>
<tr>
<th>I bus component</th>
<th>Power consumption after 'CPU'</th>
<th>I bus component</th>
<th>Power consumption after 'CPU'</th>
</tr>
</thead>
<tbody>
<tr>
<td>E3M060</td>
<td>34mA</td>
<td>E3G060</td>
<td>10mA</td>
</tr>
<tr>
<td>E3M071</td>
<td>34mA</td>
<td>E3G070</td>
<td>10mA</td>
</tr>
<tr>
<td>E3M080</td>
<td>55mA</td>
<td>E3G080</td>
<td>35mA</td>
</tr>
<tr>
<td>E3M111</td>
<td>25mA</td>
<td>E3C011</td>
<td>12mA</td>
</tr>
<tr>
<td>E3M171</td>
<td>45mA</td>
<td>B3Q321</td>
<td>8mA</td>
</tr>
<tr>
<td>E3M120</td>
<td>65mA</td>
<td>E3I020*</td>
<td>100mA</td>
</tr>
<tr>
<td>E3L020</td>
<td>10mA</td>
<td>E3I040</td>
<td>70mA</td>
</tr>
<tr>
<td>E3L030</td>
<td>35mA</td>
<td>K3I090*</td>
<td>1mA</td>
</tr>
<tr>
<td>E3G050</td>
<td>8mA</td>
<td>E3M141</td>
<td>5mA</td>
</tr>
<tr>
<td>E3H021**</td>
<td>--</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Is not an I bus component but is also supplied by the 'CPU'
** Is supplied via 24 V.

The limit values for the operating unit (CT/CI), gateway (CK) and additional AlgoWorks programs must also be checked!
9.2 Operating unit limitation (CT/CI)

define the required number of control terminals by going through this flow chart

Maximum number of texts
There is a limit to the number of texts of external stations (or AREAS) which can be displayed on an operating unit (CT/CI). The following calculation must be applied:

\[
\text{number of texts} = 2 \times \text{number of visible SECTIONS} + \text{number of visible OBJECTS} + \text{number of visible ELEMENTS with element text}
\]

'CT1142' limit value (B3Q661/681/686)
The maximum number of texts is fixed at 8500.

'CI1142' limit value (B3Q661/681/686)
The maximum number of texts depends on how many devices there already are in the control panel configuration:

Number of texts per 100 non-configured devices

The limit values for the station (CI/CC), gateway (CK) and additional AlgoWorks programs must also be checked!

Example:
Average number of ELEMENTS per OBJECT: 5 = 540 texts per 100 devices
Free memory space: 600 devices (according to example shown in diagram in section 9.1)
9.3 Gateway limitation (CK)

- **check gateway configuration**

  **Memory limitation (RAM)**

  - CK1143 (E3H021):
    - suitable for stations CI1142, CC1142, CC1143

  **Limitation of CERLOOP address range**

  Max. 8 C bus stations (CI/CC) can be addressed by one gateway.
  If there are more than 8 C bus stations (CC/CI), then these must be split over 2 gateways.

  More than 2 gateways can also be configured for special applications.

  The visibility of C bus stations (CC/CI) on gateways may only be defined per station, and not per area!

  ➔ The limit values for the station (CI/CC), the operating unit (CT/CI) and additional AlgoWorks programs must also be checked!
10 Establishing the hardware needed

The key system data must be known in order to determine the hardware needed:

1. Define number and type of detector lines  
   ➔ Depending on:  
   – Detector series  
   – Number of detectors, input and output modules  
   – Building structure

2. Define number and type of fire controls  
   ➔ Depending on:  
   – The fire protection installations to be controlled  
   – Location of contacts (central or decentralized)  
   – Contact type of the individual contacts (250 V AC/10 A or 30 V DC/1 A)

3. Define number and type of operating units  
   ➔ Depending on:  
   – Operating concept  
   – Language of operating front  
   – Parallel displays, fire brigade operating units

4. Options  
   ➔ Depending on:  
   – Printer interface and printer  
   – PSA/pager interface  
   – Remote transmission device  
   – Gateway, etc.

5. Define capacity of emergency power battery  
   ➔ Depending on:  
   – Total quiescent current  
   – Emergency power needed for operating period (country-specific)  
   – Type of remote transmission

6. Define housing type  
   ➔ Depending on:  
   – Number and type of plug-in modules  
   – Optional devices needed  
   – Number and type of sets of batteries

7. Produce configuration sheet(s) (see page 113)  
   – Select sheets corresponding to configuration  
   – Complete everything
11 Selecting the appropriate control panel

With a suitable normal application, the control panel housing required can be derived from the outline quantities of the main CPU.

<table>
<thead>
<tr>
<th>Station type</th>
<th>Housing H38G220</th>
<th>Housing H38G320</th>
<th>Housing H47...</th>
<th>Housing H67...</th>
<th>Housing H98...</th>
</tr>
</thead>
<tbody>
<tr>
<td>CI1142</td>
<td>~</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CC1142</td>
<td>~✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CC1143</td>
<td>~</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

✓ suitable
~ suitable to a limited extent (check)

<table>
<thead>
<tr>
<th>H38G220</th>
<th>H38G320</th>
<th>H47...</th>
<th>H67...</th>
<th>H98...</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
<td><img src="image5.png" alt="Image" /></td>
</tr>
</tbody>
</table>

CI1142 -> page 31 CI1142 -> page 33 CC1142/43 -> page 37 CC1142/43 -> page 41 CC1142/43 -> page 60

Operating unit compulsory in housing front

Operating unit not compulsory in housing front
Compact control panel in flat design
- Connected directly to the plug-in modules
- Only a very limited selection of options can be fitted
- Batteries: 2x 12 V/15 Ah
- Operating unit fitted in front (serves as main CPU at the same time)
- Additional display devices cannot be fitted
- Doors hinged on right, can be locked with 2 Allen screws

For details of H38... housing --> see section 20
H38G220 components

Control and operating unit

- B3Q...
- H26T...
- Z5B...
- E3G070  5466610001 'Universal' control plug-in module

Line plug-in modules

- Depending on detector series

LON plug-in module

- For details of floor repeater display -> see page 78

Control plug-in modules

- If more than 7 programmable control outputs are needed

Interfaces

- If there is space to fit

Power supply

- For calculating the emergency power operation duration, see page 99

Housing/options

- 'Doors with cut-out' housing kit
- Compulsory or H23B040

- Brief operating instructions instead of H23B010
- Compulsory

- Needed for connection between levels (e.g. items 28 -> 38)

- Needed per plug-in module (E3H021 2 items)

- Intermediate relay for fire controls (max.6)
13 CI1142 in housing H38... (low)

- Compact control panel
- Connected directly to the plug-in modules
- Designed for a few plug-in modules, but large batteries and options being fitted
- Batteries: either 2x 12 V/15 Ah or 2x 12 V/24 Ah
- Operating unit fitted in front (serves as main CPU at the same time)
- Additional display devices can be fitted
- Doors hinged on right, can be locked with 2 Allen screws

For details of H38... housing → see section 20
CI1142 in housing H38... (low)

CT1142
(additional operating facilities)

H38G320 components
Control and operating unit
B3Q... AlgoPilot operating console
H26T... Plexi glass doors for AlgoPilot B3Q...
Z5B... Labeling kit
E3G070 5466610001 'Universal' control plug-in module
Line plug-in modules ➔ Depending on detector series
For details of line plug-in modules → see page 63
LON plug-in module
Control plug-in modules ➔ If more than 7 programmable control outputs are needed
For details of control plug-in modules → see page 72
Interfaces ➔ If there is space to fit
E3H021 A5Q00024660 'CERLOOP' gateway
Double Euroboard (2 plug-in slots) → see page 82
E3I020 4602390001 RS232 plug-in module
For connecting B2Q191 printer or external printer
K3I090 5108200001 PSA interface board
For connecting PSA/pager and internal/external printer
Power supply ➔ For calculating the emergency power operation duration, see page 99
B2F020 A5Q00025281 Converter 115/230 V AC →29.6 V DC, 6 A
E3C011 5054790001 Plug-in battery charging module
FA2006-A1 A5Q00019356 12 V/24 Ah battery
FA2005-A1 A5Q00019677 12 V/15 Ah battery
Z3I450 4842730001 'CH' mains socket
Housing/options
H38G320 4849430001 'Doors with cut-out' housing kit
For details of housing → see page 57
H23B010 4762100001 Cover
Compulsory or H23B040
H23B040 4845900001 Information module
Brief operating instructions instead of H23B010
B3Q321 5656840001 'CH' fire brigade operating unit
CH only
B3R051 4905130001 '2x24 displays' parallel display
Option
E3G070 5466610001 'Universal' control plug-in module
Line plug-in modules
Z3I470 4843410001 Cable set for H38...
Compulsory
Z3I380 4755670001 I bus flat cable + 'long' supply cable
Needed for connection between levels
(e.g. items 28 ↔ 38)
Z3I030 4842310001 Terminal block with board holder for CI11
Z3B171 4843830001 1 x 250 V AC/10 A relay module
Intermediate relay for fire controls (max.6)

Prefabricated control panel
CI1142-NL 5469880001 Control panel in H38 housing
Prefabricated for 'NL' only
14 CI1142 in housing H47...

- Removable system control panel
- Separate connector panel (not recommended without connector panel)
- Space to fit options
- Batteries: either 2x 12 V/24 Ah or 2x 12 V/38 Ah
- Operating unit fitted in front (serves as main CPU at the same time)
- Additional display devices can be fitted
- Doors hinged on right with lock (DOM type)

Note:
E3I020 if used, mount at position 36!
If Z3I041 or B3P020 is used, on Pos. 36 E3M060/071/171/120 and E3C011 not possible.

Mounting of E3C011:
Terminal block and holder containing in cable set Z3I510

EMC Precaution:
Relative to each E3C011 module position, two positions to the right and two positions to the left must not be fit with either E3I040 or E3G080 modules

Important:
Comply with max. permissible number of ‘nodes’ + i-Bus modules!
-> Details see chapter ‘Outline quantities’

For details of H47... housing --> see section 21
H47G611 components

Control and operating unit

- B3Q... AlgoPilot operating console
- B26T... Flexi glass doors for AlgoPilot B3Q...
- Z5B... Labeling kit
- E3G070 5466610001 "Universal" control plug-in module

Line plug-in modules

- If depending on detector series

LON plug-in module

- If more than 7 programmable control outputs are needed

Control plug-in modules

- If there is space to fit
  - E3H021 A5Q0002466001 ‘CERLOOP’ gateway
  - E3I020 4602390001 RS232 plug-in module
  - K3I090 5108200001 PSA interface board

Power supply

- For calculating the emergency power operation duration, see page 99
  - B2F020 4992340001 Converter 115/230 V AC ->24 V DC, 6 A
  - B2F060 5112850001 Converter 115/230 V AC ->24 V DC, 4.5 A
  - E3C011 5054790001 Plug-in battery charging module
  - FA2006-A1 A5Q00020936 12 V/24 Ah battery
  - FA2007-A1 A5Q00022897 12 V/38 Ah battery
  - Z3I450 4842730001 'CH' mains socket
  - Z3I1040 A5Q00004129 'CH' remote transmission kit
  - Z3I041 4962900001 Surge arrester kit

Housing/options

- 'Doors with cut-out' housing kit
  - H47G611 4953850001
  - H23B010 4762100001 Cover
  - H23B040 4845900001 Information module
  - H3Q321 5656840001 ‘CH' fire brigade operating unit
  - B3R051 4905130001 '2x24 displays' parallel display
  - Z3I510 4848460001 9-wire connection cable with board holder, 0.5 m
  - Z3I100 A5Q00007486 19-wire connection cable with board holder, 1 m
  - Z3I060 5258020001 4-wire connection cable with board holder, 0.5 m
  - Z3I100 A5Q00007486 10-wire connection cable with board holder, 0.5 m
  - Z3B171 4843830001 1 x 250 V AC/10 A relay module
  - Z3I330 4751560001 Terminal block, 2x20 terminals
  - Z3I420 4962900001 10-wire connection cable with board holder, 0.5 m
  - Z3G220 5258440001 Marine kit
  - Z3G240 5329500001 Kit for increased vibrations
CC1142/43 in housing H47...

- Removable system control panel
- With separate main CPU (E3X10.)
- Separate connector panel (not recommended without connector panel)
- Space for options
- Batteries: either 2x 12 V/24 Ah or 2x 12 V/38 Ah
- Operating unit usually remote (can be fitted in doors)
- Doors hinged on right with lock (DOM type)

Mounting of E3X10.:
Terminal block for E3X10. containing in cable set Z3I350+ 2 x Z11030

Note: E3I020 if used, mount at position 32!

If Z3I041 or B3P020 is used, on Pos. 36 E3M060/071/171/120 and E3C011 not possible!

Important:
Comply with max. permissible number of 'nodes' + I-Bus modules!
-> Details see chapter 'Outline quantities'

For details of H47... housing -> see section 21
For details of protective elements, modem filter -> see section 38, 29
CC1142/43 in housing H47...

H47G601 and H47G611 components

Control and operating unit
- E3X102 6290250001: Control panel module
- E3X103 6290380001: Control panel module
- B3Q... 5108200001: PSA interface board

Flash program files
- CCX00xxx (PSP): Flash program file
- CCY00xxx (PSP): Flash program file
- CKY00xxx (PSP): Flash program file

Line plug-in modules
- Depending on detector series
- For details of line plug-in modules

LON plug-in modules
- If more than 7 programmable control outputs are needed
- For details of control plug-in modules

Extinguishing module and operating unit
- E3H021 65000024660: 'CERLOOP' gateway
- E3H020 6708900001: RS232 plug-in module
- K3I090 5108200001: PSA interface board
- K3I110 5108200001: PSA interface board

Power supply
- B2F020 54050025681: Converter 115/230 V AC -> 29.6 V DC, 6 A
- B1F120 4952330001: Converter 115/230 V AC -> 24 V DC, 3 A
- B2F060 5112850001: Converter 115/230 V AC -> 24 V DC, 4.5 A
- Z3I450 4842730001: 'CH' mains socket
- Z3I041 4962900001: Surge arrester kit

Housing/options
- H47G601 4953720001: 'Doors without cut-out' housing kit
- H47G611 4953850001: 'Doors with cut-out' housing kit
- H47E100 4748850001: Complete component carrier
- H23B040 4845900001: Information module
- B3Q321 5656840001: 'CH' fire brigade operating unit
- B3R051 5805130001: '2x24 displays' parallel display
- Z3I350 5108200001: Cable set for H47/H67
- Z3I380 5108200001: I bus flat cable + 'long' supply cable
- Z1I020 6754990001: 9-wire connection cable with board holder, 0.5 m
- Z1I030 6755000001: 19-wire connection cable with board holder, 0.5 m
- Z1I060 5258020001: 4-wire connection cable with board holder, 0.5 m
- Z1I100 54000007466: 10-wire connection cable with board holder, 0.5 m
- Z3I171 4843930001: 1 x 225 V AC/10 A relay module
- Z3I330 4751560001: Terminal block, 2x20 terminals
- Z3I420 4843930001: Back-up terminal block
- Z3G220 5258440001: Marine kit
- Z3G240 5258950001: Kit for increased vibrations

Prefabricated control panel
- CC1142-NL 5469910001: Control panel in H47 housing

- Prefabricated for 'NL' only
15.1 Extra power supply in second H47 housing

Application example:
Supplementary power supply on module chassis H47E110 using three H15Z300 battery support plates

Remarks:
- Place housings next to or on top of each other (do not install at a distance)
- the additional E3C011 are not used as I-Bus equipment
- use one Z3I870 cable set per supplementary power supply

→ H47G611 or H47E100 and H47T111 housing kit —> for details, see section 21
→ Details of principle wiring for power supply —> see chapter 35

Options needed
- H47E110  4761840001 Component carrier empty
- H47T101  4953560001 Housing frames + doors without cut-out
- B2F020  A5Q00025281 Converter 115/230 V AC ->29.6 V DC, 6 A
- E3C011  5054790001 Plug-in battery charging module
- H15Z300  4761970001 Retaining plate for batteries
- FA2006-A1 A5Q00019356 12 V/24 Ah battery
- FA2007-A1 A5Q00022897 12 V/38 Ah battery
- Z3I870  4969440001 Cable kit

For the second and other sets of batteries
For additional power supply
15.2 Cable kits for additional power supply in H47 housing

The Z3I870 cable kit can always be used to wire the additional power supply. The cable kit contains all the cables and wires needed for connections to the next extension.

Details of wiring -> see document 001260
CC1142/43 in housing H67...

- Removable system control panel
- With separate main CPU (E3X10.)
- Separate connector panel
- Space for options
- Batteries: either 2x 12 V/24 Ah or 2x 12 V/38 Ah
- Operating unit usually remote (can be fitted in doors)
- Doors hinged on right with lock (DOM type)

Special feature:
H67E100 has 3 different hole patterns for mounting. As a result, the relationship between connection block / modules / batteries can also be arranged differently.

Important:
Comply with max. permissible number of 'nodes' + I-Bus modules!
> Details see chapter 'Outline quantities'

- For details of H67... housing → see section 22
- For details of protective elements, modem filter → see section 38, 29
H67G601 and H67G611 components

Control and operating unit

- E3X102 6290250001 Control panel module
- E3X103 6290380001 Control panel module
- B3Q... AlgoPilot operating console
- H26T... Flexi glass doors for AlgoPilot B3Q...
- Z5B... Labeling kit

Flash program files

- CCX00xxx (PSP) Flash program file
- CCY00xxx (PSP) Flash program file
- CKY00xxx (PSP) Flash program file

Line plug-in modules

- For more than 7 programmable control outputs are needed

Control plug-in modules

- For connecting PSA/pager and int/ext. printer
- For connecting B2Q191 printer or external printer

Extinguishing module and operating unit

- If there is space to fit
- Double Euroboard (2 plug-in slots) -> see page 82
- For connecting B2Q191 printer or external printer

Power supply

- For calculating the emergency power operation duration, see page 99

Extinguishing unit

- For details of extinguishing unit -> see page 87

Housing/options

- For details of housing -> see page 59
- With remote operating unit
- For fitting operating unit

Prefabricated control panel

- Prefabricated for 'NL' only

CC1142/43 in housing H67...

Building Technologies 008725_h_en__
Fire Safety & Security Products 06.2011
### 16.1 Possible forms of installation on component carrier H67...

**Special feature:**

H67E101 is designed with 3 continuous perforated rasters. The connector panel / plug-in module / battery split can thereby be arranged differently.

- Rasters for plug-in modules
- Rasters for relays and terminal blocks
- Rasters for cable ducts
- Rasters for accumulators

#### 16.2 Installation variants

<table>
<thead>
<tr>
<th>3 levels, plug-in module spaces</th>
<th>2 levels, plug-in module spaces</th>
<th>2 levels, connector panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 levels, connector panel</td>
<td>3 levels, connector panel</td>
<td>1 level, power supply</td>
</tr>
<tr>
<td>1 level, power supply</td>
<td>2 levels, connector panel</td>
<td>2 levels, power supply</td>
</tr>
</tbody>
</table>

### Connections

<table>
<thead>
<tr>
<th>Cable duct</th>
<th>Connection panel</th>
<th>Modules</th>
<th>Batteries</th>
</tr>
</thead>
<tbody>
<tr>
<td>H67G601 or H67G611</td>
<td></td>
<td></td>
<td>(Battery 12 V)</td>
</tr>
<tr>
<td>Battery (12 V)</td>
<td>FA2006-A1 or FA2007-A1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3X10. * 2 * Z10 * 193 * 233 * 350</td>
<td></td>
<td></td>
<td>(Battery 12 V)</td>
</tr>
<tr>
<td>FA2006-A1</td>
<td>FA2006-A1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z10 * 193 * 233</td>
<td>Z10 * 193 * 233</td>
<td></td>
<td>(Battery 12 V)</td>
</tr>
<tr>
<td>FA2006-A1</td>
<td>FA2006-A1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z10 * 193 * 233</td>
<td>Z10 * 193 * 233</td>
<td></td>
<td>(Battery 12 V)</td>
</tr>
<tr>
<td>FA2006-A1</td>
<td>FA2006-A1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z10 * 233 * 350</td>
<td>Z10 * 233 * 350</td>
<td></td>
<td>(Battery 12 V)</td>
</tr>
<tr>
<td>FA2006-A1</td>
<td>FA2006-A1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z10 * 233 * 350</td>
<td>Z10 * 233 * 350</td>
<td></td>
<td>(Battery 12 V)</td>
</tr>
<tr>
<td>FA2006-A1</td>
<td>FA2006-A1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z10 * 233 * 350</td>
<td>Z10 * 233 * 350</td>
<td></td>
<td>(Battery 12 V)</td>
</tr>
<tr>
<td>FA2006-A1</td>
<td>FA2006-A1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z10 * 233 * 350</td>
<td>Z10 * 233 * 350</td>
<td></td>
<td>(Battery 12 V)</td>
</tr>
<tr>
<td>FA2006-A1</td>
<td>FA2006-A1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z10 * 233 * 350</td>
<td>Z10 * 233 * 350</td>
<td></td>
<td>(Battery 12 V)</td>
</tr>
<tr>
<td>FA2006-A1</td>
<td>FA2006-A1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
16.3 Possible combinations

Z3G170 = 4x H67E101
H47E100/110
H47 + H67 housing or H98 housing
32 plug-in module spaces
3 battery kits
5 universal carriers

Note:
The following mech. components cannot be fitted on G1E010:
– Z1I040...
– Z1K020/030
– Z3I330

Details for component carrier:
H67E101 → see page 59
H47E100 → see page 58

Profile rail on rear of H98G600
H67E101 or H47E100/110
G1E010
5xG1E010

If the H67E101 component carrier is installed in a third-party housing or in a H98 housing, the H67Z020 shielding hood must always be used to comply with CE requirements.

Note:
Slide the B2F020 converter up one raster

Attention:
H67Z020 is only suitable for H67E101 and H67E111 plug-in modules 38/48/58 cannot be used.
For the B2F020 → E3X10 connection, use the H67Z020 cable provided.
16.4 Additional power supply

Application example:
Auxiliary power supply on H47E110 module chassis using three H15Z300 battery support plates

Options needed
- H47E110 4761840001 Component carrier empty
- H47T101 4653560001 Housing frames + doors without cut-out
- B2F020 A5Q00025281 Converter 115/230 V AC >29.6 V DC, 6 A
- E3C011 5054790001 Plug-in battery charging module
- H15Z300 4761970001 Retaining plate for batteries
- FA2006-A1 A5Q00019356 12 V/24 Ah battery
- FA2007-A1 A5Q00022897 12 V/38 Ah battery
- Z3I870 4969440001 Cable kit

Remarks:
- Place housings one above the other (do not install at a distance)
- The additional E3C011 are not used as I-Bus equipment
- Use one Z3I870 cable set per auxiliary power supply

For details of H47.../H67.../H98... housing -> see section 21, 22, 23
Details of principle wiring for power supply -> see chapter 35
16.5 Cable kits for additional power supply

The Z3I870 cable kit can always be used to wire the additional power supply. The cable kit contains all the cables and wires needed for connections to the next extension.

Details of wiring → see document 001260
There are 2 different forms of operating unit, the standard terminal and the comfort terminal. Standard and comfort terminals can be mixed in the same system configuration.

<table>
<thead>
<tr>
<th>Application range</th>
<th>Comfort terminals</th>
<th>Standard terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td><img src="image1.png" alt="B3Q661" /></td>
<td></td>
</tr>
<tr>
<td>Nordic</td>
<td><img src="image2.png" alt="B3Q681" /></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td><img src="image3.png" alt="B3Q686" /></td>
<td></td>
</tr>
<tr>
<td>Asia/Pacific</td>
<td><img src="image4.png" alt="B3Q566" /></td>
<td></td>
</tr>
</tbody>
</table>
17.1 Features

<table>
<thead>
<tr>
<th>Features</th>
<th>Comfort terminals</th>
<th>Standard terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large backlit display with plain text readout (LCD 240x128 points) for very user-friendly use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Context and system status-controlled convenient operation using softkeys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating and display elements split functionally and ergonomically</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detailed event information like type of event, location of event, measure text, operating modes etc. (same message principle on both terminals, even if using a mixed installation!)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated emergency operation function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insertable designation strips in different languages</td>
<td>✅</td>
<td></td>
</tr>
<tr>
<td>Access authorization via 4 different operating levels, depending on user profile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can be configured as single AREA or multiple AREA operating unit</td>
<td></td>
<td>✅</td>
</tr>
<tr>
<td>Access authorization via password or key switch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Options:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Lockable Plexi glass doors H26T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- RS232 plug-in module E3I020 or PSA interface board K3I090</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- I bus/LON bus converter E3I040 for LON devices (floor repeater displays etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Parallel display B3R051</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

→ See outline quantities section 9.2

17.1.1 Plexi glass doors for AlgoPilot B3Q6../566

AlgoPilot B3Q6../566

Comfort terminal

For locking doors and/or access authorization to operating unit
17.1.2 Positioning of E3I020 RS232 plug-in module and PSA interface board K3I090

RS232 plug-in module E3I020 is secured to the rear of the operating terminal using option Z1B020.

For installation details for E3I020, see document 1393

The PSA interface board K3I090 is secured to the rear of the operating terminal using option Z1B060.

→ For installation details for K3I090, see document 1669

Z1B020:

- 12-pole socket terminal strip

Scope of supply for Z1B020:

- 12-pole socket terminal
- Installation material
- Shielding hood

Use flat cable F20A020

17.1.3 Positioning E3I040 I bus/LON plug-in module

LON plug-in module E3I040 connected on I bus of a remote AlgoPilot 'CT' can only be installed in housing H28G200

→ For installation details for E3I040, see document 1393

Scope of supply for Z1B070:

- Installation bracket with board holder and terminal block numbered in red
- I bus flat cable and supply cable
## 17.1.4 Components and labeling kits for B3Q6../566

<table>
<thead>
<tr>
<th>AlgoPilot operating terminal</th>
<th>B3Q661</th>
<th>A5000020708</th>
<th>'International' operating terminal</th>
<th>Operating unit and main CPU at the same time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B3Q681</td>
<td>SS4371-F12-A1</td>
<td>'Nordic' operating terminal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B3Q686</td>
<td>SS4371-F11-A1</td>
<td>'CH' operating terminal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B3Q566</td>
<td>SS4371-F13-A1</td>
<td>'China' operating terminal</td>
<td></td>
</tr>
</tbody>
</table>

### Flash program file for operating unit (CT,...)

<table>
<thead>
<tr>
<th>CTX00xxx</th>
<th>(PSP)</th>
<th>'International' Flash program file for B3Q661, B3Q68x</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYT1xxx</td>
<td>(PSP)</td>
<td>'China simple' Flash program file for B3Q566</td>
</tr>
<tr>
<td>CYTExxx</td>
<td>(PSP)</td>
<td>'China traditional' Flash program file</td>
</tr>
<tr>
<td>CYT1xxx</td>
<td>(PSP)</td>
<td>'Korea standard' Flash program file</td>
</tr>
<tr>
<td>CYT5xxx</td>
<td>(PSP)</td>
<td>'Thaiand' Flash program file</td>
</tr>
</tbody>
</table>

### Flash program file for parallel operating unit (CA,...)

<table>
<thead>
<tr>
<th>CAX00xxx</th>
<th>(PSP)</th>
<th>'International' Flash program file for B3Q661, B3Q68x</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAYT1xxx</td>
<td>(PSP)</td>
<td>'China simple' Flash program file for B3Q566</td>
</tr>
<tr>
<td>CAYTExxx</td>
<td>(PSP)</td>
<td>'China traditional' Flash program file</td>
</tr>
<tr>
<td>CAYT1xxx</td>
<td>(PSP)</td>
<td>'Korea standard' Flash program file</td>
</tr>
<tr>
<td>CAYT5xxx</td>
<td>(PSP)</td>
<td>'Thaiand' Flash program file</td>
</tr>
</tbody>
</table>

### Flash program file for operating unit and CPU at the same time (CI,...)

<table>
<thead>
<tr>
<th>CIX00xxx</th>
<th>(PSP)</th>
<th>'International' Flash program file for B3Q661, B3Q68x</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIYT1xxx</td>
<td>(PSP)</td>
<td>'China simple' Flash program file for B3Q566</td>
</tr>
<tr>
<td>CIYTExxx</td>
<td>(PSP)</td>
<td>'China traditional' Flash program file</td>
</tr>
<tr>
<td>CIYTLxxx</td>
<td>(PSP)</td>
<td>'Korea standard' Flash program file</td>
</tr>
<tr>
<td>CIYT5xxx</td>
<td>(PSP)</td>
<td>'Thaiand' Flash program file</td>
</tr>
</tbody>
</table>

### Available labeling kits (if no designation strips are available -> use templates from document 006516)

<table>
<thead>
<tr>
<th>Z5B415</th>
<th>5706530001</th>
<th>'Portuguese' labeling kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z5B435</td>
<td>5706660001</td>
<td>'Dutch' labeling kit</td>
</tr>
<tr>
<td>Z5B505</td>
<td>5706790001</td>
<td>'Turkish' labeling kit</td>
</tr>
<tr>
<td>Z5B525</td>
<td>5706800001</td>
<td>'German CH' labeling kit</td>
</tr>
<tr>
<td>Z5B535</td>
<td>5706950001</td>
<td>'German D' labeling kit</td>
</tr>
<tr>
<td>Z5B545</td>
<td>A5000004396</td>
<td>'Italian CH' labeling kit</td>
</tr>
<tr>
<td>Z5B555</td>
<td>5707050001</td>
<td>'Italian I' labeling kit</td>
</tr>
<tr>
<td>Z5B565</td>
<td>5707180001</td>
<td>'French CH' labeling kit</td>
</tr>
<tr>
<td>Z5B585</td>
<td>5707210001</td>
<td>'French F' labeling kit</td>
</tr>
<tr>
<td>Z5B595</td>
<td>5707340001</td>
<td>'Danish' labeling kit</td>
</tr>
<tr>
<td>Z5B605</td>
<td>5707470001</td>
<td>'Finnish' labeling kit</td>
</tr>
<tr>
<td>Z5B615</td>
<td>5707500001</td>
<td>'Norwegian' labeling kit</td>
</tr>
<tr>
<td>Z5B625</td>
<td>5707630001</td>
<td>'Swedish' labeling kit</td>
</tr>
<tr>
<td>Z5B635</td>
<td>5707760001</td>
<td>'English' labeling kit</td>
</tr>
<tr>
<td>Z5B645</td>
<td>5707890001</td>
<td>'English GB' labeling kit</td>
</tr>
<tr>
<td>Z5B655</td>
<td>5707920001</td>
<td>'Spanish' labeling kit</td>
</tr>
<tr>
<td>Z5B665</td>
<td>5706400001</td>
<td>'Hebrew' labeling kit</td>
</tr>
</tbody>
</table>

#### Options

| H26T030  | 5705300001 | Plexi glass doors for AlgoPilot | Including installation options |
| Z3S200   | 5703490001 | Key switch module for AlgoPilot (KABA) | For accessing operating unit |
| V2G050   | 5706110001 | Cable for 9 V lithium battery | To fault display should the mains and emergency power battery fail |

| B3R051   | 4905130001 | '2x24 displays' parallel display |

### Options for RS232 interface and PSA interface board to all AlgoPilots

| E3I020  | 4602390001 | RS232 plug-in module | To connect a printer -> see page 90 |
| Z1B020  | 4759070001 | Installation options for E3I020 | Compulsory for installation of E3I020 on rear of AlgoPilot B3Q. |
| F20A020 | 4763170001 | 20-wire 0.165 m 'Micro' flat cable | E3I020 -> B3Q. connection if E3I020 is on rear of B3Q. |
| K3I090  | 5108200001 | PSA interface board | For connecting PSA/pager and internal/external printer – see page 94 |
| Z1B060  | 5259840001 | Installation options for K3I090 | Compulsory for installation of K3I090 on rear of AlgoPilot B3Q. |

### Options for E3I040 to connect to I bus of AlgoPilot CT11 in housing H28G200

| E3I040  | 4993100001 | LON plug-in module | Converter between I bus and LON bus |
| Z1B070  | A5000001720 | Installation options for E3I040 | Compulsory for installation of E3I040 in housing H28G200 |
17.2 Installation options

### Installed in H23/H26 housing
- **H23G230**
- **H26G220**

**Measurements:**
- (H23)
  - W = 125
  - H = 219
  - D = 76

**Measurements:**
- (H26)
  - W = 366
  - H = 219
  - D = 76

Recessed mounting → see page 55

### Installed in H28 housing
- **H28T110**
- **H28G200**

**Measurements:**
- W = 520
- H = 300
- D = 70

### Installed in H37 housing
- **H37G410**
- **H37G420**

**Measurements:**
- H37G410
  - W = 510
  - H = 540
  - D = 200

**Measurements:**
- H37G420
  - W = 510
  - H = 540
  - D = 214

**AlgoPilot B3Q...**

### Installed in H38 housing
- **H38G220**

**Measurements:**
- W = 515
- H = 602
- D = 88 (H38G220)
- D = 147 (H38G320)

Alternatively
- **H23B020**
- **H23B040**
- **B3Q321**
- **B3R051**
- **H23B010**
- **H23B040**

### Installed in 19” cabinet
- **G2A130**
- **B3Q...**
- **G2A140**

**19” cabinet**

Alternatively
- **H23B020**
- **H23B040**
- **B3Q321**
- **B3R051**

Recessed mounting → see page 55

**B2F020**

**Z3I470**

**E3C011**

**FA2005-A1**

**B3Q...**

**B3Q321**

**B3R051**

**H23B010**

**H23B040**

**H28G200**

**H28T120**

**4 x B3R051**

**H37G410**

**H37G420**

**G2A130**

**B3Q...**

**G2A140**

**19” cabinet**

Alternatively
- **H23B020**
- **H23B040**
- **B3Q321**
- **B3R051**
Components

AlgoPilot B3Q.../S66 operating terminal

B3Q... AlgoPilot operating terminal
CT/CI/CA Flash program file
ZSB... Labeling kit

Additional display and operating devices
B3Q321 5656840001 'CH' fire brigade operating unit
B3R051 4905130001 '2x24 displays' parallel display

Housing H23/H26/H28/H37/H38/H67/H98../19” For details of housing → see page 54 – 61

Options
V2G050 5706110001 Cable for 9 V lithium battery
V2G040 4759230001 Cable for 9 V lithium battery
E3I020 4602390001 RS232 plug-in module
Z1B020 4759070001 Installation options for E3I020 / B3Q...
K3090 5108200001 PSA interface board
Z1B060 5259640001 Installation options for K3090
Z3I530 4849720001 Adapter to K3R071/72, B3R051
F12A100 4952750001 'Micro' 12-pole, 0.4 m flat cable
F12A470 4952880001 'Micro' 12-pole, 1.5 m flat cable
E3I040 4993100001 LON plug-in module
Z1B070 A5Q00001720 Installation options for E3I040

Autonomous power supply
B2F020 A5Q00025281 Converter 115/230 V DC ->29.6 V DC, 6 A
B2F040 5102990001 Converter 115/230 V DC ->29.6 V DC, 3.5 A
E3C011 5054790001 Plug-in battery charging module
FA2005-A1 A5Q00016677 12 V/15 Ah battery
Z3I470 4843410001 Cable set for H38...

For AlgoPilot B3Q... connection with E3C011
17.3 Connection lines between control panel and external operating units

Options:
- B3Q321 (Fire department control terminal)
- B3R051 (Parallel indicators)
- E3I040 (LON interface)
- Printer, PSA/Pager

2..11 leads

Loop C-Bus
- max. 1000m per Loop with ø 0.6mm G51 (incl. return line)
- max. 1400m per Loop with ø 0.8mm G51 (incl. return line)

Control unit CC11/CI11

When planning a system, the following condition must be observed:
At least one operating unit must satisfy the EN54 standard, i.e. be equipped with degraded mode and emergency supply.

EN54 requirements:
- Communication as loop line → design C bus as loop line
- Operation even during degraded mode → 3 extra wires for emergency operation
- Second disconnected 24 V supply → 3 extra wires or autonomous supply

The number of wires in the connection cable depends on usage and the distances between the stations:
- Is the operating unit supplied with 24 V by the control panel or autonomously?
- Is an emergency supply according to EN54 also managed?
- Is the degraded mode path (emergency operation) also managed?

<table>
<thead>
<tr>
<th>Application</th>
<th>C bus</th>
<th>24 V supply</th>
<th>Emergency power supply</th>
<th>Degraded mode path</th>
<th>Number of wires</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 V supply as of control panel EN54 satisfied</td>
<td>● (2 wires)</td>
<td>● (3 wires)</td>
<td>● (3 wires)</td>
<td>● (3 wires)</td>
<td>11</td>
</tr>
<tr>
<td>24 V supply as of control panel without degraded mode and emergency supply</td>
<td>● (2 wires)</td>
<td>● (3 wires)</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Autonomous power supply EN54 satisfied</td>
<td>● (2 wires)</td>
<td>● (3 wires)</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Autonomous power supply without degraded mode and emergency supply</td>
<td>● (2 wires)</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Notes:
- Degraded mode path also needed between CPUs or to a remote gateway
- Degraded mode path and emergency supply are not designed as loop line
- Emergency supply via separate cable or C bus return

17.4 Voltage supply (24 V)

- The AlgoPilot B3Q... operating units are designed for the 20..30 V DC voltage range
- The maximum current at 24 V is 400 mA
- Max. lengths of line (approximate values):
  - With cable of ø 0.8 mm → 180 m
  - With cable cross-section of 1 mm² → 360 m
- The power requirement for the options (fire brigade operating unit, parallel display, printer, PSA/pager, LON plug-in unit) must also be taken into account


Housing range H23... / H26... / H28...

H23G230:
Measurements 125 x 219 x 76 mm
Material Plastic
Color Pantone 421 gray
Protection category IP40

H26G220:
Measurements 366 x 219 x 76 mm
Material Plastic
Color Pantone 421 gray
Protection category IP40

H28...:
Measurements 520 x 300 x 70 mm
Material Steel sheet
Color Housing: RAL7035 light gray
Doors 1E110 dark gray
Protection category IP30

For parallel displays (4x B3R051), with lock (DOM)

For operating unit B3Q... / B3R051 / cover H23B020 with lock (DOM)

For printer B2Q191 with lock (DOM)

For plan compartment (A4); For installation B3R051 / cover H23B020 etc., with lock (KABA)

With lock (KABA)

→ All doors are hinged on the left!
→ For details of housings H23../H26.../H28... → see document 1393
18.1 Recess-mounting of H23G230 and H28G200

![Image of H23G230, H23U230, H28G200, and H28Z280 components]

2 Opening in wall

→ For details of housings H23../H26../H28... → see document 1393

Components

Housings and doors

- **H23G230** 4750910001 Plastic housing For additional display and operating devices
- **H26G220** 4628000001 Plastic housing For remote AlgoPilot B3Q... operating console
- **H28G200** 4099440001 Housing (without doors) For various applications
- **H28T020** 4105640001 Housing doors for printer B2Q191
- **H28T110** 4749820001 Housing doors for AlgoPilot B3Q... / B3R...
- **H28T120** 4749950001 Housing doors for 4 B3R051 parallel displays
- **H28T130** 4759100001 Housing doors for plan compartment and 1x B3Q321 / B3R051 etc.
- **H28T150** 4843670001 Housing doors without cut-out with KABA lock
- **H23B020** 4762780001 Cover for H28T110/130

Options for recessed mounting

- **H28Z010** 4105930001 Recessed frame kit For recessed mounting of housing H28G200
- **H28Z020** 4136000001 Recessed mounting intermediate piece With recessed mounting, also for 2 x H28G200 under one another
- **H23U230** 5328790001 Recess-mounted box for B3Q5xx For recessed mounting of housing H23G230
- **H23Z230** 5328820001 Recess-mounted frame for B3Q5xx/B3R051 For recessed mounting of housing H23G230
- **UPR28** 4304340001 Recess-mounted box For 1 housing H28G200 (may be needed)
- **UPR29** 4304470001 Recess-mounted box For 2 housings H28G200 one under the other (may be needed)
### Housing range H37...

#### Components

**Housing**
- **H37G410** 5339590001 Housing for AlgoPilot B3Q... (flat doors)
- **H37G420** 5341070001 Housing for AlgoPilot B3Q... (designer doors)
- **H37G430** 5339620001 Housing for special applications
- **H37T000** 5334670001 Inner door for special applications
- **H37T120** 5657230001 Inner doors for housing H37G420
- **H37Z010** 5339750001 Spacer

**Housing**
- **H37G410**
  - Measurements: 540 x 510 x 200 mm
  - Material: Steel sheet
  - Color: RAL7035 light gray
  - Protection category: IP30

**Housing**
- **H37G420**
  - Measurements: 540 x 510 x 214 mm
  - Material: Steel sheet
  - Color: RAL7035 light gray
  - Protection category: IP30

**Housing**
- **H37G430**
  - Measurements: 540 x 510 x 200 mm
  - Material: Steel sheet
  - Color: RAL7035 light gray
  - Protection category: IP30

**Housing**
- **H37T000**
  - Measurements: 540 x 510 x 200 mm
  - Material: Steel sheet
  - Color: RAL7035 light gray
  - Protection category: IP30

---

1. For AlgoPilot B3Q...
2. Housing and inner doors for special applications
3. Spacer for installing 2 or more housings next to one another
4. Inner doors for housing H37G420, glass front printed in Swedish

> Details of housings H37... → see document 1971
Housing range H38...

H38G210: Doors can be locked with 2 Allen screws

H38G210/220/230:
- Measurements: 520 x 602 x 100 mm
- Material: Steel sheet
- Color: RAL7035 light gray
- Protection category: IP40

H38G310/320:
- Measurements: 520 x 602 x 155 mm
- Material: Steel sheet
- Color: RAL7035 light gray
- Protection category: IP40

Components

<table>
<thead>
<tr>
<th>Housing kits</th>
<th>Description</th>
<th>Included Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>H38G210 4849010001</td>
<td>'Doors without cut-out' (flat) housing kit</td>
<td>Including component carrier</td>
</tr>
<tr>
<td>H38G220 4849140001</td>
<td>'Doors with cut-out' (flat) housing kit</td>
<td>Including component carrier and 2 profile rails for 2 x 3 relays</td>
</tr>
<tr>
<td>H38G230 4849270001</td>
<td>'Plan compartment' housing kit</td>
<td>Including retaining bracket</td>
</tr>
<tr>
<td>H38G310 4849300001</td>
<td>'Doors without cut-out' (deep) housing kit</td>
<td>Including component carrier and 1 profile rail for 16 relays</td>
</tr>
<tr>
<td>H38G320 4849430001</td>
<td>'Doors with cut-out' (deep) housing kit</td>
<td>Including component carrier and 1 profile rail for 16 relays</td>
</tr>
</tbody>
</table>

1 For AlgoPilot B3Q...
2 For H23B010 or H23B040 → see page 31
3 For B3Q321 / B3R051 / H23B010 or H23B040 → see pages 33 and 51

Details of housings H38... → see document 1273
Housing range H47...

21 Housing range H47...

Including component carrier with:
- Cable ducts
- Z3I330 terminal blocks
- Relay rails (max. 8x Z3B171)
- Mains terminals (pre-wired)
- Retaining plate for batteries

Doors can be locked with DOM lock

H47G601/611:
Measurements 434 x 735 x 300 mm
Material Steel sheet
Color RAL7035 light gray
Protection category IP30

1 For AlgoPilot B3Q...
2 For B3Q321 / B3R051/H23B010 or H23B040 → see pages 31, 37 and 51

→ Details of housings H47... → see document 1274

Components
Complete housing kits (with component carrier)
H47G601 4953720001 'Doors without cut-out' housing kit
H47G611 4953850001 'Doors with cut-out' housing kit
H47T101 4953560001 Housing frames and doors without cut-out
H47T111 4953690001 Housing frames and doors with cut-out
H47E100 4748850001 Component carrier for H47...

Housings, component carriers and options (individual parts)
H47T111 4953690001  Housing frames and doors with cut-out
H47E110 4761840001 Component carrier for H47... 'Empty'
H15Z300 4761970001 Retaining plate for batteries
Z1K020 4754860001 Terminal block and board holder
Z3S090 4969570001 Key switch options (no locking cylinder)

Including cable ducts, mains terminals and battery retaining plate
For non-standard applications
For H47E110; max. 3 items per component carrier (= 3 pairs of batteries)
Without cables (for connecting directly to the plug-in module)
For subsequent retooling of DOM
→ KABA/KESO/SEA etc.
**Housing range H67...**

Including component carrier with:
- Cable ducts
- Mains terminals (pre-wired)
- Retaining plate for batteries

Doors can be locked with DOM lock

**H67T101/H67T111:**
- Measurements 434 x 110 x 300 mm
- Material Steel sheet
- Color RAL7035 light gray
- Protection category IP30

1. For AlgoPilot B3Q...
2. For B3Q321/B3R051/H23B010 or H23B040 -> see pages 31, 37 and 51

⇒ Details of housings H67... -> see document 1275

### Components

**Complete housing kits (with component carrier)**
- H67G601 4955500001 ‘Doors without cut-out’ housing kit
- H67G611 4956600001 ‘Doors with cut-out’ housing kit
- H67G620 5778630001 ‘Doors without cut-out’ housing kit for marine

**Housings, component carriers and options (individual parts)**
- H67T101 4956150001 Housing frames and ‘doors without cut-out’
- H67T111 4956280001 Housing frames and ‘doors with cut-out’
- H67E101 5097050001 Component carrier for H67...
- H67Z020 4969020001 Shielding hood for H67E...
- H15Z300 4761970001 Retaining plate for batteries
- Z1K020 4754860001 Terminal block and board holder
- Z3S090 4969570001 Key switch options (no locking cylinder)

- Z1K020 4754860001 Terminal block and board holder
- Z3S090 4969570001 Key switch options (no locking cylinder)

- Including cable ducts, mains terminals and battery retaining plate
- For H67E110; max. 5 items per component carrier (= 5 pairs of batteries)
- Without cables (for connecting directly to the plug-in module)
- For subsequent retooling of DOM -> KABA/KESO/SEA etc.
Housing range H98...

23 Housing range H98...

→ for details, see document 654 / ZH4.2

Doors can be locked with KABA lock 1057-25

Note:
To conform to CE requirements, the H67Z020 cover cap must be used

Mechanical components for H98 housing

Cabinet H98...

H98G600 4161280001 Housing 42HE with base
H98T000 4161310001 42HE doors, hinged on right, no windows
H98T020 4594150001 42HE doors, hinged on left, no windows
H98Z010 4167060001 Pair of cover strips for H98G600
H15Z200 4971600001 Folder pocket for H98T...

Component carrier
H67E101 5097050001 Component carrier for H67... 'complete' With cable ducts and battery retaining plate
H67E111 5097180001 Component carrier for H67... 'Empty' For non-standard applications
H67Z020 4969020001 Shielding hood for H67E...

H47E100 4748850001 Component carrier for H47... 'complete' With cable ducts and battery retaining plate
H47E110 4761840001 Component carrier for H47... 'Empty' Without cable ducts and battery retaining plate
H15Z300 4761970001 Battery retaining plate for H47E110
H67Z020 4969020001 Shielding hood for H67E...

Options for front installation
H28V000 3795820001 Beams for 19" / 6HE adaptation
H28V010 3795660001 Hinge for 19" / 6HE adaptation for G2F031

Options for installation on rear wall
Z3G170 4762230001 Installation options for H47E.../H67E... For securing to rear wall (profile) → see page 44
G1E010 3842760001 Universal carrier 3HE For securing options
Components

19" options

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z3B180</td>
<td>4762070001</td>
<td>19&quot; adapter kit for H47E.../H67E...</td>
</tr>
<tr>
<td>Z2G030</td>
<td>3781980001</td>
<td>19&quot;/6HE hinge</td>
</tr>
<tr>
<td>G2A130</td>
<td>4750880001</td>
<td>19&quot;/6HE adapter plate</td>
</tr>
<tr>
<td>G2A140</td>
<td>4842280001</td>
<td>19&quot;/6HE adapter plate</td>
</tr>
<tr>
<td>G2F031</td>
<td>4092900001</td>
<td>19&quot;/6HE front frame</td>
</tr>
</tbody>
</table>

Consisting of hinge and spacer profile

For AlgoPilot B3Q...

For B3R051 / B3Q321 etc.

For printer B2Q191
25 Principle of internal pre-wiring

Components

Cables, terminals

Z1I020 4754990001 Connection cable, 9-wire, 0.5 m Prefabricated cables with board holder for H47...
Z1I030 4755090001 Connection cable, 19-wire, 0.5 m Prefabricated cables with board holder for H47...
Z1I040 4755120001 Connection cable, 9-wire, 0.8 m Prefabricated cables with board holder for H67...
Z1I050 4755250001 Connection cable, 19-wire, 0.8 m Prefabricated cables with board holder for H67...
Z1I060 5258020001 Connection cable, 4-wire, 0.5 m Prefabricated cables with board holder for H47...
Z1I070 5258150001 Connection cable, 4-wire, 0.8 m Prefabricated cables with board holder for H67...
Z1I100 A5Q00007485 Connection cable, 10-wire, 0.5 m Prefabricated cables with board holder for H47...
Z1I110 A5Q00007487 Connection cable, 10-wire, 0.8 m Prefabricated cables with board holder for H67...
Z1K020 4754860001 Terminal block with board holder for H47/H67 Without cables, for direct connection
There are different line plug-in modules for the various detector systems:

- E3M071 for interactive detectors
- E3M171 for interactive 'Ex' detectors
- E3M120 for CBA8000/TS9000 detectors
- E3M111 for AnalogPLUS detectors
- E3M060 for MS9i detectors
- E3M080 for collective detectors (limit value detectors)
- E3M141 for Sinteso™ devices
## 26.1 Overview of recording periphery

<table>
<thead>
<tr>
<th>Interactive</th>
<th>Interactive Ex</th>
<th>AnalogPLUS</th>
<th>Collective</th>
<th>MS9i</th>
<th>FD20</th>
<th>E3M141</th>
</tr>
</thead>
<tbody>
<tr>
<td>E3M071</td>
<td>E3M171 1)</td>
<td>E3M111</td>
<td>E3M080</td>
<td>E3M060</td>
<td>FDO221</td>
<td>FDO241</td>
</tr>
<tr>
<td>DO115x</td>
<td>–</td>
<td>DO113x</td>
<td>DO110x</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DCW1151</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>FDO221</td>
<td>FDO241</td>
</tr>
<tr>
<td>DOT115x</td>
<td>–</td>
<td>DOT1131</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DOTE1152</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>DOT241-9</td>
<td>DOT241-9</td>
</tr>
<tr>
<td>DT1152</td>
<td>–</td>
<td>DT110x</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DLO1191</td>
<td>–</td>
<td>DLO1191</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DF119x</td>
<td>–</td>
<td>DF119x</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DM1153</td>
<td>–</td>
<td>DM1101</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DM1103</td>
<td>–</td>
<td>DMA1103</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Legend

- **FDO** / **DO**: Optical smoke detector
- **DOW**: Neural and/or multi-sensor smoke detector
- **DOTE**: Multi-criteria smoke detector
- **DTE** / **DOT**: Heat detector
- **DLO** / **DF**: Linear smoke detector
- **DOW** / **DFT**: Infrared flame detector
- **DCW**: Radio detector
- **DM** / **FDM**: Manual call point
- **DC** / **FDC**: Input/output module
- **FDS**: Alarm sounder
- **DC1192**: Detector line coupling
- **SB3** (SB2): Safety barrier 2
- **CB320A**: Input module for collective detectors (SynoLINE300)
- **OH320C** / **HI320C** / **OP320C**: Contact detector
- **FDOOT** / **DOTTE**: Input module for collective detectors (SynoLINE300)
- **FDOOT221** / **DOTTE221**: Multi-criteria smoke detector
- **FDOOT241** / **DOTTE241-9**: Linear smoke detector
- **FDOOT241-9**: Linear smoke detector
- **FDOOT241**: Linear smoke detector
- **FD20221**: Linear smoke detector
- **FD241-9**: Linear smoke detector
- **FD221**: Linear smoke detector
- **FD241-9**: Linear smoke detector
- **FD221**: Linear smoke detector
- **FD241**: Linear smoke detector
- **FD241**: Linear smoke detector
- **FD221**: Linear smoke detector

1) Before SB3, all E3M071 devices possible
2) Note page 70 for SB2 limitations
## Components

### Line plug-in modules

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>E3M071</td>
<td>'Interactive' line plug-in module</td>
<td>1 loop line (max. 128 addresses)</td>
</tr>
<tr>
<td>E3M111</td>
<td>'AnalogPLUS' line plug-in module</td>
<td>4 loop lines (4 x max. 128 addresses)</td>
</tr>
<tr>
<td>E3M141</td>
<td>'FD20' line plug-in module</td>
<td>2 loop lines (2x max. 126 addresses)</td>
</tr>
<tr>
<td>E3M080</td>
<td>'Collective' line plug-in module</td>
<td>8 stub lines (8 x max. 25 detectors)</td>
</tr>
<tr>
<td>E3M120</td>
<td>'CBA' line plug-in module</td>
<td>4 loop lines (4 x max. 119 addresses) for</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CBA8000/TS9000</td>
</tr>
<tr>
<td>E3M060</td>
<td>'MS9i' line plug-in module</td>
<td>1 loop line (1 x max. 50 addresses)</td>
</tr>
</tbody>
</table>

### End-of-lines

With E3M080

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>EOL22(Ex)</td>
<td>End-of-line element</td>
<td>For E3M080</td>
</tr>
</tbody>
</table>

### Cables, terminals

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1I020</td>
<td>Connection cable, 9-wire, 0.5 m</td>
<td>Prefabricated cables with board holder for H47...</td>
</tr>
<tr>
<td>Z1I030</td>
<td>Connection cable, 19-wire, 0.5 m</td>
<td>Prefabricated cables with board holder for H47...</td>
</tr>
<tr>
<td>Z1I040</td>
<td>Connection cable, 9-wire, 0.8 m</td>
<td>Prefabricated cables with board holder for H67...</td>
</tr>
<tr>
<td>Z1I050</td>
<td>Connection cable, 19-wire, 0.8 m</td>
<td>Prefabricated cables with board holder for H67...</td>
</tr>
<tr>
<td>Z1I060</td>
<td>Connection cable, 4-wire, 0.5 m</td>
<td>Prefabricated cables with board holder for H47...</td>
</tr>
<tr>
<td>Z1I070</td>
<td>Connection cable, 4-wire, 0.8 m</td>
<td>Prefabricated cables with board holder for H67...</td>
</tr>
<tr>
<td>Z1I100</td>
<td>Connection cable, 10-wire, 0.5 m</td>
<td>Prefabricated cables with board holder for H47...</td>
</tr>
<tr>
<td>Z1I110</td>
<td>Connection cable, 10-wire, 0.8 m</td>
<td>Prefabricated cables with board holder for H67...</td>
</tr>
</tbody>
</table>
26.2 "Interactive" detector line

- Number of addresses per line: Max. 128, \(\rightarrow\) limitations for certain device types 1)
- T-branches possible anywhere

Programmable control output for 1 external response indicator in each detector base

Means of linking for external response indicators
1 Basic programming
   AI external is allocated to the logic detector ZONE
   \(\rightarrow\) most frequent application variant (Default)
2 Synchronous with the detector AI internal
   AI external is allocated to detector in the base
   \(\rightarrow\) e.g. for detectors in hollow floors or false ceilings
3 Allocated to another ZONE
   AI external is treated as a control output
   \(\rightarrow\) can thus be allocated to any logic ZONE or several ZONES

1) For details, see document 001508
2) For details, see document 1204
26.3 "Interactive" Ex detector line

- Number of addresses: Max. 32, --> limitations for certain device types 1)
- T-branches possible

1) For details, see documents 001508 and 1204

26.4 'CBA8000/TS9000' detector line

- Number of addresses per line: Max. 119
26.5 'AnalogPLUS' detector line

- Number of addresses per line: Max. 128, for limitations, see 1)
- All detectors, HFM and input/output module with integrated short-circuit isolator

Control output for 1 external response indicator in each AnalogPLUS detector base

1) For details, see document 001508
2) For details, see document 1204
26.6 'MS9i addressing' detector line

- The E3M060 allows existing system parts to be integrated with detectors of the MS9i/MS7i series
- Number of elements (addresses) per line: Max. 50, but depends on element type

1 Loop line

E3M060

1) For details, see document 825
2) For details, see document 1204
26.7 'Collective' detector line

- All detectors within a line have the same collective address (OBJECT)
- Depending on application, end-of-line by means of transzorb diode or EOL22 (Ex)
- Number of detectors per line:
  - DS11 detectors: Max. 25
  - MS6/7/9/24: According to individual load factor 1)
- For detector types that can be activated, see compatibility overview (document 001260)

---

Restriction: only with E3X100 permissible
see document 1204 and UP 109

1) For details, see document 825 for MS6/7/9, for DS11 collective 001508
26.8 'FD20' detector line

- Number of addresses per line: Max. 126, \(\rightarrow\) limitations for certain device types

1) Only 1 T-branch possible between 2 devices

Programmable control output for 1 external response indicator in each SintesoTM detector base

Means of linking for external response indicators

1 Basic programming
Al external is allocated to the logic detector ZONE
\(\rightarrow\) most frequent application variant (Default)
2 synchronous with the detector Al internal
Al external is allocated to detector in the base
\(\rightarrow\) e.g. for detectors in hollow floors or false ceilings
3 allocated to another ZONE
Al external is treated as a control output
\(\rightarrow\) can thus be allocated to any logic ZONE or several ZONES

1) For details, see document 001508
27 Control plug-in modules

27.1 Using control plug-in modules

- To activate fire controls (shut down ventilation, close fire protection flaps etc.)
- To activate and monitor alarm devices
- To activate and monitor remote transmission devices
- To activate mimic displays

27.2 Overview of plug-in modules available with control outputs

<table>
<thead>
<tr>
<th>Plug-in modules</th>
<th>Monitored control lines</th>
<th>Driver outputs</th>
<th>Contact outputs (potential-free)</th>
<th>Remote transmission interface</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For alarm devices</td>
<td>Programmable</td>
<td>Programmable</td>
<td>For remote transmission</td>
</tr>
<tr>
<td>E3X10.</td>
<td>2</td>
<td>8 + 1</td>
<td></td>
<td>devices</td>
</tr>
<tr>
<td>E3G070</td>
<td>2</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3L020</td>
<td></td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3G050</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3G060</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K3R072</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K3G060</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K3I110</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Can also be used as control inputs (e.g. "Confirmation")
2) These inputs/outputs are sometimes also used to control the remote transmission device (if available)
3) For mimic display activation, connected to the AlgoPilot B3Q... or K3I050 operating unit (not LON bus component) for details, see page 74
4) For use with K3R072 only for details, see page 77
5) Programmable
6) LON bus component for details, see page 79

27.3 Link options

- Any statuses of recording nodes can be linked with control OBJECTS
- Just one control ELEMENT (= control output) is usually assigned to one control OBJECT
- A user text is assigned to every control OBJECT

---

**Acquisition level**

- Interactive
- AnalogPLUS
- CBA8000/TS9000
- MS9i
- Collective
- FD20

**Control level**

- E3G050
- K3I110
- E3L020
- E3X10.
- E3G070
- E3G060

**Statuses:**
- Alarm
- Info
- Switched off
- On detector TEST
- Fault
- etc.

**Visible statuses:**
- active
- switched off
- executed ('Acknowledgement')
- Fault

**Operable functions:**
- Switch on/off
- Activate/de-activate

---

**Digital input ‘active’**

**Acknowledgement circuit**

- Not monitored
- Monitored
27.4 Control outputs, station type CC11

Basic equipment

CPU
E3X10.

Driver

24V RT

Z3B171

250VAC 10A

Fire control installations

Additional control modules according to application

I-Bus

E3L020
Driver

E3G050

E3I040

E3G060
Driver

K3I110

max. 24V/2A
(max. 4A/E3G060)

30VDC 1A

30VAC 10A

27.5 Control outputs, station type CI11

Basic equipment

B3Q...

CPU

E3G070

Driver

24V RT

Z3B171

250VAC 10A

Fire control installations

Additional control modules according to application

I-Bus

E3L020
Driver

E3G050

E3I040

E3G060
Driver

K3I110

max. 24V/2A
(max. 4A/E3G060)

30VDC 1A

30VAC 10A

Z1I100/110

E3I040

K3I110

Z1I030/050

E3X10x

1 Board holders included in cable kit Z1I350
27.6 Control outputs, station type CT11 remote

For installation details for E3I040, see document 1393

Components

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>E3X102</td>
<td>Control panel module</td>
<td>For alarm devices and control outputs</td>
</tr>
<tr>
<td>E3X103</td>
<td>Control panel module</td>
<td></td>
</tr>
<tr>
<td>B3Q...</td>
<td>AlgoPilot operating console</td>
<td>All AlgoPilot variants –&gt; see page 47</td>
</tr>
<tr>
<td>E3G070</td>
<td>&quot;Universal&quot; control plug-in module</td>
<td></td>
</tr>
<tr>
<td>E3L020</td>
<td>&quot;Driver&quot; control plug-in module</td>
<td>16 control inputs or outputs</td>
</tr>
<tr>
<td>E3I040</td>
<td>LON plug-in module</td>
<td>Converter between I bus and LON bus</td>
</tr>
<tr>
<td>Z1B070</td>
<td>Installation options for E3I040</td>
<td>Compulsory for installation of E3I040 in housing H28G200</td>
</tr>
<tr>
<td>K3I110</td>
<td>LON I/O board</td>
<td>16 control inputs/outputs each</td>
</tr>
<tr>
<td>E3G050</td>
<td>&quot;Contacts&quot; control plug-in module</td>
<td>8 control output contacts</td>
</tr>
<tr>
<td>E3G060</td>
<td>&quot;Monitored&quot; control plug-in module</td>
<td>6 monitored control lines for alarm devices</td>
</tr>
<tr>
<td>Z1I030</td>
<td>Connection cable, 19-wire, 0.5 m</td>
<td>1 item per E3L020/E3G050/60/70 each (in housing H47...)</td>
</tr>
<tr>
<td>Z1I050</td>
<td>Connection cable, 19-wire, 0.8 m</td>
<td>1 item per E3L020/E3G050/60/70 each (in housing H67...)</td>
</tr>
<tr>
<td>Z3B171</td>
<td>1 x 250 V AC/10 A relay module</td>
<td>For switching external voltage</td>
</tr>
<tr>
<td>Z1I100</td>
<td>Connection cable, 10-wire, 0.5 m</td>
<td>1 item per E3I040 (in housing H47...)</td>
</tr>
<tr>
<td>Z1I110</td>
<td>Connection cable, 10-wire, 0.8 m</td>
<td>1 item per E3I040 (in housing H67...)</td>
</tr>
<tr>
<td>Z1I070</td>
<td>Z1I050</td>
<td></td>
</tr>
<tr>
<td>K3I110</td>
<td>Z1B070</td>
<td></td>
</tr>
</tbody>
</table>
27.7 CPU-wide controls

- Multi-area
  - CT
  - CC/CI
  - CPU
  - B1, B2, B3, B4

- Single-area
  - CT
  - CC/CI
  - CPU
  - B5, B6, B7, B8

- Gateway
  - CK

B = AREA
● = activating data point

Control OBJECT/ELEMENT
Control device

Must be in the same CPU

➔ Limitation: See section 8
27.8 Mimic display outputs, station types CT11 and CI11

For details, see document 001260

K3R072:
- Short-circuit-proof outputs
- Output for local buzzer and 'Operation' LED
- Inputs for 'Buzzer off' and 'Lamp test' button
- Suitable for activating LEDs only
- Outputs can only be assigned to statuses of one logical node
- Max. 24 devices, but only max. 8 addresses

Components
- K3R072 5286050001 Mimic display activation
- Z3I520 4849690001 Cable kit for K3R072 Includes 12 cables (2-wire with connectors, length = 0.5 m)
- F50F410 5291410001 LED flat cable for K3R072 50-wire, 24 red LEDs, cable length 1 m
- Z3I530 4849720001 Adapter for K3R072/B3R051 Adaptation of flat cable on terminals
- F12A100 4952750001 'Micro' 12-pole, 0.4 m flat cable From AlgoPilot B3Q... to K3R072/B3R051
- F12A470 4952880001 'Micro' 12-pole, 1.5 m flat cable From AlgoPilot B3Q... to K3R072/B3R051
27.9 Relay outputs, station types CT11 and CI11

For details, see document 001260

**K3G060:**
- 2 K3G060 can be connected per K3R072
- 24 potential-free relay closing contacts
- Contacts not monitored
- Contacts can be linked individually via jumpers to externally supplied V+ or V–

**Components**
- K3R072 5286050001 Mimic display activation
- K3G060 5287860001 Relay board
- Z3I530 4849720001 Adapter for K3R072/B3R051
- F12A100 4952750001 'Micro' 12-pole, 0.4 m flat cable
- F12A470 4952880001 'Micro' 12-pole, 1.5 m flat cable

Option for K3R072
- Adaptation of flat cable on terminals
- From AlgoPilot B3Q... to K3R072/B3R051
- From AlgoPilot B3Q... to K3R072/B3R051
28 LON bus devices

28.1 Features

- Activation via local 'LON' communication bus
- 4 different device types
  - B3Q580 = plain text display terminal
  - B3Q590/595 = plain text operating terminal
  - K3I050 = LON/mimic display converter
  - K3I110 = LON I/O board
- Activation via LON plug-in module E3I040 (converter between I bus and LON bus)
- The 'LON bus' function is available once per 'CI' / 'CT' and 'CC' station type
- Max. 32 devices per LON bus (device types can be mixed in any way)
- Monitored two-wire bus without loop line function
- All devices require a separate supply line as of E3I040
- LON bus line management
  - As 'Stub line' up to 1000 m (without T-branches)
  - As 'Free topology' up to 500 m (length of line to all devices added together)
    (with 'MICC': as 'Stub line' ...700 m / as 'Free topology' ...300 m)
  - With special cable (Belden 85102 or 8471) and as 'Stub line' up to 2700 m
  - Possible via twisted line only (twisted in pairs, 10 twists a meter)
- CPU-wide functions possible
- B3Q59x: 3 LEDs can be replaced. Permits application with different LED color.

28.2 LON bus as stub line
28.3 LON bus as free topology

- LON bus devices
- Building Technologies 008725_h_en--
- Fire Safety & Security Products 06.2011

max. length of LON-Bus 500m

28.4 Mimic display converter K3I050

- Permits mimic display activation K3R072 or parallel display B3R051 to be connected (max. 24 devices, but just max. 8 addresses)
- Various local inputs/outputs

The functions of these inputs/outputs relate to the K3R072 and/or B3R051

- Input for 'Buzzer off' button
- Input for 'Lamp test' button
- 'Buzzer' output
- 'Operation' LED output

Measurements:
106 x 200 x 14 mm

For K3R072/B3R051

H23G230
Z3B230
Z3I520
Z3I530
K3I050

For details see K3R072 → page 76 or B3R051 → page 51
28.5 LON I/O board K3I110

- Input/output board
  - 16 programmable monitored control inputs
  - 16 programmable control outputs

Measurements:
122 x 220 x 14 mm

28.6 Display devices B3Q580 and B3Q590/595

- Both devices with identical sizes
- For recessed mounting, see page 55

<table>
<thead>
<tr>
<th>Function</th>
<th>B3Q580 plain text display terminal</th>
<th>B3Q590/595 plain text operating terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD 2x40 characters, yellow backlight</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Alarm events display</td>
<td>All OBJECTS from 1..16 selectable SECTIONS</td>
<td>All OBJECTS per station (cannot be selected)</td>
</tr>
<tr>
<td>Fault events display</td>
<td>Can be selected (yes/no via AlgoWorks)</td>
<td>Can be selected (yes/no via AlgoWorks)</td>
</tr>
<tr>
<td>Selectable display operating modes</td>
<td>14 (can be selected via AlgoWorks)</td>
<td>14 (can be selected via AlgoWorks)</td>
</tr>
<tr>
<td>Buzzer can be turned off</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>3 programmable LEDs</td>
<td>–</td>
<td>✔</td>
</tr>
<tr>
<td>'Continue' function key</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>(also used for Buzzer off + lamp test)</td>
<td></td>
<td>(also used for Buzzer off + lamp test)</td>
</tr>
<tr>
<td>'Acknowledge' / 'Reset' function keys</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Key switch for operating access</td>
<td>–</td>
<td>B3Q590 = Nordic</td>
</tr>
<tr>
<td>B3Q595 = KABA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can be fitted in housing H23G230</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Insertable inscription strips</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>9..45 V DC</td>
<td>9..45 V DC</td>
</tr>
<tr>
<td>Current consumption at 24 V</td>
<td>Standby: 20 mA / max: 180 mA</td>
<td>Standby: 18 mA / max: 185 mA</td>
</tr>
<tr>
<td>Component Code</td>
<td>Description</td>
<td>Details</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>E3I040</td>
<td>LON plug-in module</td>
<td>Converter between I bus and LON bus</td>
</tr>
<tr>
<td>K3I050</td>
<td>LON/mimic display converter</td>
<td>Converter between LON bus and data bus for K3R072 or B3R051</td>
</tr>
<tr>
<td>K3I110</td>
<td>LON I/O board</td>
<td>16 programmable control inputs/outputs</td>
</tr>
<tr>
<td>B3Q580</td>
<td>plain text display terminal</td>
<td></td>
</tr>
<tr>
<td>B3Q590</td>
<td>Plain text operating terminal with Nord. lock</td>
<td></td>
</tr>
<tr>
<td>B3Q595</td>
<td>Plain text operating terminal with KABA lock</td>
<td></td>
</tr>
<tr>
<td>H23G230</td>
<td>Plastic housing</td>
<td></td>
</tr>
<tr>
<td>Z3I520</td>
<td>Cable kit for K3R072</td>
<td>Includes 12 cables (2-pole with connectors, length = 0.5 m)</td>
</tr>
<tr>
<td>Z3I530</td>
<td>Adapter for K3R072/B3R051</td>
<td>Adaptation of flat cable on terminals</td>
</tr>
<tr>
<td>Z3B230</td>
<td>Mounting plate</td>
<td>For K3I050 in H23G230</td>
</tr>
<tr>
<td>Z1B070</td>
<td>Installation options for LON plug-in module E3I040</td>
<td>For use in H28G200</td>
</tr>
<tr>
<td>Z1I100</td>
<td>Connection cable, 10-wire, 0.5 m</td>
<td>For use in H47...</td>
</tr>
<tr>
<td>Z1I110</td>
<td>Connection cable, 10-wire, 0.8 m</td>
<td>For use in H67...</td>
</tr>
</tbody>
</table>

**Available labeling kits** (if no designation strips are available → use templates from document 006516)

<table>
<thead>
<tr>
<th>Component Code</th>
<th>Labeling Kit Name</th>
<th>For Use In</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZSB710</td>
<td>'Nordic' labeling kit</td>
<td>B3Q580 (S, N, FIN, DK)</td>
</tr>
<tr>
<td>ZSB720</td>
<td>'Europe' labeling kit</td>
<td>B3Q580 (UK, GER, F, I)</td>
</tr>
<tr>
<td>ZSB730</td>
<td>'Nordic' labeling kit</td>
<td>B3Q590/595 (S, N, FIN, DK)</td>
</tr>
<tr>
<td>ZSB740</td>
<td>'Europe' labeling kit</td>
<td>B3Q590/595 (UK, GER, F, I)</td>
</tr>
<tr>
<td>ZSB750</td>
<td>'CH' labeling kit</td>
<td>B3Q590/595/580</td>
</tr>
</tbody>
</table>
29 Gateway

29.1 Main features

- C bus network <-> DMS / LMS connection via V28 interface (RS232)
- Conversion C bus <-> CERLOOP/CERBAN/ISO1745
- For bridging distances of up to 1000 m (double V28 modem integrated)
- For distances > 1000 m, use FSK/PSK modem
- Several gateways are possible per C bus network, see section 8
- Is preferably accommodated in a housing of a fire control panel
- Can also be operated autonomously with separate supply (E3C011 + B2F020 + batteries)
- Extra hardware is needed for the connection to the CERLOOP network (K1H022, K1D081 or K1D121)
- Extra hardware is needed for the connection to the NK8000 network (NK823x.2, NKA8011-A1, NZ8201)
  → Check according to outline quantities section 9.3

Note:
Select corresponding protocol depending on application.
Assign the DMS network address to CC/CI and CK (via programming in AlgoWorks)

For valid DMS network address, see document 004075
29.2 Application variants

Components to gateway

- **B2F020** 5AQQ0025281 A5Q0025281 Converter 115/230 V DC →29.6 V DC, 6 A
- **B2F040** 5102990001 Converter 115/230 V DC →29.6 V DC, 3.5 A
- **E3H021** A5Q00024660 Gateway plug-in module
- **CKY00xxx** Flash program file
- **K1D081** 4637730001 Dual modem board V28
- **K1D121** 4706010001 Dual modem board FSK/PSK
- **K1D140** 4706140001 Modem board FSK/PSK
- **K1H022** A5Q00014427 Communications board
- **Z1K050** 4952200001 Board holder
- **F14A320** 3196520001 Flat cable, 14-wire, 0.5 m
- **F14E320** 4514390001 Y-flat cable, 14-wire, 0.5 m
- **M3P030** 3787740001 Modern filter module
- **NS823x.2** Ethernet Port
- **N823x.2** Installation kit for NK82xx
- **NK8201-A1** Mounting plate for NK82x

For details, see document 001260

For H47E... → Z11020/030; for H67E... → Z11040/050

Needs 2 plug-in slots

For CERLOOP/CERBAN

For CERLOOP application

For > 1000 m between E3H021 and DMS7000 (CERLOOP)

For > 1000 m between E3H021 and DMS7000 (CERBAN)

For use with CERLOOP

For securing K1D... / K1H022

For connection K1H022 → K1D... (CERLOOP)

For connection E3H021 → K1H022 / E3H021 → K1D...

Compulsory for: K1D121 → 2x / K1D081 → 4x

Compulsory for CERLOOP application (V28)

For order no., see document A6V10238669
Remote transmission (not conforming to EN54-2)

Most fire detection installations are connected to a remote transmission. In alarm status (alarm level 2) the fire detection system activates the remote transmission device (RT device).

Remote transmission device
- Installed in control panel housing
- Space needed depends on RT device
- 24 Vdc supply for control panel
- Single-channel (alarm + fault) or multi-channel (multi-criteria alarm)
- Block/release via AlgoPilot

Connections
- Via contact outputs and special inputs/outputs from central plug-in module E3X10. or control panel module E3G070
- Via remote transmission interface E3G091 if 'Multiple criteria' are used
- Via control plug-in module 'VdS' E3L030 'Main detector' (ÜE) (Germany)
- Can be used spanning several CPUs (several CPUs linked to the same RT device)
31 Remote transmission (conforming to EN54-2)

Most fire detection installations are connected to a remote transmission. In alarm status (alarm level 2) the fire detection system activates the **remote transmission device** (RT device).

**Remote transmission device**
- Single-channel (alarm + fault) or multi-channel (multi-criteria alarm)
- Block/release via AlgoPilot

**Connections**
- Via outputs and special inputs/outputs from central plug-in module E3X10. or control panel module E3G070
- Via remote transmission interface E3G091 if 'Multiple criteria' are used
- Via control plug-in module 'VdS' E3L030 'Main detector' (ÜE) (Germany)
  If the E3L030 is present, the ÜE MUST be used.
- Can be used spanning several CPUs (several CPUs linked to the same RT device)
31.1 CPU-wide remote transmission

- Remote transmission (conforming to EN54-2)

**all-AREA**

- common RT-device for all AREAS within CPU

**single-AREA**

- common RT-device for several CPUs

- ● = activating data point
- 'RT' control element
- RT device

→ Even functions in degraded mode operation by means of degraded mode functions
32 Extinguishing

32.1 Main features of extinguishing SECTION

- Extinguishing section consists of:
  - Control plug-in module E3G080 (I bus component)
  - ‘Extinguishing’ operating unit B3Q440
  - Option Monitoring board K5L020 to monitor and control additional solenoid extinguishing valves
- E3G080 is designed for one extinguishing SECTION

max. 600m 5 wires Ø 0.8 mm
Line and device monitored

For details, see document 001260

Manual activation
- Use collective yellow hand-operated button DM1103 with DMA1192-AC

Components for extinguishing section

<table>
<thead>
<tr>
<th>Component</th>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extinguishing control plug-in module</td>
<td>E3G080 47594900001</td>
<td>Extinguishing control plug-in module</td>
</tr>
<tr>
<td>Degraded mode link</td>
<td>E3G110 50499100001</td>
<td>Degraded mode link</td>
</tr>
<tr>
<td>‘Extinguishing’ operating unit</td>
<td>B3Q440 47595200001</td>
<td>‘Extinguishing’ operating unit</td>
</tr>
<tr>
<td>Plastic housing</td>
<td>H23G230 47509100001</td>
<td>Plastic housing 125x219x76 mm</td>
</tr>
<tr>
<td>Connection cable, 19-wire, 0.5 m</td>
<td>Z1I030 47550900001</td>
<td>Connection cable, 19-wire, 0.5 m</td>
</tr>
<tr>
<td>Connection cable, 19-wire, 0.8 m</td>
<td>Z1I050 47552900001</td>
<td>Connection cable, 19-wire, 0.8 m</td>
</tr>
<tr>
<td>Terminal block + board holder</td>
<td>Z1K030 48423100001</td>
<td>Terminal block + board holder</td>
</tr>
<tr>
<td>2-area extinguishing board</td>
<td>K5L020 44123200001</td>
<td>2-area extinguishing board</td>
</tr>
<tr>
<td>‘CH’ labeling kit</td>
<td>Z5B700 51042200001</td>
<td>‘CH’ labeling kit</td>
</tr>
</tbody>
</table>

For B3Q440

Option for ‘Extinguishing’ control plug-in module E3G080 (see section 32.2)

Max. 4 possible (including labeling kit in 'English')
For other languages --> use templates of document 006516
### 32.2 Degraded mode link E3G110 option

- Allows extinguishing to be activated automatically even if the main CPU fails. Depends on 2 detectors.
- The detectors in the extinguishing SECTION must be split over **2 independent** detector lines.

**Note:**

'ST10' connector only provided for E3M060 (MS9i), E3M071 (interactive), E3M171 (interactive Ex), E3M080 (collective) and E3M111 (AnalogPLUS)

'MIMIC DISPLAY' connector for E3M141

### 32.3 Key data

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
</table>
| 'Delayed' area valve                           | - Activation delay of 0..240 s  
- Limitation of activation period of 0..240 s or until reset  
- Monitored line  
- Line can be adjusted to area valve |
| 'Non-delayed' main valve (activation of pneumatic path) | - Limitation of activation period of 0..240 s  
- Monitored line  
- Line can be adjusted to main valve |
| Alarm horn                                     | - Can be turned off by extinguishing operating unit or control panel  
- Activation mode active continuously/can be programmed to pulse |
| Illuminated panel                              | - Can be shut down separately or remains active until reset  
- Monitored line  
- Activation mode active continuously/can be programmed to pulse |
| Manual activation                              | - Directly only E3G080  
- Also functions when control panel is in 'degraded mode'  
- Line monitored |
| Automatic activation                           | - Via detector -> control panel, parameters can be set for alarm, either for:  
- Detectors in same OBJECT  
- Detectors in different OBJECTS  
- Detectors in same or different OBJECTS  
- All detector models can be used (interactive / AnalogPLUS / collective) |
| Stop/block button                              | - Separate monitored line |
| 'Loss of extinguishing agent' reporting contact | - Separate monitored line |
| 'Extinguishing blocked' reporting contact       | - Separate monitored line |
| 'Extinguishing activated' reporting contact     | - Separate monitored line |
| Local operating unit                           | - Using 'Extinguishing' operating unit B3Q440  
- Usage recommended, but not compulsory  
- Max. 4 operating units possible  
- Via LON data bus with monitored line  
- Length of line up to 600 m |
| Fire control                                   | - Via control panel control output |
| Special feature                                | - Autonomously functioning I bus component  
- Integrated degraded mode function  
- Parameter settings via AlgoWorks  
- User functions saved on E3G080  
- Several extinguishing SECTIONS can be interlocked with one another  
- Automatic adjustment function |
## 32.4 Typical extinguishing system

- The requirements relating to monitoring depend greatly on the extinguishing agent used and the properties of the mechanical hardware used
- The system must satisfy the local requirements

### 32.5 Functions needed

<table>
<thead>
<tr>
<th>Item</th>
<th>Function</th>
<th>Explanations</th>
<th>FM200</th>
<th>CO₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Electrical activation</td>
<td>'Delayed' area valve</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>Pneumatic activation</td>
<td>'Non-delayed' main valve</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>Electronic alarm horn</td>
<td>Possibly several devices depending on noise level</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>Pneumatic alarm horn</td>
<td>E.g. driven with control agent</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>Illuminated panel</td>
<td>In front of every door</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6</td>
<td>DM1103 manual activation</td>
<td>Special button (yellow)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>7</td>
<td>Autom. activation 'Multi-detector dependent'</td>
<td>Detector in 'Extinguishing' OBJECT type</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8</td>
<td>Local operating unit</td>
<td>B3Q440 operating unit</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>9</td>
<td>Stop or block button</td>
<td>Special button or door lock contact</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>10</td>
<td>'Activated' reporting contact</td>
<td>Pressure control</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>11</td>
<td>'Loss of extinguishing agent' reporting contact</td>
<td>Bottle scales or pressure gauge</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>12</td>
<td>'Mechanically blocked' reporting contact</td>
<td>Mech. blocking on bottle battery</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>13</td>
<td>Fire control</td>
<td>Door magnet etc.</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

✓ Compulsory
– Recommended or needed depending on mechanical hardware used or local requirements
Printer interface

33 Printer interface

33.1 Features

- Available for station types CT11, CI11, CC11
- Designed for B2Q191, B1Q101 printers, commercially available ISO-LATIN1 printers and EPSON printers
- Depending on use, extra hardware needed to adapt levels
- Printer B2Q191 can be connected up directly (for installation inside housing)
- Printer can be switched on/off individually via the operating unit
- Is always assigned to all AREAS available in the station used
- Individual parameter settings per printer interface
- Event memory can only be printed out when the printer is connected to a CI11 or CT11 station

33.2 CT11 application variant

Condition:
- B2Q191 printer is in the same housing as the AlgoPilot B3Q... operating unit or in a neighboring housing
- With this application, the earth connection of the 'K3-5' terminal of K3L080 must be routed to the housing, otherwise ground fault is produced (see document 001260)
33.3 CC11 usage variant

Condition:
- B2Q191 printer is in the same housing as the main CPU (E3X10.) or in a neighboring housing
- With this application, the earth connection of the 'K3-5' terminal of K3L080 must be routed to the housing, otherwise ground fault is produced (see document 001260)

Components
- B2Q191 484880001 Tape printer 240 x 340 mm, 9...36 V DC
- E3I020 4602390001 RS232 plug-in module
- Z1I030 4755090001 Connection cable, 19-wire with board holder, 0.5 m
- Z1I050 4755250001 Connection cable, 19-wire with board holder, 0.8 m
- Z1B020 4759070001 Installation options
- F20A020 4763170001 20-wire 0.165 m 'Micro' flat cable
- F20A410 4953270001 20-wire 0.165 m 'Micro' flat cable

Level adjustment HCMOS → RS232
Also for internal cabling in housing H47...
Also for internal cabling in housing H67...
For securing E3I020 on the rear of AlgoPilot B3Q...
33.4 CI11 application variant

Components

- **B2Q191 4848880001**  Tape printer 240 x 340 mm, 9 ... 36 V DC
- **E3I020 4602390001**  RS232 plug-in module
- **Z1K030 4842310001**  Terminal block + board holder
- **Z1I030 4755090001**  Connection cable, 19-wire with board holder, 0.5 m
- **Z1I050 4755250001**  Connection cable, 19-wire with board holder, 0.8 m
- **F20A140 4968630001**  20-wire 0.165 m 'Micro' flat cable

Level adjustment HCMOS -> RS232
For securing E3I020 to a plug-in space in H38...
Also for internal cabling in housing H47...

The diagrams illustrate the connections and components used in the CI11 application variant, with specific notes on the use of different terminations and connections for the printer interface in cabinets H38 and H47.
33.5 B2Q191/B1Q101 tape printer

- Tape printer for event protocoling
- Integrated automatic paper winding device
- Thermomatrix printing unit
- Interface and printing unit monitored

→ For more details, see document 001260

Printer with own power supply in housing H28, but no batteries

Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2Q191</td>
<td>4848800001</td>
<td>Tape printer 240 x 340 mm, 9 ... 36 V DC</td>
</tr>
<tr>
<td>B1F120</td>
<td>4952330001</td>
<td>Converter /230 V AC -&gt;24 V DC, 3 A</td>
</tr>
<tr>
<td>H28G200</td>
<td>4099440001</td>
<td>520x300x70 mm housing bottom</td>
</tr>
<tr>
<td>H28T020</td>
<td>4105640001</td>
<td>Cover for H28G200</td>
</tr>
<tr>
<td>G2F031</td>
<td>4092900001</td>
<td>19&quot;/6HE front frame</td>
</tr>
<tr>
<td>H28V000</td>
<td>3795660001</td>
<td>Beams for 19&quot; / 6HE adaptation</td>
</tr>
<tr>
<td>H28V010</td>
<td>3795660001</td>
<td>Hinges for 19&quot; / 6HE adaptation</td>
</tr>
<tr>
<td>Z1K040</td>
<td>4906650001</td>
<td>Holder</td>
</tr>
<tr>
<td>B1Q101</td>
<td>5045800001</td>
<td>Tape printer 19&quot; / 3HE, 9 ... 36 V DC</td>
</tr>
<tr>
<td>Z3B040</td>
<td>3799770001</td>
<td>Replaced paper rollers (4 items)</td>
</tr>
</tbody>
</table>

For fitting printer B2Q191 in 19" cabinet
For G2F031
For G2F031
For securing B1F120 to H28T020 (remove board holder)
Fit in 19" housing only (for more details, see document 1510)
34 PSA interface

34.1 Features

The PSA interface board K3I090 can be used universally and serves to analyze the data transmitted by a control panel to its printer output and to transfer this to a PSA or pager system in ESPA 4.4.4 format.

The optional printer is connected to the PSA interface board. If there is a printer available, the data is forwarded straight to the printer. The interposed PSA interface board is not visible to the control panel and printer.

The PSA interface board analyzes the print data for character strings at a particular position following defined rules. The rules are saved in the PSA interface board. If a string of characters matches, the content of the printer message is prepared for display on the pager or forwarded unchanged to the PSA.

® For details, see document 1669
### Power supply

#### Concept
The power supply for the CS1140 fire detection system consists of:
- **Converter** (mains voltage → system voltage 29.6 V)
- **Battery charging unit** (integrated in **E3X10**. or by means of **E3C011**)
- **Batteries** (capacity as required)

#### Special functions
- Automatic battery load test
- Battery charging characteristics can be programmed on the product

#### Application
- Individually define the battery capacity needed → see page 99
- Protection for mains supply line in special cases only → see page 104
- Max. 38 Ah per battery charging unit (> 38 Ah = additional power supply)
- Parallel operation of several battery charging units possible
- Battery supply line has no EMI protection (battery cannot be removed)

#### 35.1 Power supply to control panel

- **CC11** Battery charging unit is integrated in the control panel module **E3X10**.
- **CI11** Battery charging plug-in module **E3C011** needed

Battery charging unit contained in **E3X10**.
- Is one of the max. 16 I bus components

* TF = temperature sensor for battery temperature monitoring
35.2 Additional power supply

Auxiliary batteries for the basic power supply:
max. 1x E3C011 with battery set as an addition

Additional batteries with auxiliary power supply:
max. 3 battery sets per B2F020 possible

- separate battery charging unit
- as regards "battery charging" identical to E3X10.
- I-Bus module

Components

B1F120  4952330001  Converter 115/230 V AC -> 24 V DC, 3 A  
B2F020  A5Q00025281  Converter 115/230 V AC -> 29.6 V DC, 6 A  
B2F040  5102990001  Converter 115/230 V AC -> 29.6 V DC, 3.5 A  
B2F060  5112850001  Converter 115/230 V AC -> 24 V DC, 4.5 A  
E3C011  5054790001  Plug-in battery charging module  
E3X102  6290250001  Control panel module  
E3X103  6290380001  Control panel module  
FA2006-A1 A5Q00019356  12 V / 24 Ah battery  
FA2007-A1 A5Q000022897  12 V / 38 Ah battery  
FA2005-A1 A5Q00019677  12 V / 15 Ah battery  

Mains protection elements (surge arrester and mains filter) see page 104
35.3 Operating unit with power supply as of control panel

- As of CC11 -> operating unit is connected to E3X10.
- As of CI11 -> operating unit is connected to AlgoPilot B3Q...

Note:
Second supply output needed for operating units that have to satisfy EN54 only (at least 1 operating unit per system).

35.4 Operating unit with autonomous power supply

- For AlgoPilot B3Q... operating units located far away
- Operating unit and power supply can be fitted in H38 housing -> see page 51

* TF = temperature sensor for battery temperature monitoring
35.5 Power supply for remote transmission devices and options

- With CC11 → devices are connected to E3X10.
- With CI11 → devices are connected to E3G070

**Components**

- B3Q... ...... AlgoPilot operating units
- E3X102 6290250001 Control panel module
- E3X103 6290380001 Control panel module
- E3G070 5466610001 'Universal' control plug-in module
- E3C011 5054790001 Plug-in battery charging module
- B2F020 A5Q00025281 Converter 115/230 V AC ->29.6 V DC, 6 A
- B2F040 5102990001 Converter 115/230 V AC ->29.6 V DC, 3.5 A
- FA2006-A1 A5Q00019356 12 V / 24 Ah battery
- FA2007-A1 A5Q00022897 12 V / 38 Ah battery
- FA2005-A1 A5Q00019677 12 V / 15 Ah battery

FÜ = Remote transmission
36 Emergency power supply

36.1 Determining the battery capacity

Emergency current batteries available
- FA2006-A1 A5Q00019356 12 V/24 Ah battery\(^1\)
- FA2007-A1 A5Q00022897 12 V/38 Ah battery\(^1\)
- FA2005-A1 A5Q00019677 12 V/15 Ah battery\(^1\)

\(^1\) The battery capacities supplied may be slightly higher.

The values 15 Ah, 24 Ah and 38 Ah should be taken into account when defining the battery capacities needed.

Nominal battery capacity
- The nominal battery capacity is based on discharge over a period of 20 hours
- Faster discharge results in drops in capacity:
  ➔ With 12-hour discharge: 9% drops (K = 1.1)

Battery aging
- As the battery ages, capacity is reduced
  ➔ A safety factor should be used for aging (total quiescent current \(\times\) 1.25 or battery capacity \(\times\) 0.8) > 24 h, according to DIN VDE 0833, Part 2 a safety factor is no longer needed

Calculation
The battery capacity should be calculated individually!

Formula:
\[
Ah = A \times h \quad \text{(with 72 h battery)}
\]
\[
Ah = A \times h \times 1.25 \quad \text{(with 24 h battery)}
\]
\[
Ah = A \times h \times 1.25 \times 1.1 \quad \text{(with 12 h battery)}
\]

A = sum of quiescent current of all components (see chap. 36.2)

h = operating period needed in hours

1.25 = safety factor for aging with 12 h and 24 h batteries only

1.1 (K) = drops in capacity with 12 h battery only

Ah = battery capacity in Ah
### 36.2 Quiescent current table

- Quiescent current during battery operation (24 V)
- As basis for individual emergency current calculation
- The current of the 5 V supply is included in these values

<table>
<thead>
<tr>
<th>Component</th>
<th>Quiescent current at 24 V DC (typical)</th>
<th>Extra current during alarm</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1F120 / B2F020 / B2F040 / B2F060</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B2Q191 / B1Q101</td>
<td>33 mA</td>
<td>max. 1 A for duration of print process</td>
</tr>
<tr>
<td>B3Q321</td>
<td>17 mA</td>
<td>+ 5 mA</td>
</tr>
<tr>
<td>B3Q440</td>
<td>25 mA</td>
<td>+ 10 mA</td>
</tr>
<tr>
<td>B3Q6.. /566</td>
<td>100 mA with inactive lighting (active = + 200 mA)</td>
<td>+ 230 mA</td>
</tr>
<tr>
<td>B3Q80</td>
<td>20 mA</td>
<td>+ 160 mA</td>
</tr>
<tr>
<td>B3Q950 / 595</td>
<td>18 mA</td>
<td>+ 167 mA</td>
</tr>
<tr>
<td>B3R051</td>
<td>22 mA all LEDs inactive</td>
<td>+ 2 mA per activated LED</td>
</tr>
<tr>
<td>E3C011</td>
<td>50 mA</td>
<td>0</td>
</tr>
<tr>
<td>E3G050</td>
<td>10 mA all relays inactive</td>
<td>+ 11 mA per activated relay</td>
</tr>
<tr>
<td>E3G060</td>
<td>25 mA all control lines connected</td>
<td>+ 23 mA per activated control line, no ext. load</td>
</tr>
<tr>
<td>E3G070</td>
<td>25 mA 'Horn' control lines terminated</td>
<td>+ 34 mA without external load (horns, etc.)</td>
</tr>
<tr>
<td>E3G080</td>
<td>35 mA all lines terminated</td>
<td>+ 25 mA without external load (valves, horns, etc.)</td>
</tr>
<tr>
<td>E3G091</td>
<td>0 all channels inactive</td>
<td>+ 9 mA per activated channel</td>
</tr>
<tr>
<td>E3G110</td>
<td>0 during degraded mode and alarm active only</td>
<td>+ 15 mA mode per activated channel during degraded mode</td>
</tr>
<tr>
<td>E3H021</td>
<td>85 mA</td>
<td>0</td>
</tr>
<tr>
<td>E3I020</td>
<td>25 mA</td>
<td>0</td>
</tr>
<tr>
<td>E3L020</td>
<td>22 mA</td>
<td>+ .. mA depending on what is activated</td>
</tr>
<tr>
<td>E3L030</td>
<td>18 mA</td>
<td>+ 40 mA no external load (FBF, HM, FSK)</td>
</tr>
<tr>
<td>E3M060</td>
<td>155 mA (=120 mA + 0.7 mA per MS9i element)</td>
<td>1) 0</td>
</tr>
<tr>
<td>E3M071</td>
<td>115 mA (=50 mA + 0.5 mA per D bus device)</td>
<td>1) 0</td>
</tr>
<tr>
<td>E3M171</td>
<td>70 mA with 32 detectors (=50 mA without detectors + 0.5 mA per D bus device)</td>
<td>1) 0</td>
</tr>
<tr>
<td>E3M080</td>
<td>85 mA 37 mA + 6 mA per terminated line</td>
<td>+ 10 mA per line in alarm</td>
</tr>
<tr>
<td>E3M111</td>
<td>210 mA (=50 mA + 0.31 mA per D bus device)</td>
<td>1) 0</td>
</tr>
<tr>
<td>E3M120</td>
<td>8.5 mA + 1.3 mA for each detector address</td>
<td>0</td>
</tr>
<tr>
<td>E3M141</td>
<td>80 mA without devices (+0.47 mA per load factor)</td>
<td>+ .. mA depending on what is activated</td>
</tr>
<tr>
<td>E3X102/103</td>
<td>120 mA 'Horn' control line terminated</td>
<td>+ 50 mA without external load (horns, etc.)</td>
</tr>
<tr>
<td>K1D012</td>
<td>25 mA</td>
<td>0</td>
</tr>
<tr>
<td>K1D012</td>
<td>50 mA</td>
<td>0</td>
</tr>
<tr>
<td>K1D140</td>
<td>25 mA</td>
<td>0</td>
</tr>
<tr>
<td>K1H022</td>
<td>20 mA (all LEDs and optocouplers active)</td>
<td>0</td>
</tr>
<tr>
<td>K3G060</td>
<td>6 mA</td>
<td>+ 3 mA per relay</td>
</tr>
<tr>
<td>K3R072</td>
<td>22 mA</td>
<td>+ 2 mA per activated LED (-&gt; F50F410)</td>
</tr>
<tr>
<td>NK923x</td>
<td>190 mA</td>
<td>0</td>
</tr>
<tr>
<td>Z3B171</td>
<td>0</td>
<td>+ 27 mA per activated relay</td>
</tr>
<tr>
<td>E3I040</td>
<td>15 mA no external 24 V loading</td>
<td>0</td>
</tr>
<tr>
<td>K3I050</td>
<td>15 mA</td>
<td>+ 0 mA or 4 mA per activated LED</td>
</tr>
<tr>
<td>K3I090</td>
<td>50 mA</td>
<td>0</td>
</tr>
<tr>
<td>K3I110</td>
<td>24 mA max. 184 mA all rel. activated including service LED</td>
<td>+ 10 mA per activated relay</td>
</tr>
<tr>
<td></td>
<td></td>
<td>+ 0.5 mA per input with closed contact</td>
</tr>
</tbody>
</table>

1) only valid for devices with APMK = 1 / IMK = 1 (value for devices > 1 multiplied). **DC1151 example:** 0.5 mA x 12 = 6 mA
## 36.3 Capacity values for standard configurations

<table>
<thead>
<tr>
<th>CS1140 configuration</th>
<th>Quiescent current</th>
<th>Battery capacity requirement for 12 h</th>
<th>24 h</th>
<th>72 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>CI with 128 detectors interactive (B3Q... + 1xE3M071 including detector + 1xE3G070 + 1xE3C011)</td>
<td>260 mA</td>
<td>4.2 Ah</td>
<td>7.8 Ah</td>
<td>18.7 Ah</td>
</tr>
<tr>
<td>CI with 128 detectors AnalogPLUS (B3Q... + 1xE3M111 including detector + 1xE3G070 + 1xE3C011)</td>
<td>235 mA</td>
<td>3.8 Ah</td>
<td>7.0 Ah</td>
<td>16.9 Ah</td>
</tr>
<tr>
<td>CI with 16 lines collective (B3Q... + 2xE3M080 including detector + 1xE3G070 + 1xE3C011)</td>
<td>315 mA</td>
<td>5.1 Ah</td>
<td>9.4 Ah</td>
<td>22.6 Ah</td>
</tr>
<tr>
<td>CI with 126 Sinteso™ detectors (calculated using a load factor of 1) (B3Q... + 1xE3M141 including detector + 1xE3G070 + 1xE3C011)</td>
<td>284 mA</td>
<td>4.7 Ah</td>
<td>8.5 Ah</td>
<td>20.4 Ah</td>
</tr>
<tr>
<td>CC with 512 detectors interactive (Example) (E3X102/103 + 1xB3Q... + 4xE3M071 including detectors + 2xE3L020)</td>
<td>724 mA 1)</td>
<td>11.9 Ah</td>
<td>21.7 Ah</td>
<td>52.1 Ah</td>
</tr>
<tr>
<td>CC with 512 detectors AnalogPLUS (E3X102/103 + 1xB3Q... + 1xE3M111 including detectors + 2xE3L020)</td>
<td>474 mA 2)</td>
<td>7.8 Ah</td>
<td>14.2 Ah</td>
<td>34.1 Ah</td>
</tr>
<tr>
<td>CC with 64 lines collective (E3X102/103 + 1xB3Q... + 8xE3M080 including detectors + 2xE3L020)</td>
<td>944 mA 3)</td>
<td>15.5 Ah</td>
<td>28.3 Ah</td>
<td>67.9 Ah</td>
</tr>
<tr>
<td>CC with 252 Sinteso™ detectors (calculated using a load factor of 1) (E3X102/103 + 1xB3Q... + 1xE3M141 including detectors + 2xE3L020)</td>
<td>462 mA 4)</td>
<td>7.6 Ah</td>
<td>13.8 Ah</td>
<td>33.3 Ah</td>
</tr>
</tbody>
</table>

### Example:
1) $E3X102/103 + 1x B3Q… + 4x E3M071 including detectors + 2x E3L020 \ (120 \text{ mA} + 100 \text{ mA} + 460 \text{ mA} + 44 \text{ mA} = 724 \text{ mA})$
2) $724 \text{ mA} \times 12 \text{ h} \times 1.25 \times 1.1 = 11.9 \text{ Ah}$
3) $724 \text{ mA} \times 24 \text{ h} \times 1.25 = 21.7 \text{ Ah}$
4) $724 \text{ mA} \times 72 \text{ h} = 52.1 \text{ Ah}$
5) For an accurate calculation, use document 008478 (Excel sheet)

### Notes:
- Fault signal acknowledged
- LCD backlighting inactive (timeout expired)
- Alarm devices, remote transmission devices etc. not considered
- Alarming duration:
  - Alarming duration not considered (in most countries an alarming duration of 10… 30 min. still has to be considered with effectively connected alarm devices), see chap. 36.2
  - Also consider quiescent current for extra battery charging plug-in module E3C011
Alarming concept

37 Alarming concept

- The alarming concept must be defined individually for each system
- The rapid forwarding of alarm messages to the corresponding circle of recipients is important

The requirements vary between
- "Discrete alarming" of the investigation crew, e.g. using human search system
- "Alarming / evacuation" for people familiar with location
- "Alarming / evacuation" for people not familiar with location
- "Area evacuation", e.g. floor

37.1 Cerberus alarm concept (CAC)

- The Cerberus alarm concept prevents the unnecessary calling-out of the fire brigade for minor incidents
- The CAC is based on a "presence-dependent" form of alarm organization:
  - **Presence** of operating staff, known as 'Manned'
  - **Absence** of operating staff, known as 'Unmanned'
- The response of the operating staff is monitored by 2 independent time circuits (V1 and V2)
- The CAC is an integrated part of the CC11/CI11 control panel, the parameters needed can be entered via user functions

**Principle of the Cerberus alarm concept**
- During the "Manned" operating status, if an alarm is sounded the location of the fire is first sought, and the decision on whether it is a "Serious/ minor incident" taken locally
- During the "Manned" operating status, all alarms immediately activate "Remote alarms"
- Activation of a manual call point always immediately triggers a "Remote alarm"
37.2 Defining alarm organization

- The CS1140 fire detection system has up to 64 programmable organizational levels (AREAS)
- Different "alarming variants" are possible (can be selected per OBJECT)
- The "V1" and "V2" time memories should be defined individually
- The "V2" time memory can be defined per OBJECT (if needed)
- Various country-specific special functions are available
- The alarm organization is programmed individually (via maintenance PC)

37.3 Designing the system operating unit

- The place from which the fire detection installation is operated must be defined from an organizational standpoint
- If necessary, a double operation unit must be provided
- Particularly exposed operating units should be fitted with lockable plexi glass doors (H26T... + Z3S...)
- The type of event and geographic location are displayed on the operating unit in plain text
- The names of the geographic locations (rooms etc.) are defined individually using "user text" (via maintenance PC)
- If necessary, an extra event-related instruction, known as 'measures text' can be assigned to certain rooms
- The fire detection installation may only be operated by instructed persons (access to the operating unit is therefore protected by password or key switch)
  ➔ For details of the AlgoPilot operating console, see page 47
38 Protective elements

Purpose
Protection from overvoltage and electromagnetic influences (EMI).

Normal usage

Control panel
- No extra protective measures needed. All plug-in modules have integrated protection from overvoltage and electromagnetic influence, but no protection from lightning.

Installation
- As a rule use twisted cables, for detector lines, data lines, external supply lines and lines to alarm devices.

Special measures
In systems at particular risk of lightning strikes, such as:
- Switchyards
- Alpine transmission installations
  ➔ Provide **surge arrester** for mains supply line
If extreme HF mains faults are expected
  ➔ Provide **mains filter** for mains supply line

If Z3I041 or B3P020 is used, and fitted near the mains terminals, E3M060/071/171/120 + E3C011 are not possible on item 36!

For details → see documents 001260 and 1683

Components

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3P020</td>
<td>A5C000008751 250 V AC / 6 A mains filter</td>
</tr>
<tr>
<td>Z3I041</td>
<td>4962900001 230 V AC surge arrester kit</td>
</tr>
<tr>
<td>Z3I121</td>
<td>4963000001 110 V AC surge arrester kit</td>
</tr>
<tr>
<td>–</td>
<td>56457500001 C mounting rail TS32 L=108 mm</td>
</tr>
</tbody>
</table>
The CS1140 fire detection system is designed for a rational installation setup. **Connection** to the control panel may be undertaken **by experts without special training** (e.g. external electricians). Coordinated construction management is however still indispensable. A specially trained person with a maintenance PC is needed for commissioning (service technician).

### Procedure

#### Preparatory work (by designer / construction manager)
- Plan system
- Produce connection diagram for control panel
- Supply control panel housing, component carrier and connection panel
- Instruct assembly staff

#### Assembly / connection of control panel (by electrician)
- Installation of component carrier at intended location
- Connect lines to detectors, alarm devices etc. on connection panel according to diagram
- Check detector supply network up to and including connection panel in control panel

#### Commissioning (by service technician)
- Fit board holder, connection cable, etc.
- Insert electronic plug-in modules and attach I bus
- Produce logical structure of system or adopt from designer
- Define system-specific functions
- Define user text
- Set parameters for detectors using special evaluation algorithms
- Detector localization
- Check control panel and detectors
- Download system data

For details, see document 004594
Flash programming, parameter setting

40 Flash programming, parameter setting

- The parameters for the CS1140 fire detection system are set via the maintenance PC using the ‘AlgoWorks’ software tool kit.
- Online help text in various local languages
- 2 user levels (service technician; national manager)
- Program new software using 'FlashTool' software. For the E3X102/103, B3Q6../566 and E3H021 components, the application software is loaded to the Flash-ROM via the maintenance PC using ‘FlashTool’ software.

→ For details, see document 004282

40.1 Flash programming of new application software

1) For releasing the Flash programming. Press 'Reset' after changing.
40.2 Download system data

40.2.1 61.2.1 B3Q4../B3Q6../E3X10./E3H02.

Functions at "Service technician" level
- If necessary, load new application software (Flash)
- Produce/add to logical structure for system
- Define user functions (system-specific)
- Define/correct user text
- Detector localization
- Data transfer of user functions

Components

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3D021</td>
<td>50525900001 Modem box for AlgoWorks (DUAL RS232 ITF)</td>
<td>Complete with 20-pole flat cable, L=0.2 m</td>
</tr>
<tr>
<td></td>
<td>5053300001 Flat cable L=0.2 m</td>
<td>As spare part</td>
</tr>
<tr>
<td>F14E320</td>
<td>4514390001 Y-flat cable, 14-wire, 0.5 m</td>
<td>Options for programming E3H021</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>B1F120</td>
<td>Converter 115/230 V AC &gt; 24 V DC, 3 A</td>
<td></td>
</tr>
<tr>
<td>B1O101</td>
<td>Tape printer 19&quot;/3HU, 24 V DC</td>
<td></td>
</tr>
<tr>
<td>B2F020</td>
<td>Converter 115/230 V AC -&gt;29.6 V DC, 6 A</td>
<td></td>
</tr>
<tr>
<td>B2F040</td>
<td>Converter 115/230 V AC -&gt;29.6 V DC, 3.5 A</td>
<td></td>
</tr>
<tr>
<td>B2F060</td>
<td>Converter 115/230 V AC &gt; 24 V DC, 4.5 A</td>
<td></td>
</tr>
<tr>
<td>B2Q191</td>
<td>Tape printer 19&quot;/6HU, 24 V DC</td>
<td></td>
</tr>
<tr>
<td>B3D021</td>
<td>Modern box DUAL RS232 ITF</td>
<td></td>
</tr>
<tr>
<td>B3P020</td>
<td>Mains filter 250 V, 6 A</td>
<td></td>
</tr>
<tr>
<td>B3Q21</td>
<td>'CH' fire brigade operating unit</td>
<td></td>
</tr>
<tr>
<td>B3Q440</td>
<td>Standard 'Extinguishing' operating terminal</td>
<td></td>
</tr>
<tr>
<td>B3Q566</td>
<td>Standard 'China' operating terminal</td>
<td></td>
</tr>
<tr>
<td>B3Q61</td>
<td>'International' comfort operating terminal</td>
<td></td>
</tr>
<tr>
<td>B3Q681</td>
<td>'Nordic' comfort operating terminal</td>
<td></td>
</tr>
<tr>
<td>B3Q686</td>
<td>'CH' comfort operating terminal</td>
<td></td>
</tr>
<tr>
<td>B3Q580</td>
<td>'2x24 displays' parallel display</td>
<td></td>
</tr>
<tr>
<td>CARSxxx</td>
<td>EPROM kit for 'CA11'</td>
<td></td>
</tr>
<tr>
<td>CAQTSxxx</td>
<td>'China simple' EPROM kit</td>
<td></td>
</tr>
<tr>
<td>CAQTXxxx</td>
<td>'China traditional' EPROM kit</td>
<td></td>
</tr>
<tr>
<td>CAQTLxxx</td>
<td>'Korea standard' EPROM kit</td>
<td></td>
</tr>
<tr>
<td>CQX00xxx</td>
<td>EPROM kit for E3X101</td>
<td></td>
</tr>
<tr>
<td>CCX00xxx</td>
<td>Flash program file for E3X102</td>
<td></td>
</tr>
<tr>
<td>CKX00xxx</td>
<td>Flash program file for E3H021</td>
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<td>'Monitored' control plug-in module</td>
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E3G070 5466610001 ‘Universal’ control plug-in module
E3G080 4759490001 ‘Extinguishing’ control plug-in module
E3G091 4977070001 ‘CH’ remote transmission interface
E3G110 5049910001 Degraded mode link
E3H021 ASQ00024660 Gateway plug-in module
E3I020 4602390001 RS232 plug-in module
E3I040 4993100001 LON plug-in module
E3L020 5466450001 ‘Driver’ control plug-in module
E3L030 4759940001 ‘VD5’ control plug-in module
E3M060 4602260001 ‘MS9’ line plug-in module
E3M071 4984050001 ‘Interactive’ line plug-in module
E3M080 4602680001 ‘Collective’ line plug-in module
E3M111 5115310001 ‘AnalogPLUS’ line plug-in module
E3M120 5340130001 ‘CBA’ line plug-in module
E3M141 S54405-A9-A1 ‘FD20’ line plug-in module
E3M171 5286340001 ‘Interactive Ex’ line plug-in module
E3X101 5466740001 EPROM control panel module and RAM kit separately
E3X102 6290250001 Flash ROM control panel module and 1MB RAM fitted
E3X103 6290380001 Flash ROM control panel module and 2MB RAM fitted
F
F12A100 4952750001 ‘Micro’ 12-wire, 0.4 m flat cable
F12A470 4952880001 ‘Micro’ 12-wire, 1.5 m flat cable
F14A230 4767670001 Flat cable, 14-wire, 0.25 m
F14A320 3196520001 Flat cable, 14-wire, 0.5 m
F20A020 4968630001 ‘Micro’ 20-wire, 0.650 m flat cable
F20A140 4953270001 ‘Micro’ 20-wire, 1 m flat cable
F50F410 5291410001 LED flat cable for K3R072
FA2006-A1 A5Q00019356 12 V / 24 Ah battery
FA2007-A1 A5Q00022897 12 V / 38 Ah battery
FA2005-A1 A5Q00019677 12 V / 15 Ah battery
G
G1E010 3842760001 Universal carrier 3HU
G2A130 4750880001 19’/6HU adapter plate for AlgoPilot B3Q...
G2A140 4842280001 19’/6HU adapter plate for B3Q321/B3R051
G2F031 4092900001 19’/6HU front frame
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H15Z200 4597160001 Folder pocket for H98T...
H15Z300 4761970001 Battery retaining plate for H47E110
H23B010 4762100001 Cover for H38T010 / H47T110
H23B020 4762780001 Cover for H28T110/130
H23B040 4845900001 Information module
H23G230 4750910001 Plastic housing for B3Q321/440 B3R051
H23U230 5328790001 Recess-mounted box for B3Q5xx
H23Z010 5339590001 Housing for AlgoPilot B3Q... (flat doors)
H23Z020 5339620001 Housing for special applications (flat doors)
H37G410 5339590001 ‘Doors without cut-out’ housing kit
H37G420 5341070001 ‘Doors with cut-out’ housing kit
H38G310 5339620001 ‘Doors without cut-out’ housing kit
H38G320 5341070001 ‘Doors with cut-out’ housing kit
H47T101 4953560001 Housing frame and ‘doors without cut-out’
H47T111 4953690001 Housing frames and ‘doors with cut-out’
H67E101 5097050001 Component carrier for H67...
H67G061 4955500001 ‘Doors without cut-out’ housing kit
### CS1140 components in alphabetical order

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<tr>
<td>H67T101</td>
<td>Housing frame and 'doors without cut-out'</td>
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<td>Housing 42HE with base</td>
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<td>42HE doors, hinged on right, no windows</td>
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<td>Communications board for Cerloop application</td>
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<td>Relay board</td>
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<td>LON I/O board</td>
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<td>For I bus plug-in modules</td>
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</table>
The following pages are intended as templates for copying or can be used as a suggestion for a country-specific tool.

The system-specific configuration (use of installation space, number and type of components, etc.) is entered on these sheets.

List of configuration sheets:

- **Configurations with AlgoPilot B3Q... as main CPU**
  - CI1142 in housing H38... (flat) → page 114
  - CI1142 in housing H38... (deep) → page 114
  - CI1142 in housing H47... → page 116

- **Configurations with E3X10. as main CPU**
  - CC1142/43 in housing H47... → page 117
  - CC1142/43 in housing H47...(with extra power supply) → page 118
  - CC1142/43 in housing H67...(standard) → page 119
  - CC1142/43 in housing H67...(with 2 sets of batteries) → page 120
  - CC1142/43 in housing H67...(with extended connection panel) → page 121

- **Configurations with upright cabinet**
  - CS1140 in housing H98G600 → page 122

- **Configurations of AlgoPilot B3Q... operating units**
  - CT1142 → page 123

- **Configurations of display & operating device**
  - B3Q580/590/595, B3Q321, B3Q440, B3R051 etc. → page 124

- **Components positioned externally**
  - K3I110, K3I050, K3R072, K3G060 etc. → page 124

- **Printer configuration**
  - B2Q191, B1Q101 → page 125
**43.1 CI1142 in housing H38... (flat)**

**System:**

<table>
<thead>
<tr>
<th>Type of detector line</th>
<th>Interactive</th>
<th>Interactive Ex</th>
<th>AnalogPLUS</th>
<th>FDnet</th>
<th>MS9i</th>
<th>Collective</th>
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</tr>
<tr>
<td>Number of detector lines</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire controls</td>
<td>For 30V</td>
<td>For 250 V</td>
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<td>Number of control outputs</td>
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</table>

**Plug-in modules**

- E3M060 4602620001
- E3M071 4984050001
- E3M171 5286340001
- E3M080 4602880001
- E3M111 5115310001
- E3M120 5340130001
- E3M141 S54405-A9-A1
- E3L020 5466450001
- E3G050 4602550001
- E3G060 5425390001
- E3G070 5466610001
- E3G080 4759400001
- E3H021 ASQ00024960
- E3I020 4993100001
- E3I040 4993100001
- K3I090 5108200001

**Cables, terminals, relays**

- 21 Z1K030 4842310001
- Z3J380 4759670001
- Z3J470 4843410001
- Z3B171 4843830001

**Power supply, options**

- B2F020 ASQ00025281
- E3C011 5054790001
- FA2005-A1 ASQ00019677
- Z3I450 4842730001

**Battery (12 V / 15 Ah)**

- EM2005-A1

**Housing kit**

- H38G220 4849140001

**Operating console**

- B3Q...
- H2B...
- Z3S...
- V26...

**Options**

- H23B010 4752100001
- H23B040 4845990001

---

**Note:**

- E3M060/071/171/120 and E3C011 are not possible at positions 28+38
- Position 57 must not be fit with either E3I040 or E3G080 modules

---

**EMC Precaution:**

- For details see page 31

---

**View B**

- View A

---

**View A**

- View B

---

**Battery (12 V / 15 Ah)**

- EM2005-A1

---

**Operating console**

- B3Q...
- H2B...
- Z3S...
- V26...

---

**Options**

- H23B010 4752100001
- H23B040 4845990001

---

**Configuration sheets**

**114**

Building Technologies

Fire Safety & Security Products

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43.2 CI1142 in housing H38... (deep)

System:

<table>
<thead>
<tr>
<th>Type of detector line</th>
<th>Interactive</th>
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<th>AnalogPLUS</th>
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</tr>
<tr>
<td>Fire controls</td>
<td></td>
<td></td>
<td></td>
<td>For 30V</td>
<td></td>
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<tr>
<td>Number of control outputs</td>
<td></td>
<td></td>
<td></td>
<td>For 250 V</td>
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</tbody>
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Plug-in modules

- E3M060 4602260001
- E3M071 4984050001
- E3M171 5286340001
- E3M080 4602680001
- E3M111 5115310001
- E3M120 5340130001
- E3M141 554405-A9-A1
- E3L020 5466450001
- E3G050 4602550001
- E3G060 5425390001
- E3G070 5466110001
- E3G080 4759400001
- E3G110 5049910001
- E3H021 ASQ00024660
- E3I020 4602390001
- E3I040 4993100001
- K3I090 5108200001

Cables, terminals, relays

- Z1K030 4842310001
- Z3I380 4759670001
- Z3I470 4843410001
- Z3B171 4843830001

Power supply, options

- B2F020 ASQ00025281
- E3C011 5054790001
- FA2006- A1 ASQ00019356
- FA2005- A1 ASQ00019677
- Z3I450 4842730001

Battery (12 V / 24 Ah)

- FA2006-A1
- FA2005-A1

Battery (12 V / 15 Ah)

- FA2006-A1
- FA2005-A1

Housing kit

- H38G320 4849430001

Operating console

- B3Q...
- Z5B...
- H26T...
- Z3S...
- V2G...

Options

- B3R051 4905130001
- B3Q321 5656840001
- B3Q440 4759520001
- H23B010 4762100001
- H23B040 4849800001

EMC Precaution:
Slot rows with E3C011 module must not be fit with either E3I040 or E3G080 modules!
### 43.3 CI1142 in housing H47...

#### System:

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<th>Interactive Ex</th>
<th>AnalogPLUS</th>
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<th>MS9i</th>
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<tr>
<td>Fire controls</td>
<td>For 30V</td>
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<tr>
<td>Number of control outputs</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

#### Plug-in modules

- **E3M060**
  - 4602600001
- **E3M071**
  - 4984050001
- **E3M171**
  - 5286340001
- **E3M080**
  - 4602890001
- **E3M111**
  - 5153310001
- **E3M120**
  - 5340130001
- **E3M141**
  - 54405-A9-A1
- **E3L020**
  - 5464650001
- **E3L030**
  - 4759940001
- **E3G050**
  - 4602550001
- **E3G060**
  - 5425990001
- **E3G070**
  - 4759400001
- **E3G080**
  - 5425390001
- **E3G110**
  - 5049910001
- **E3H021**
  - ASQ00024650
- **E3I020**
  - 4603950001
- **E3I040**
  - 4939100001
- **K3I090**
  - 5108200001

#### Cables, terminals, relays

<table>
<thead>
<tr>
<th>1</th>
<th>Z1I020</th>
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- **Z3I330**
  - 4751560001
- **Z3I380**
  - 4751560001
- **Z3B171**
  - 5049910001
- **F20A140**
  - 4602550001
- **F20A410**
  - 4602550001
- **Z3I450**
  - 4842730001

#### Power supply, options

- **B2F020**
  - ASQ00025281
- **E3C011**
  - 5054790001
- **FA2006-A1**
  - 3054790001
- **FA2007-A1**
  - 4602550001
- **FA2006-A1**
  - 4602550001
- **FA2007-A1**
  - 4602550001

#### Housing kit

- **H47G611**
  - 4842730001

#### Operating console

- **B3Q...**
- **Z5B...**
- **H26T...**
- **Z3S...**
- **V2G...**

#### Extra devices, options

- **B3R051**
  - 4905130001
- **B3Q321**
  - 5656840001
- **B3Q440**
  - 4953270001
- **H23B010**
  - 4762100001
- **H23B040**
  - 4845900001

---

*EMC Precaution:*

Relative to each E3C011 module position, two positions to the right and two positions to the left must **not** be filled with either E3I040 or E3G080 modules!

* 'CH' only

*3 items included in H47G601/611

*Not fit*

If Z3I041 or B3P020 is used, on Pos. 36 E3M090/171/112/120 and E3C011 is **not possible!**

---

*For details see page 58"
43.4 CC1142/43 in housing H47...

System:

<table>
<thead>
<tr>
<th>Type of detector line</th>
<th>Interactive</th>
<th>Interactive Ex</th>
<th>AnalogPLUS</th>
<th>FDnet</th>
<th>MS9i</th>
<th>Collective</th>
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<tbody>
<tr>
<td>Number of detector addresses</td>
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<tr>
<td>Number of detector lines</td>
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<tr>
<td>Fire controls</td>
<td>For 30V</td>
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<tr>
<td>Number of control outputs</td>
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</tr>
</tbody>
</table>

Plug-in modules:

- E3X10.
- E3M060 4602260001
- E3M071 4984050001
- E3M171 5286340001
- E3M080 4602680001
- E3M111 5115310001
- E3M120 5340130001
- E3M141 554405-A9-A1
- E3L020 5466450001
- E3G050 4602550001
- E3G060 5425390001
- E3G070 5466610001
- E3G080 4759400001
- E3G110 5049910001
- E3H021 A5Q00024660
- E3I020 4602390001
- E3I040 4993100001
- E3I090 5108200001
- E3M060/071/171/120
- E3C011
- E3I020
- E3I040
- E3I090

Cables, terminals, relays:

- FA2006-A1
- FA2007-A1
- H47G601
- H47G611

Power supply, options:

- B2F020 A5Q00025281
- Z3I330 4751560001
- Z3I350 4753580001
- Z3I350 4755870001
- Z3I171 4843830001
- Z3I171 4843830001
- Z3I171 4843830001
- Z3A040 4953270001
- Z3I100 5108200001
- Z3I100 5108200001

Optional equipment:

- Battery (12 V / 24 Ah)
- Battery (12 V / 38 Ah)
- Housing kit
- Operating console

For details see page 37

See page 37 for details.
**43.5 CC1142/43 in housing H47... (with extra power supply)**

**System:**

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<tr>
<th>Type of detector line</th>
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<td>Number of detector lines</td>
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<tr>
<td>Fire controls</td>
<td>For 30V</td>
<td>For 250 V</td>
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<tr>
<td>Number of control outputs</td>
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</table>

**Plug-in modules**

- E3X10.
- E3M060
- E3M071
- E3M171
- E3M080
- E3M111
- E3M120
- E3M141
- E3L020
- E3L030
- E3G050
- E3G060
- E3G070
- E3G080
- E3G110
- E3H021
- E3I020
- E3I040
- E3L030
- E3I040

**Cables, terminals, relays**

- FA2006-A1
- FA2007-A1

* 3 items included in H47G601/611

**Power supply, options**

- B2F020
- E3C011
- FA2006-A1
- FA2007-A1

**Battery (12 V / 24 Ah)**

- FA2006-A1
- FA2007-A1

**Battery (12 V / 38 Ah)**

- FA2006-A1

**Housing kit**

- H47G601
- H47G611

**Component carrier, options**

- H47E100
- H47T101
- H15Z300

**Operating console**

- B3...
- Z3B...
- H26...
- Z3...
- V2G...

---

*CH* only

- For details see page 39

---

For AlgoPilot see Page 50
### System:

<table>
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<tr>
<th>Type of detector line</th>
<th>Interactive</th>
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<th>AnalogPLUS</th>
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<td>Fire controls</td>
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<tr>
<td>Number of control outputs</td>
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#### 43.6 CC1142/43 in housing H67... (Standard)

#### Plug-in modules

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#### Cables, terminals, relays

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<th>Code</th>
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#### Power supply, options

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#### Battery (12 V / 24 Ah)

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<td>H67G611</td>
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#### Housing kit

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#### Component carrier, options

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<td>H26T..</td>
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<td>Z3..</td>
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</tr>
<tr>
<td>V2G..</td>
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</tr>
</tbody>
</table>

---

**Attention:**

- H67G601 is only suitable for H67E101 plug-in modules 38/48/58.
- Cannot be used.

---

**Configuration sheets**

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06.2011
System:

<table>
<thead>
<tr>
<th>Type of detector line</th>
<th>Interactive</th>
<th>Interactive Ex</th>
<th>AnalogPLUS</th>
<th>FDnet</th>
<th>MS9i</th>
<th>Collective</th>
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<td>Number of detector addresses</td>
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<tr>
<td>Number of detector lines</td>
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<tr>
<td>Fire controls</td>
<td>For 30V</td>
<td>For 250 V</td>
<td></td>
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<tr>
<td>Number of control outputs</td>
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Plug-in modules

- E3X10. 
- E3M060 4602260001
- E3M071 4864050001
- E3M171 5286340001
- E3M080 4602680001
- E3M111 5115310001
- E3M120 5340130001
- E3M141 S54405-A9-A1
- E3L020 5466450001
- E3L030 4759940001
- E3G050 4602950001
- E3G060 5425390001
- E3G070 5466810001
- E3G080 4759400001
- E3G110 5049910001
- E3H021 ASQ00024660
- E3I020 4602390001
- E3I040 4993100001
- K3I090 5108000001
- E3M060/071/1 71/120
- E3C011 are not possible on item 36!

Power supply, options

- B2F020 ASQ00025281
- E3C011 5054790001
- FA2006- A1 ASQ00019356
- FA2007-A1 5286340001
- E3C011 5049910001
- E3H021 ASQ00024660
- E3I020 4602390001
- E3I040 4993100001
- K3I090 5108000001

Battery (12 V / 24 Ah)

- Battery (12 V / 38 Ah)

All variants

For AlgoPilot see Page 50

Housing kit

- H67G601 4955500001
- H67G611 4956600001

Component carrier, options

- H67E101 5097050001
- H67Z020 4969020001
- H15Z300 4761970001

Operating console

- B3G... 
- Z5B...
- H26T...
- Z3S...
- V2G...

For details see page 43

<-- for details see page 43
### System:

<table>
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<tr>
<th>Type of detector line</th>
<th>Interactive</th>
<th>Interactive Ex</th>
<th>AnalogPLUS</th>
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<th>MSSi</th>
<th>Collective</th>
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<td>Fire controls</td>
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<td>Number of control outputs</td>
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**Plug-in modules**

- E3X10.
- E3M060 4602260001
- E3M071 4948050001
- E3M171 5286340001
- E3M080 4602690001
- E3M111 5115310001
- E3M120 5340130001
- E3M141 554405-A9-A1
- E3L020 5466450001
- E3L030 4759940001
- E3G050 4602550001
- E3G060 5425390001
- E3G070 4966100001
- E3G080 4759400001
- E3G110 5049910001
- E3L021 ASQ00024660
- E3I020 4602390001
- E3I040 4993100001
- K3I090 5108200001

**Cables, terminals, relays**

- Z1I040 4755120001
- Z1I050 4755250001
- Z1I070 5286150001
- Z1I110 ASQ00007478
- Z1I330 4751560001
- Z1I350 4753360001
- Z1I360 4755360001
- Z1I717 4843830001
- Z1I870 4966440001
- F20A140 4986630001
- F20A410 4935270001

**Power supply, options**

- B2F020 ASQ00025281
- FA2006-A1 ASQ00019356
- FA2007-A1 ASQ00022897
- Z3I450 4842730001

**Housing kit**

- H67G601 4955500001
- H67G611 4956600001

**Component carrier, options**

- H67E101 5097000001
- H7Z300 4761967001

**Operating console**

- B3Q... 121
- Z6B...
- H2T...
- Z5S...
- V2G...

---

*For details see page 43*

---

*For details see page 50*
This configuration sheet is intended only to specify the mechanical components.
The 'CC1142/43 ...' configuration sheets can be used to specify the electronics.

### Housings, doors, covers

<table>
<thead>
<tr>
<th>Housings, doors, covers</th>
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<tr>
<td>H98G600</td>
<td>4161280001</td>
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<td>H98T000</td>
<td>4161310001</td>
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<td>H98T020</td>
<td>4594150001</td>
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<td>H98Z010</td>
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### Folder pocket

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<td>H15Z200</td>
<td>4591700001</td>
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### Component carrier

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<td>H67E111</td>
<td>5097180001</td>
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<td>H67Z020</td>
<td>4996020001</td>
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<td>H47E100</td>
<td>4748850001</td>
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<td>G1E010</td>
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### Retaining plate for batteries

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### Options for installation on rear wall

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<td>Z3G170</td>
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### Options for 19" adaptation

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<td>H28V090</td>
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<td>H28V010</td>
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### Options for 19"

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<td>G2A140</td>
<td>4842800001</td>
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<td>G2F031</td>
<td>4092900001</td>
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<td>Z3B180</td>
<td>4472070001</td>
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### Profile bar on rear panel H98G600

- H67E100
- or
- H67E110

### Cable duct

- 04 Main terminals
- H67E110
### 43.10 AlgoPilot CT1142 operating unit

**System:**

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<thead>
<tr>
<th>No.</th>
<th>1</th>
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<th>3</th>
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<tr>
<td>Fitted in control panel housing CI/CC11</td>
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</table>

For details -> see pages 47 – 53

**Operating terminal**

- B3Q...

**Labeling kits**

- ZSB...

**Operating unit options**

- Z3S200 5703490001
- V2G...

**PSA interface + options**

- K3I090 5108200001
- Z1B060 5253630001
- F20A200 4763170001
- F20A410 4935270001

**RS232 interface + options**

- E3I020 4602390001
- Z1B020 4759070001
- F20A140 4968630001

**LON interface + options**

- E3I040 4993100001
- Z1B070 A5Q00001720
- H23B020 4762780001

**Housing H26...**

- H26G220 4628000001
- H26G280 4099440001
- H28T110 4749520001
- H28T120 4749950001
- H28Z010 4109390001
- H28Z020 4136000001
- UPR28 4304340001
- UPR29 4304470001

**Housing H28...**

- H28G220 4628000001
- H28G280 4099440001
- H28T110 4749520001
- H28T120 4749950001
- H28Z010 4109390001
- H28Z020 4136000001
- UPR28 4304340001
- UPR29 4304470001

**Housing H23...**

- H23B020 4762780001
- H23B040 4845900001

**Housing H38...**

- H38G220 4849140001
- H38G230 4849270001
- Z3I470 4843410001
- B2F020 A5Q00002581
- E3C011 5054790001
- FA2005-A1 A5Q00019677

**Extra devices**

- B3Q321 4565840001
- B3R051 4905130001
- B3Q440 4759520001

**Covers**

- H23B010 4762100001
- H23B020 4762780001
- Information module H23B040 4845900001

For details of labeling kits (language-dependent) -> see page 50
For details of installation in the various housings -> see page 51

For details -> see page 54

For details -> see page 56

For details -> see page 57
43.11 Display and operating devices

System:

For details → see page 78

Display and operating unit

<table>
<thead>
<tr>
<th>Device</th>
<th>Reference Code</th>
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<td>B3Q580</td>
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<td>B3Q590</td>
<td>008725_h_en---</td>
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<td>B3Q595</td>
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Labeling kit

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<td>Z5B...</td>
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Housing

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<th>Housing</th>
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<td>H23G230</td>
<td>47509100001</td>
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Options for recessed mounting

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<td>H23U230</td>
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LON mimic display board

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<td>K3I050</td>
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LON I/O board

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Mounting plate

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Extra devices

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<th>Devices</th>
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<td>B3R051</td>
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<td>B3Q440</td>
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For details → see page 55

43.12 Externally positioned devices

System:

For details → see page 78 – 80

Mimic display and options

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<th>Reference Code</th>
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<td>K3R072</td>
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<td>Z3I520</td>
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<td>Z3I530</td>
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Relay board

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<td>K3G060</td>
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Flat cable, LED flat cable

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<td>F12A100</td>
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<td>F12A470</td>
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<td>F50F410</td>
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LON mimic display board

<table>
<thead>
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<tr>
<td>K3I050</td>
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LON I/O board

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<tr>
<td>K3I110</td>
<td>52881200001</td>
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**43.13 Printer B2Q191, B1Q101**

### System:
- **Fitted in H28...**
- **H28Z010**
- **UPR28**
- **H28T020**
- **H28G200**
- **UPR28**
- **H28T020**
- **H28G200**
- **UPR28**
- **H28T020**
- **H28G200**

#### printer
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<td>B1Q101</td>
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#### Housing H28...
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<td>H28G200</td>
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<tr>
<td>H28T020</td>
<td>4105840001</td>
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</table>

#### Options for H28...
- **UPR28**
- **H28T020**

#### Options for separate power supply
- **B1F120**
- **Z1K040**

#### B1Q101 options
- **Z3B040**

#### 19” installation
- **G2F031**
- **Z2G030**

#### Installation in H98...
- **H28V000**
- **H28V010**
- **G2F031**
- **Z1I050**

#### RS232 plug-in module
- **E3I020**

#### B1Q101 options
- **Z3B040**

#### 19” installation
- **G2F031**
- **Z2G030**

#### Installation in H98...
- **H28V000**
- **H28V010**
- **G2F031**
- **Z1I050**

#### Modem boards
- **K1D012**
- **K1D121**

#### Board holder for K1D...
- **Z1K050**

#### flat cable
- **F1A230**
- **F20A140**

---

*Installation in H28... with own power supply*

*For details of connection options -> see page 90*