# INFOMASTER B Common Alarm System, Bus Connection
# New- / First- /Common Signal Annunciator
# RP 5994, RP 5995

**Translation of the original instructions**

0255005

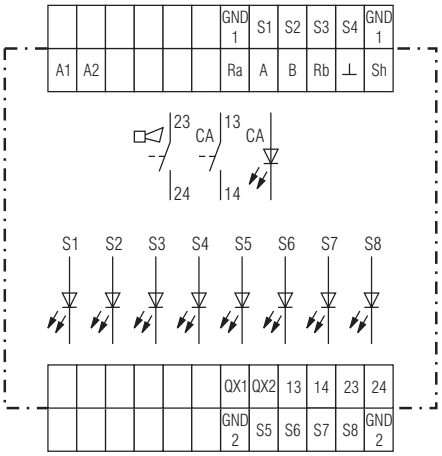
RP 5994


EH 5994

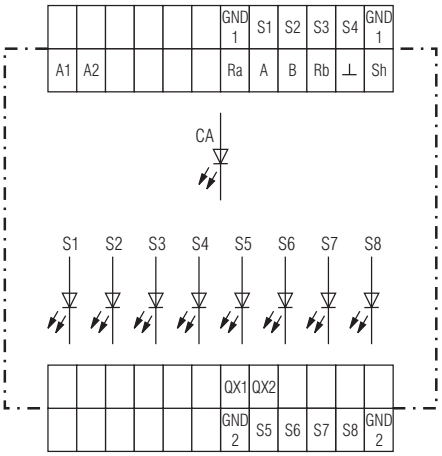
RP 5995


EH 5995

## Circuit Diagrams




RP 5994




RP 5995

**New- / First- /Common Signal Annunciator RP 5994, RP 5995**

- Fast localisation of failures and their causes
- Reduction of standstill times in production
- Adjustable operating modes:
  New- / First signal annunciator according to DIN 19235,
  common alarm annunciator manual reset / auto reset settable
- Expandable from 8 to 88 fault signals
- Open or closed circuit operation settable
- Adjustable on delay for input signals 0 to 10 sec
- Reset buttons for audible alarm and common alarm on front side
- Connection for external reset of audible alarm, common alarm and single alarm according to setting
- Galvanic separation to bus RS485 (optional)
- Accessories: Buzzer RK 8832, display unit EH 5994, EH 5995 text display unit EH 5996
- Width: 70 mm

**Base module RP 5994:**

- 8 fault signal inputs with indicator LED on the unit
- One relay output each for audible alarm and common alarm
- Reset buttons for audible alarm, common alarm, and single alarm
- Connection of remote reset button. Function according to setting

**Extension module RP 5995:**

- 8 fault signal inputs with indicator LED on the unit
- One relay output each for audible alarm and common alarm (on request)
- Reset buttons for audible alarm, common alarm, and single alarm
- Connection of remote reset button. Function according to setting

**Display unit EH 5994, EH 5995**

- Exchangable front label for individual legending
- As option galvanic separated RS458 bus
- Protection degree for front side IP 64
- Enclosure for flush mounting 96 x 96 mm
- **Display unit EH 5994:**
  - 8 fault signal LEDs on the unit
  - Reset buttons for audible alarm, common alarm and alarm signal
- **Display unit EH 5995:**
  - 8 fault signal LEDs on the unit
  - Without reset buttons

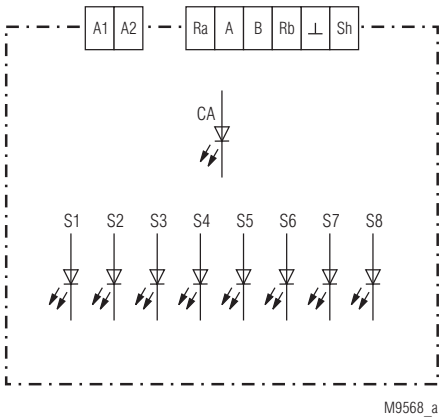
## Additional Information about this topic

- General information for INFOMASTER B see data sheet INFOMASTER B, System overview
- Information about the additional text display unit see data sheet EH 5996

## Approvals and Markings

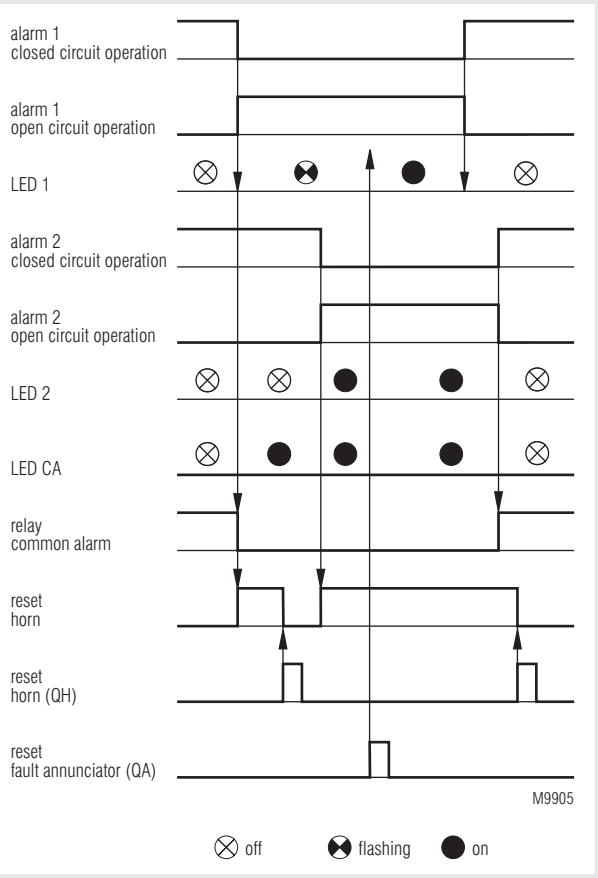
CE

## Circuit Diagram

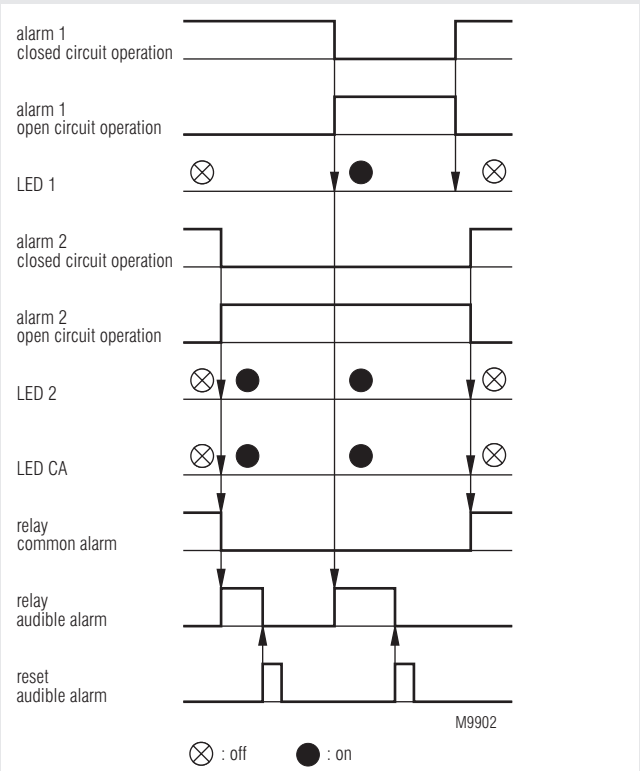



EH 5994, EH 5995

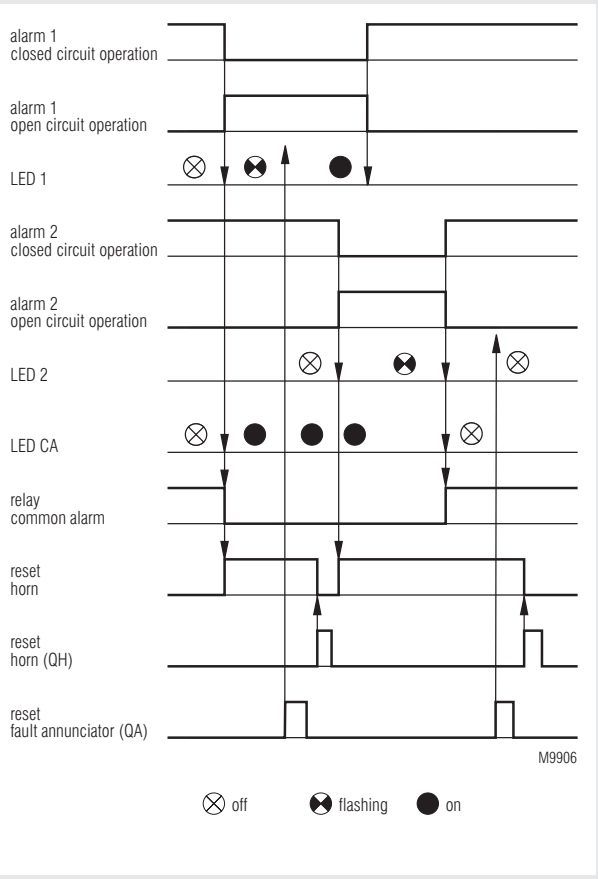
## **Function Diagram** (First Signal Annunciator)



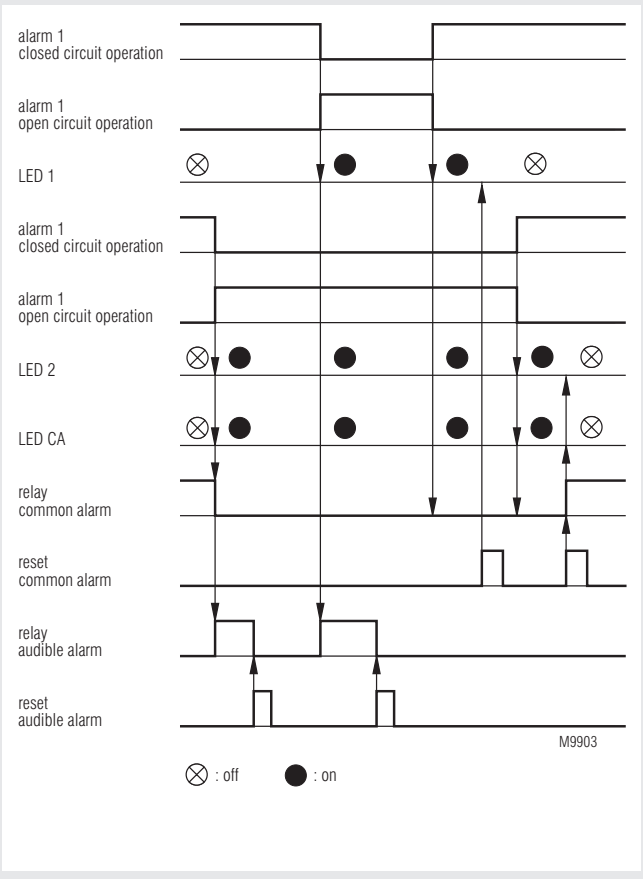

## **Function Diagram** (Common Alarm Annunciator, Auto Reset)




## **Function Diagram** (New Signal Alarm Annunciator)




## **Function Diagram** (Common Alarm Annunciator Manual Reset)



**Wiring**
Devices with DC 24V auxiliary supply have to be operated on a galvanic separated power supply.

**Configuration Cycle**
1.) Wire the system
2.) Adjust module address on extension modules with switch “ADR” (different addresses for all modules)
2.1) When display units are integrated into the annunciator system the address setting of each display unit has to be done as follows
- If the display unit should display the state of the base module (RP 5994) set “MODE” switch on back of the unit to position “Basismodul” and adjust an address that is not used by any other display unit.
- If the display unit should display the state of an extension module (RP 5995) set “MODE” switch on back of the unit to position “Erw.modul” and adjust the same address as on the extension module (RP 5995) of which the status should be displayed.

3.) Set “MODE” switch on base module to position “Config”
4.) Choose input mode on extension modules:
Terminals X1/X2 open = Open circuit operation
Terminals X1/X2 linked = Closed circuit operation
5.) Set delay on switch, „td“ 0 ... 10 s
6.) Power up the system
7.) Fault signal LEDs of the base module are flashing for some time
8.) On the detected extension modules the fault signal LEDs are now flashing
9.) Fault signal LEDs change to continuous state and indicate number of detected extension modules in binary code
10.) The detected modules are stored no voltage safe in the base module memory. The fault annunciator only works with the detected modules. If a new module is added, the configuration cycle has to be run again.
11.) Select the required alarm function with switch “MODE” on the base module
12.) Press push buttons QH and QHC to leave the configuration mode.

**Function Switch „MODE“**

| switch „MODE“ | description |
|---|---|
| 0 | First fault signal |
| 1 | New fault signal |
| 2 | Common alarm manual reset |
| 3 | Common alarm auto reset |
| Config. | Configuration |

**Function Switch „Set“**

| | Function of QX1 / QX2 | | | | Function principle of fault signal inputs | |
|---|---|---|---|---|---|---|
| Switch „Set“ | Alarm reset QA | Audible alarm reset QH | Common alarm reset QCA | Lamp test LT | open circuit operation | closed circuit operation |
| 0 | ✔ | - | - | - | ✔ | - |
| 1 | - | ✔ | - | - | ✔ | - |
| 2 | - | - | ✔ | - | ✔ | - |
| 3 | - | - | - | ✔ | ✔ | - |
| 4 | ✔ | - | - | - | - | ✔ |
| 5 | - | ✔ | - | - | - | ✔ |
| 6 | - | - | ✔ | - | - | ✔ |
| 7 | - | - | - | ✔ | - | ✔ |

Setting and Adjustment

**Possible Alarm Modes:**

| Alarm annunciator | Alarm reset QA | Audible alarm reset QH | Common alarm reset QCA |
|---|---|---|---|
| New signal alarm annunciator | ✔ | ✔ | - |
| First signal annunciator | ✔ | ✔ | - |
| Common alarm annunciator manual reset | ✔ | ✔ | ✔ |
| Common alarm annunciator auto reset | - | ✔ | - |

**-** : This setting ist not supported by the module

**Lamp Test**
Pressing the pushbuttons QH and QCA simultaneously during normal operation will force a lamp test function (LT). During lamp test all fault signal LEDs are switched on.
The lamp test function can also be operated by bridging the terminal QX1/QX2 (connection remote reset) if this function is selected on switch “Set” for QX1/QX2

**Fault Diagnostics**
To indicate failures of the system the unit generates a flash code on the Bus LED. When a failure code 1 to 3 is displayed, the contacts of the common alarm relay switch off.

LED continuously on: System has no failure

Failure 1 ⎍⎍⎽⎽⎽⎽ : Configuration failure. One ore more extension modules, that have been detected during configuration do not exist anymore. The address of the first missing extension module is displayed as binary code on the fault signal LEDs.

Failure 2 ⎍⎍⎍⎍⎽⎽⎽⎽⎽⎽ : The base module cannot communicate with the extension modules. The address of the first extension module that cannot communicate with the base module is displayed as binary code on the fault signal LEDs.

Failure 3 ⎍⎍⎍⎍⎽⎽⎽⎽⎽⎽⎽⎽ : The bus wire is interrupted or the bus is not terminated correctly. The base module does not find any extension modules to communicate with.

Failure 4 ⎍⎍⎍⎍⎍⎍⎽⎽⎽⎽⎽⎽⎽⎽ : In normal operation: the configuration data has been found faulty. A new configuration cycles has to be run.
During configuration: the detected configuration data could not be stored.

Failure 5 ⎍⎍⎍⎍⎍⎍⎍⎍⎽⎽⎽⎽⎽⎽⎽⎽ : New modules unknown to the device software of the base module have to be implemented by a firmware update of the base module.

**Remark:** 
Different types of devices (device classes) can be connected to the annunciator bus e.g. extension modules RP 5995, display units EH 5994, EH 5995 etc. The base module detects the different module types and adds a device specific number to the adjusted bus module address (address offset). In the case of failure this added number is indicated as binary code on the LEDs of the base module.
Max. 4 text display units EH 5996 can be connected to the Base module RP 5994.
These 4 units has to be designation by adresse 0 up to 3

| Device class | adress offset | modules |
|---|---|---|
| Extension modules | + 0 | RP 5995 |
| Display unit | + 10 | EH 5994, EH 5995 |
| Textdisplay unit | + 20 | EH 5996 |

## Technical Data

### Input

| | |
|---|---|
| **Nominal voltage A1-A2:** | AC 230 V, DC 24 V |
| **Voltage range:** | 0.8 ... 1.1 $U_N$ |
| **Nominal consumption A1-A2** | |
| At AC 230 V: | 3.4 VA |
| At DC 24 V: | 1.1 W |
| **Nominal frequency A1-A2** | |
| At AC 230 V: | 50 Hz |

### Fault Signal Inputs (only for RP 5994, RP 5995)

| | |
|---|---|
| **Fault signal inputs S1...S8:** | AC/DC 24 ... 230 V |
| **Min. time for input signal:** | ≥ 70 ms |
| **Min. time for acknowledgement:** | ≥ 70 ms |
| **Operate delay:** | Setting with poti 0 ... 10 s |

### Output (only for RP 5994, RP 5995)

| | | |
|---|---|---|
| **Contacts:** | 1 NO contact each for output common alarm and horn | |
| **Thermal current $I_{th}$:** | 2 A | |
| **Switching capacity** | | |
| According to AC 15: | 3 A / AC 230 V | IEC/EN 60947-5-1 |
| **Electrical life** | | |
| To AC 15 at 1 A, AC 230 V: | ≥ 1.5 x $10^5$ sw. cycles | IEC/EN 60947-5-1 |
| **Short circuit strength** | | |
| **Max. fuse rating:** | 4 A gG / gL | IEC/EN 60947-5-1 |
| **Mechanical life:** | ≥ 30 x $10^6$ switching cycles | |

### RS485 Bus

| | |
|---|---|
| RP 599_, EH 599_: | Not isolated |
| RP 599_/1_ _, EH 599/1_ _: | Isolated (1KV) |
| **Bus wire:** | screened twisted pair |
| **Data transmission rate:** | 115.2 KB/s<br>**Attention: Both ends of the twisted pair have to be terminated by inserting the links A/Ra and B/Rb!** |

### General Data

| | | |
|---|---|---|
| **Nominal operating mode:** | Continuous operation | |
| **Temperature range:** | - 20 ... + 55°C | |
| **clearance and creepage distance** | | |
| Rated impulse voltage / pollution degree | | |
| Relay output: | 4 kV / 2 | IEC 60664-1 |
| Input: | 4 kV / 2 | IEC 60664-1 |
| **EMC** | | |
| Electrostatic discharge (ESD): | 8 kV (air) | IEC/EN 61000-4-2 |
| HF irradiation: | 10 V / m | IEC/EN 61000-4-3 |
| Fast transients: | 2 kV | IEC/EN 61000-4-4 |
| Surge voltage | | |
| Between wires for power supply: | 1 kV | IEC/EN 61000-4-5 |
| Between wire and ground: | 2 kV | IEC/EN 61000-4-5 |
| Interference suppression: | Limit value class B | EN 55011 |
| **Degree of protection RP 5994, RP 5995:** | | IEC/EN 60529 |
| Housing | | |
| Cover: | IP 40 | |
| Base: | IP 30 | |
| Terminals: | IP 20 | |
| **Degree of protection EH 5994, EH 5995:** | | IEC/EN 60529 |
| Front: | IP 64 | |
| Enclosure: | IP 20 | |
| **Enclosure:** | Thermoplastic with VO behaviour according to UL Subjekt 94 | |
| **Vibration resistance:** | 0.35 mm amplitude, frequency 10 ... 55 Hz, | IEC/EN 60068-2-6 |
| **Climate resistance:** | 20 / 055 / 04 | IEC/EN 60068-1 |
| **Terminal designation:** | EN 50005 | |

## Technical Data

| | | |
|---|---|---|
| **Wire connection** | | DIN 46228/1-/-2/-3/-4 |
| **Fixed screw terminal (S):** | 0.2 ... 4 mm² solid or<br>0.2 ... 1.5 mm² stranded wire with sleeve | |
| Stripping length: | 7 mm | |
| Fixing torque: | 0.5 Nm | |
| **Plug-in screw terminal (PS):** | 0,1 ... 2.5 mm² solid or<br>0.1 ... 1.5 mm² stranded wire with sleeve | |
| Stripping length: | 7 mm | |
| Fixing torque: | 0.5 Nm | |
| **Plug-in cage clamp terminals (PC):** | 0.2 ... 2.5 mm² solid or<br>0.2 ... 1.5 mm² stranded wire with sleeve | |
| Stripping length: | 10 mm | |
| **Wire fixing** | | |
| Fixed screw terminals (S), plug-in screw terminals (PS): | Captive plus-minus-terminal screws M3 with self raising terminal box | |
| Plug-in cage clamp terminals (PC): | Cage clamp terminals for directely plug-in of conductors<br>Screwdriver 0.6 x 3.5 for removing of the cage-clamp | |
| **Mounting:** | DIN-rail | IEC/EN 60715 |
| **Weight** | | |
| RP 5994 S: | 260 g | |
| RP 5995 S: | 240 g | |
| EH 5994, EH 5995 | | |
| AC 230 V-versions: | 285 g | |
| DC 24 V-versions: | 210 g | |

### Dimensions

| | |
|---|---|
| **Width x height x depth:** | |
| RP 5994, RP 5995: | 70 x 90 x 71 mm |
| EH 5994, EH 5995: | 96 x 96 x 60.5 mm |

## Standard Types

RP 5994 S AC 230 V 50 Hz
Article number: 0060029

RP 5995 S AC 230 V 50 Hz
Artikelnummer: 0060034

- Nominal voltage $U_N$: AC 230 V
- Fixed screw terminals
- Width: 70 mm

EH 5994 AC 230 V 50 Hz
Article number: 0060589

- Nominal voltage $U_N$: AC 230 V
- Reset buttons for audible alarm and common alarmon front side
- Width: 96 mm

EH 5995 AC 230 V 50 Hz
Article number: 0060593

- Nominal voltage $U_N$: AC 230 V
- Without reset buttons
- Width: 96 mm

## Ordering Example for RP 599_

RP 599 __ S/_ 00 AC 230 V 50 Hz

- Nominal frequency
- Nominal voltage
- RS485 Bus
  - 0 = Not isolated (standard)
  - 1 = Isolated
- Terminals
  - S = Fixed screw terminal
  - PS = Plug-in screw terminal
  - PC = Plug-in cage-terminals
- Type
  - 4 = Basis module
  - 5 = Extension module

## Ordering Example for EH 599_

EH 599 __ /_ 00 AC 230 V 50 Hz

- Nominal frequency
- Nominal voltage
- RS485 Bus
  - 0 = Not isolated (standard)
  - 1 = Isolated
- Type
  - 4 = With reset buttons on front
  - 5 = Without reset buttons

## Accessories

| | |
|---|---|
| Buzzer RK 8832: | Article number: 0059906 |
| Text Display Unit EH 5996 | Article number: 0061784 |

## Connection Example