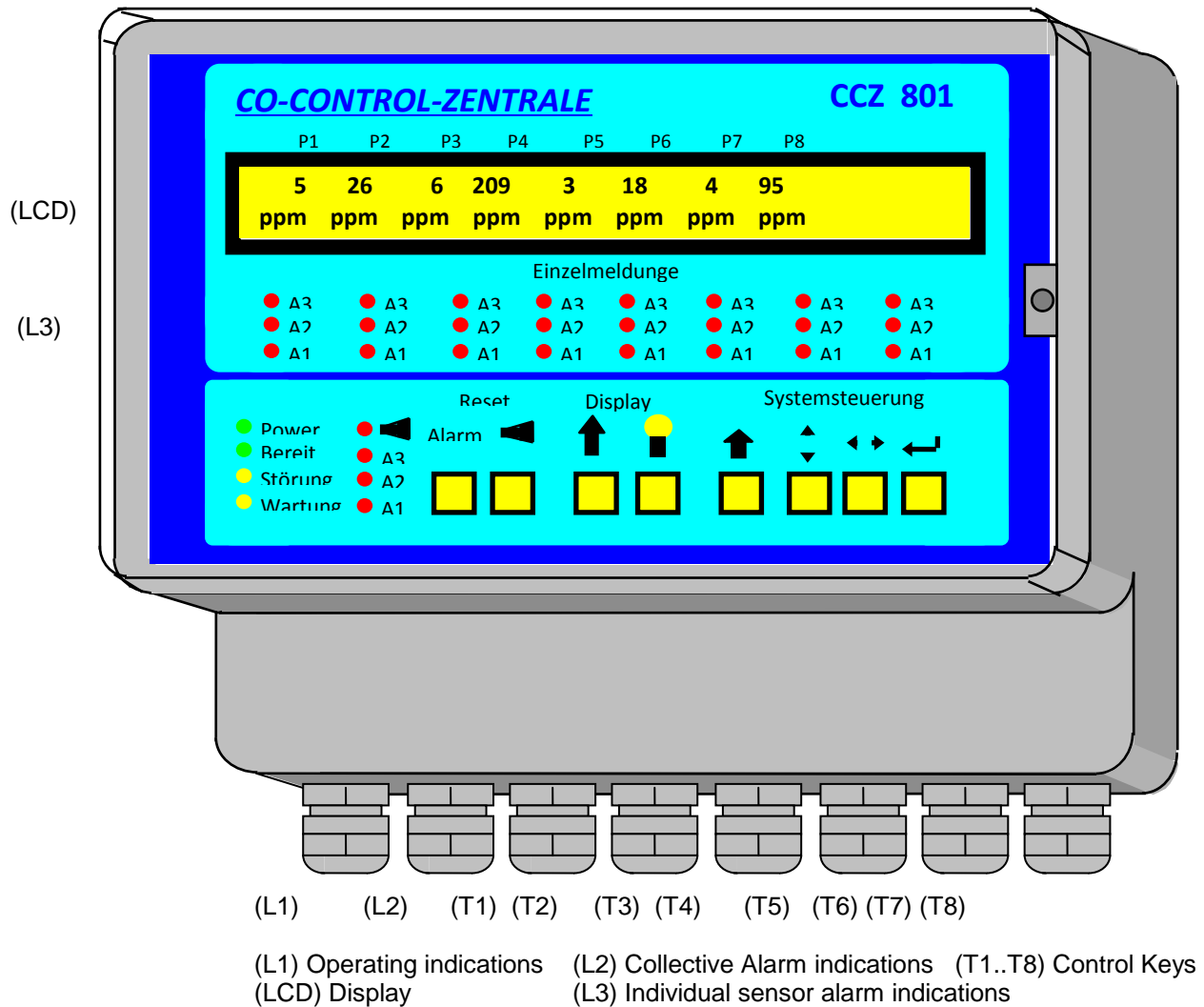


OPERATING INSTRUCTIONS

CO-Control-Center CCZ 801



Bereit = Ready **Störung** = Failure/Malfuction **Wartung** = Service/Maintenance **Umsch.** = Shift

IMPORTANT!

The device may only be operated if this operating instruction has been understood and is applied. The annex "Safety Instructions for the Installation Company and the User" is to be observed absolutely!

Liability for Function or Damages

The liability for the function of this device is handed over to the owner or operator, if the device is improperly maintained or repaired of people who do not belong to the service of the manufacturer, or if the handling is not conforming to its intended use.

For damage caused by failure to comply with the above instructions, the manufacturer is not liable.

Device Maintenance

The device is subject to regular half-yearly or yearly inspections executed by qualified technical personnel. The maintenance interval depends on the sensors connected and can be taken from the maintenance label.

It is recommended to conclude a service contract in order to keep to the regular maintenance interval.

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Application

The device serves

- for the acquisition or measurement and evaluation of carbon monoxide concentration or other gases
- for the control of countermeasures, f. ex. ventilation, disconnection of aggregates
- for the warning in case of dangerous concentrations

The device corresponds to the regulations of VDI 2053 and is suitable for the employment in basement garages.

Device Design

CCZ 801 CO-Control-Center

1..8 sensors, 3 (4) alarm levels, LCD display

Alarm Indication

If a reading or its average reaches a threshold, the corresponding alarm is released. The respective LED lightens and the associated relay will be activated.

The determination of measuring parameters and thresholds for the individual sensors as well as the allocation of output relays for alarm indication are to store via a parameter menu.

The parameters settings can to be taken from the test certificate or they can be printed using a printer with serial interface RS 232.

Individual alarm indication can continue to exist, after discontinuation of released causes. This is the case, if an alarm reset lag time has been programmed for the alarm stage, f. ex. to provide for sufficient ventilation or minimum ventilator running time.

If necessary, individual alarm levels of certain sensors can be programmed self-storing, so that they are reset not until the Alarm-Reset-Key (T1) is pressed.

A reset of stored sensor alarm is only possible after the alarm cause is eliminated.

Pressing the Alarm-Reset-Key (T1) aborts the main alarm levels 3 and 4 in the alarm zone, resp. continues the main alarm)

Otherwise the alarm aborts automatically after passing through a signal hysteresis (at least 3 digits), if the alarm reason is eliminated.

Device Fault Alarm

After 10 seconds a device fault alarm is activated on the following conditions:

- mains failure (*)
- after cold start until 1 minute after mains recuperation
- blown fuse
- device damage
- Sensor power voltage drop down (< 20 V) (*)
- interruption/short circuit of sensor feeder (*)
- sensor signal leaves the maximum measuring range (<2.5mA or >25mA) (*)
If a signal is too low (< 3.3mA) the reading in the display is flashing
- malfunction of the software
- loss of parameter settings (*)
- disconnecting the main alarm manually by pressing the alarm reset key

In case of malfunction, the device fault alarm relay (relay GSM(DFA)) falls.

The Ready-LED extinguishes and a device malfunction transmitting LED (Failure) flashes regularly, even if the mains failure takes several days. A plain text appears on the LCD display.

Device malfunctions marked with (*) can be programmed in such a way, that the highest ventilator stage is switched on automatically (alarm 2) and/or alarm 3 and 4 (warning lights, horns) are released.

All other malfunctions can only exert influence on the ventilation through looping the ventilation drive via the fault alarm relay (GSM).

Mains Failure – Alarm Suppression

The device possesses a time delay to be activated optionally, that is activated after each failure of the mains voltage (cold start), and the alarms are suppressed until the sensor is ready for operation. During this time the malfunction LED is indicated.

If the time delay is activated, the device is in stand-by operation 1 minute after mains voltage is re-connected, provided no other malfunctions are in existence.

Sensor Connection

In order to supply the sensors, a direct voltage of 20V-28V is provided by the CCZ 801 device.

Up to 8 sensors with output signals 4-20mA can be connected to the CCZ 801.

The shielded cable JY(St)Y2x2x0,8mm can be used as sensor feeder. The wire colours can be allocated as follows:

Red => +24V (KI 1), White => 4-20mA (KI 2), Black => 0 V (KI 3), Yellow => PE (KI 4)

The supplementary earth wire is only to be cabled with the yellow wire and to be connected on terminal 4 (protective conductor PE) in the device. (The supplementary earth wire is connected with the shielding in the cable.)

If the metal housing of the sensor is mounted on earthed steel supports, the wire connecting the metal housing and the wire for terminal 4 (PE) are not to be connected with the GDZ 801 terminal.

In case of sensor housing made of metal, the supplementary earth wire is to connect with the metal housing.

During mounting, it has to be observed, that the uninsulated supplementary earth wire does not get in contact with the circuit.

Relay Outputs

All devices possess a relay with 2 separated change-over contacts for the device fault alarm (GSM / DFA).

In Addition, the device possess about 8 alarm relays for ventilation, central building system alarm indication and warning lights and horns.

It is possible to extend them with external zone (alarm) output modules.

The alarm relay outputs are equipped with 3 change-over contacts.

Apart from programmed negated output, the make contact is normally closed with an active alarm resp. malfunction.

Fire Brigade Switch

A potentially free switch can be connected on the terminals 83/84 "VENTILATE". This releases the alarm level 2 in all alarm zones in order to ventilate in case of smoke development.

Operation of Ventilating Fans

It is possible to drive single-stage as well as two-stage ventilating fans via the device.

Please see menu item "Ventilator" in the system menu.

The stage break for two-stage ventilating fans can be programmed between 0-30 seconds.

In order to guarantee the operating safety, **the drive of the ventilator stage 1 has to be looped via the alarm relay for stage 2 (root break contact) in case of two-stage ventilating fans**, so that in no case both stages can be connected simultaneously, as otherwise the ventilator can be damaged.

The control of two-stage ventilating fans is only possible through zone and collective alarm relays. Sensor alarm relays do not possess a two-stage ventilating fan control. Normally the relays are programmed as zone relays ex works.

Interface RS 232 C

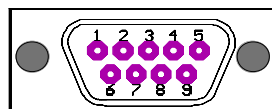
The interface RS 232 C (plug 9 pins) serves to connect a printer or terminal for the output of test certificates, reading, and alarm protocols. Maximum distance: 15 m. For the output over longer distances interface converters are available.

The output of protocols or measuring certificates is an ASCII-string and can be printed directly via a printer or can be taken over directly into PCs.

The last approximately 1000 device alarms are recorded in the memory and can be printed at a later time. Depending on the printer output format it is also possible with measuring values.

Being able to record substantial measurements, a data logger can be offered recording measurements of any measuring point on site for weeks or months. The readings can be transported and handed over to a stationary computer for visualization in PC programs.

Pin Assignment / Connecting Cable for Serial Interface



PIN3 = TXD, connected to RXD of the printer
PIN5 = GND
PIN6 = DSR, connected to DTR of the printer or terminals,

enabling the control of data transmission (hardware certificate)

Connecting Cable for Printer (a, b), Serial/Parallel Converter (b) or PC (Zero Modem c,d):

Device Connection Printer Connection

a)	Socket 9 pin	-	Plug 9 pin
	Shield 1	=====	1 Shield
	RxD 2	=====	2 TxD
	TxD 3	=====	3 RxD
	DTR 4	=====	4 DSR
	Ground 5	=====	5 Ground
	DSR 6	=====	6 DTR

b)	Socket 9 pin	-	Plug 25 pin
	Shield 1	=====	1 Shield
	RxD 2	=====	2 TxD
	TxD 3	=====	3 RxD
	DTR 4	=====	6 DSR
	Ground 5	=====	7 Ground
	DSR 6	=====	20 DTR

Device Connection

PC Connection

c)	Socket 9 pin	-	Socket 9 pin
	Shield 1	=====	1 Shield
	RxD 2	=====	2 RxD
	TxD 3	=====	3 TxD
	DTR 4	=====	4 DTR
	Ground 5	=====	5 Ground
	DSR 6	=====	6 DSR

d)	Socket 9 pin	-	Socket 25 pin
	Shield 1	=====	1 Shield
	RxD 2	=====	2 RxD
	TxD 3	=====	3 TxD
	DTR 4	=====	6 DTR
	Ground 5	=====	7 Ground
	DSR 6	=====	20 DSR

LCD Display

A double-line LCD display serves for the indication of the current readings and the parameterization of the individual sensors enabling a simultaneous overview about the indications of **all sensors**.

Start-Up

All functions of the device are to be verified by means of a test gas task on start-up. It has to be make out a form certificate of the start-up result.

Maintenance

Maintenance must be processed in certain intervals to maintain the functional safety. Maintenance interval can be taken from the test label, amounting to 1 year, at the most.

Placing out of Service

In case of placing the device out of service the programmed data are not lost. The data of the memory for chronicle continue to remain, too.

If the device is out of service for more than 4 weeks, the sensors have to be verified and calibrated once again, if necessary, after start-up with test gas.

Technical Modifications are subject to change.

Operating the LCD Display in Normal Operation

With the **Display Key** the next double line is adjusted.



Display Key (T3)
Next line

Shift



previous line

If the **Shift Key (T5 Umsch.)** has been pressed previously it is possible to adjust the preceding display line.

The gas types and the measuring values are displayed intermittently in normal operation.

If no key is activated, the display illumination is disconnected after a programmed time.



Illumination Key (T4)

With the Illumination Key (T4) the display illumination can be switched-on resp. switched-off.

By activating any other key, the illumination is switched on.

Reading Display indications in normal operation

This menu line appears automatically, if a device malfunction exists:

GDZ 801 No. A xxxxx

Device designation / Manufacturing number

GSM(DFA): Signal <2mA

Plain text of the primary device fault alarm



MS 1	MS 2	MS 3	Sensor number
ZO 1	ZO 5	ZO 3	Alarm zone



MS 1	MS 2	MS 3	Sensor number
CO	CO	NO2	Gas type

Display in normal operation



10	209	0,0	Reading
ppm	ppm	ppm	Reading unit

Display in normal operation



10	209	1,0	Reading
MS 1	MS 2	MS 3	Sensor number



m 15	m 176	m 1,2	Average (f. ex. half hours)
ppm	ppm	ppm	reading unit of average



m 15	m 176	m 1,2	Average
MS 1	MS 2	MS 3	Sensor number



AS 0	AS 3	STM1	Alarm level/Sensor malfunction
MS 1	MS 2	MS 3	sensor number

AS 0 = no alarm, **defective measuring points are flashing**
STM1= parting of a cable STM2 = short circuit of measuring feeder



to system control (It is possible to jump to the system control from each display line)

Operating the Keys for the System Control

Attention: If the keys are pressed for a longer time, an accelerated repetition of these functions is automatically executed.

1. Select menu point



Menu Key(T6)



Next Menu point

shift



previous menu point

With the assistance of the menu key it is possible to reach the menu of the system control and to obtain the requested menu point. The cursor has to be positioned on the **first position on the left on the second display line**.



Cursor Key (T7)



Cursor to the right

shift



Cursor to the left

In order to place the cursor into a menu point for to reach a value to be modified, the **Cursor Key** has to be pressed. If the **Shift Key** previously has been pressed simultaneously, it is possible to move back, if necessary.

2. Modify settings



Menu Key (T6)



Increase value

shift



decrease value

Numeric, characters and settings are modified on the current cursor position using the menu key:
Press T 6 for to increase the value.
Press the shift key + T6 to decrease the value.

3. Entering Inputs to the System



Enter Key (T8)

With the **Enter Key** inputs are terminated and commands are executed.
Otherwise modifications are ignored.

4. Leaving the system menu



Display Key (T3 long arrow)

With the assistance of the **Display Key** it is possible to leave the system menu at any time and to switch over to normal operation. The reading display is shown.

SYSTEM CONTROL



to normal operation
= Exit from any menu point



xxxxxxx
xxx xxx No. A xxxxx
Display of the device type and production number



DATA LOGGING -->
Storing/Printing of readings
of individual sensors in selectable intervals



DATA LOGGING: 1/0
INTV: x MIN/SEC **FILT:** 0/1

1/0 connect/disconnect recording
x measuring intervals in minutes/seconds
0/1 0 =without filter; 1 =with filter

Filtering (1): Recording is only executed with measuring modifications, bigger than 1/256 of the basic measuring range, amount to 3 digits, at least.

SENSOR DATA LOGGING x to y YES/NO
Enter the sensor number range for which a measuring certificate is to keep/not to keep.

ALARM MEMORY -->
Shows or erases the memory for
accumulated alarms and recorded readings.

Alarms and malfunctions are always stored with time and date. A reading certificate is only drawn up on request, see above.

READING ALARM FAULT

875 5 0

Display of the respective number of accumulated readings and alarms since the memory has been erased.

ALARMS + READINGS

ERASE? Erase the printing memory.
A confirmation is requested.

After start-up the memory has to be erased



PRINT OUT -->
Control of the printer output

As long as the respective printing process is running, the display "PRINTING!" appears. After printing is terminated the display "printing ready" appears.
The printing time depends on the adjusted baud rate and the number of accumulated status messages.



ALARMS, FAULTS, READS OUTPUT:

TEXT/SP The storage and output of status messages and readings is executed individually in plain text.

CHART+DFA The output of readings is made in tabular form. Occurring device fault alarms are indicated in plain text. Alarm and malfunction messages are stored for later printout.

CHART: The output of readings is executed in tabular form. Alarm and malfunction messages are stored for later printout.

EXCEL The output of readings is executed in tabular form. Line breaks for the printer are omitted to read the data in via (zero) modem and (Windows) modem program to process or visualize in EXCEL or other programs. Alarm and malfunction messages are stored for later printout.



ALARMS, FAULTS, READS IMMEDIATE PRINTING:

ON: Storing and immediate printing of the accumulated status messages or reading certificates.

OFF: Storing of status messages for later printout.



ALARM MEMORY-->
Printout of the accumulated status messages and readings since erasing of memory.



READING ALARM FAULT

875 5 0

Displays the accumulated status messages since erasing of memory



ALARM+READINGS

PRINTER OFFLINE Printer not connected or busy.

print ?, READY

Starts the printout. of all status messages since the memory has been erased resp. the last thousand messages in case of storage overflow. (Repeatable)



ALARMS+READINGS

ERASE? Erase the memory.
A confirmation is required.



TEST CERTIFICATE-->
Printout of all parameter settings



TEST CERTIFICATE

PRINTER OFFLINE Printer not connected or busy.

print ?, READY Printout can be started.

Examples for Alarms and Readings in Plain Text:

14.03.97, 13:32:25, B 1, VAL 63, AVE 54 ppm CO ← Reading/Average of Sensor 1
 14.03.97, 13:36:40, B 5, VAL 32, AVE 30 ppm CO, ALARM 1 ON ← Alarm status
 14.03.97, 13:52:20, B 5, VAL 24, AVE 27 ppm CO, ALARM 1 OFF
 14.03.97, 13:36:40, B 5, VAL 32 ppm CO, (MAXIMUM)

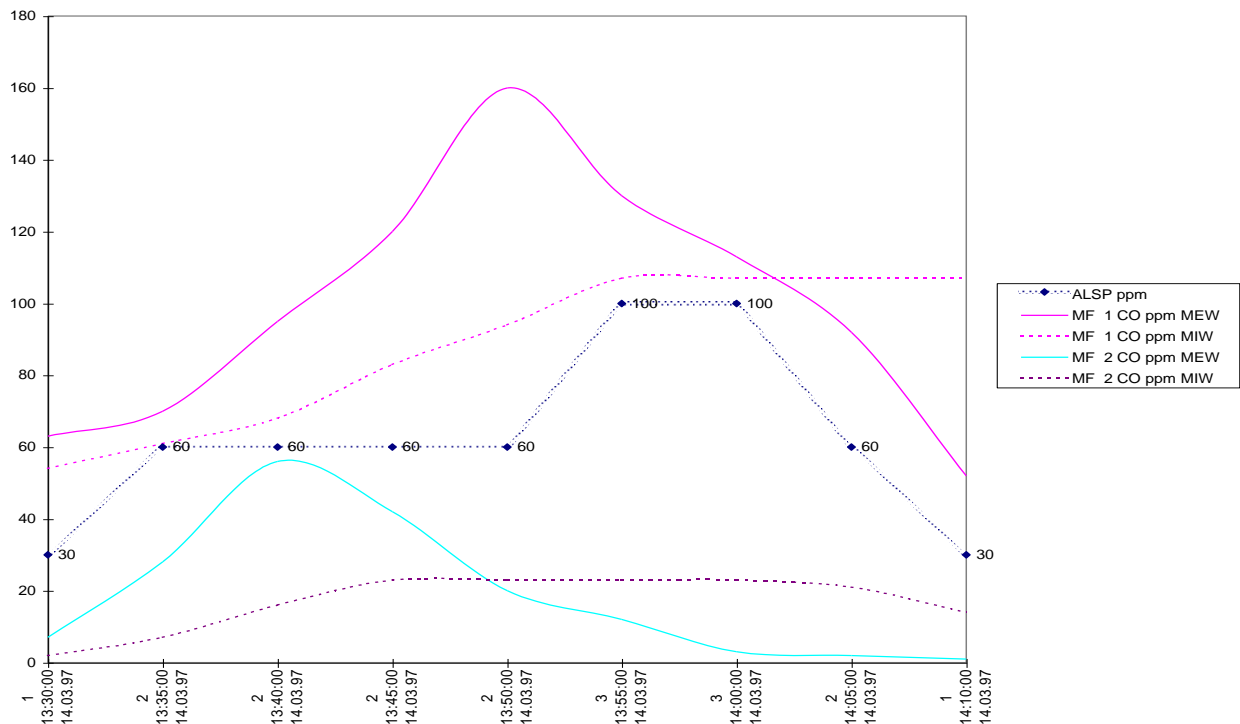
15.03.97, 00:50:10, B 3, SIGNAL <2,5mA MALFUNCTION ON ← Malfunction status
 15.03.97, 01:20:32, B 3, SIGNAL <2,5mA MALFUNCTION OFF

16.03.97, 13:06:22, B 4, SIGNAL >25mA MALFUNCTION ON
 16.03.97, 12:02:42, B 4, SIGNAL >25mA MALFUNCTION OFF

17.03.97, 09:32:52, SENSOR-SUPPLY MALFUNCTION ON
 17.03.97, 09:32:52, OPERATION OFF ← Other messages
 02.04.97, 20:31:33, OPERATION ON

Example for a Reading Certificate in Tabular Form and a diagram drawn up using EXCEL 7.0:

DATE	TIME	ALEV	AVAL	B 1	B 1	B 2	B 2	...	
				CO	CO	CO	CO		ALEV = Alarm level
				ppm	ppm	ppm	ppm		AVAL = Alarm value
				VAL	VAL	AVG	AVG		VAL = Value; AVG = Average
14.03.97	13:30:00	1	30	63	54	7	2	...	
14.03.97	13:35:00	2	60	70	61	28	7	...	
14.03.97	13:40:00	2	60	95	68	56	16	...	
14.03.97	13:45:00	2	60	120	83	42	23	...	
14.03.97	13:50:00	2	60	160	94	20	23	...	
14.03.97	13:55:00	3	100	130	107	12	23	...	
14.03.97	14:00:00	3	100	113	107	3	23	...	
14.03.97	14:05:00	2	60	92	107	2	21	...	
14.03.97	14:10:00	1	30	52	107	1	14	...	





SET RS232 -> Setting of the serial interface

These settings have to correspond to the settings on the connected terminal/printer.



BAUD RATE: B/SEC
300-9600 BAUD (Bits/sec)



PARITY NONE
UNEVEN
EVEN

Determination of test bits for the transmission.
8 data bits and, in addition, with the setting "no parity" 1 stop bit, otherwise 2 stop bits are sent.



HANDSHAKE

WITHOUT Printer data are sent.
DTR-DSR Printer data are only sent on demand of the printer.



TEST --> Test menus for the settings of the output relays and zone allocations and reading sensor currents

ATTENTION: Alarms are executed via the relays, meaning possible connected ventilators or warning devices are activated.

The release of the relay output is carried out after the first actuation of the Enter Key (T8)! In the menu. After that the relay output alterations of the parameters by the System Menu Key (T6).



SZC x-y ALARM a-b

Selection of alarm releasing sensors (S), zones(Z), or collective alarms(C), and the alarm level a..b.
The mode depends on the selected alarm type:

SE->SA(LED) The **sensor/s** releases/ release the **sensor alarm relays** (LED display: sensor alarms).

SE->ZA(LED) The **sensor/s** releases/release the assigned **zone alarm relays** (LED display: zone alarms).

SE->CA(LED) The **sensor/s** releases/ release the assigned **collective alarm relays** having assigned zones (LED display: collective alarms).

SE->SA(LED)+ZA+CA The **sensor/s** releases/release **all assigned relays (sensor alarms, zone alarms, and collective alarms)** (LED display: sensor alarms)

ZO->ZA(LED) The measuring **zone/s** releases/release all assigned **zone alarm relays** (LED display: zone alarms).

ZO->CA(LED) The **alarm zone/s** releases/release the assigned **collective relays** (LED display: collective alarms).

ZO->ZA(LED)+CA The measuring **zone/zones** releases/releases **all assigned relays (zone alarms and collective alarms)** (LED display: zone alarms).

CA->CA(LED) The **collective alarm/s** releases/release the assigned **collective alarm relays** (LED display: collective alarms).



ALARM RELEASE

OPERATION (VAL+AVE) Alarm release through current reading or average, if average time of the respective measuring point is ≤ 0 min
MAINTENANCE (VAL)
Alarms are released directly from the current reading, average release is inactive. The Service-LED is flashing.



SENSOR : 1
20.00 mA + 300 ppm

Selection of a sensor head. Displays the sensor current and the reading with sign.

Verify on start-up!



LED TEST
LED: ON/OFF

Function test for all LED displays



CLOCK --> Setting of the system clock



Tuesday 03.11.95
14:55:07

Adjustment of weekday, date and time
Observe: When entering the minutes the seconds indication goes to zero.
Entering of seconds is not observed.



DAYL.SAV.T. YES/NO
MONTHS-END x - Y

Activation of the automatic daylight saving time/winter time changing over
Entering of the months with which the changing over is effected, respectively, in the last week (3 - 10 = March to October)



HORN / LCD ILLUM --> Adjustment of the duration for acoustic alarms and LCD illumination



AUDIBLE ALARM DURATION

UNLIMITED

No automatic shut off for acoustic signals

TIME LIMITED

Automatic reset after expiration of the horn time.

Not depending on the adjustment, it is possible to shut off the horns using the Horn Reset Key (T2). The reset is executed even if no alarm exists, that would release the transmitting relays.



HORN TIME: n MIN

Enter of the maximum activation time of acoustic signals (2 to 240 minutes) after the alarms have occurred.

LCD ILLUM.: 5 MIN/4 h/DURATION

Selection of the illumination time for the LCD illumination after pressing a key



PROTECTED PARAM -->

[Adjustment of protected parameters through qualified technical personal](#)

After the work is done, press the display key. In this moment check sums are made for the parameters entered. Otherwise a parameter error appears after some time.



PARAM.-ACCESS-CODE

0020

Enter the code word using numeric, characters, and special signs.

If the correct code word is not entered, the device parameters cannot be changed. It is however possible to read the adjustments.



ALARM OUTPUT:

OUTPUT Output of occurring alarms during maintenance and menu operation.

LOCK 4 h Locking of the alarm relays for a maximum of 4 hours. The maintenance LED is lighting.

If no key is pressed for a maximum of 4 hours, an automatic change-over to alarm output occurs.



SENSOR -->

[Adjustment of sensor parameters](#)



NUMBER: a

Enter full sensor number



SENSOR x to y

Activates the sensor head x to y for adjusting the sequential parameters:



OPERATION:

ACTIVE Sensor is displayed and alarm releases are active.

INACTIVE No display, no alarms or status messages!



ZONE:

z

Enter an alarm zone to which a sensor is assigned to.



SENSOR:

EL-CH...

Enter the sensor type.



RUN OF THE CURVE:

LINEAR

Sensor with linear measuring curve.



GAS TYPE:

CO

NO2

VAL (Emergency)

Designation of the gas type to be measured on the measuring point

Selection from definite entered gas types (4 characters) or from previous inputs of self created symbols in the menu "TEXTS"



DIM UNIT

ppm

VAL (Emergency)

Enter the dimension unit for the sensor readings (example: ppm)



DECIMAL PLACE: xxxx

It is possible to select four decimal points for readings and printout: **xxxx** .xxx x.xx xx.x. With a logarithmic curve the adjustment cannot be changed.



REAL MR 310 ppm

No parameters can be changed here!

Displays the real measuring range, f. ex. 0-310 ppm, with reference to the sensor signal from 4 to 20mA resulting from an adjustment on the subsequent basic measuring range of the sensor or through a subsequent described test gas adjustment with software calibration.



BASIC-RANGE 300 ppm

Input of the requested basic measuring range for the inputs 4-20mA of the individual sensors as delivered.



RMR=BMR adjust

The real measuring range is adjusted to the basic measuring range of the respective sensor. Through this a prior executed software adjustment of these sensor(s) is invalidate.

Now adjusted sensors are to operate on the inputs selected.



AVERAGE TIME x MIN

Enter a length of time in minutes for which a average value from the readings in this period of time is to be formed continuously, f. ex. half-hourly average value.

If the adjustment is not 0, the alarm release from alarm level 1 to 3 is automatically dependent on the average value.



VENTILATION OPTIMIZATION:

NO Alarm through average value is shut off by the average value also

YES Average value alarms are shut off already by the current reading. For this, a ventilator pulse response tail is recommended, f. ex. 5-10 min.



ALRES TAIL x MIN

If an alarm response tail is entered, the automatic reset of alarm 1 and alarm 2 is delayed (f. ex. for longer ventilation)



THRESHOLDS -->

[Input of threshold values for alarm releases](#)



TH 1: Threshold for alarm 1



TH 2: Threshold for alarm 2



TH 3: Threshold for alarm 3



TH 4: Threshold for alarm 4 (peak value alarm)
Depends direct on reading values!



A1-Mode:



A2-Mode:



A3-Mode:



A4-Mode:

+/-LOE Alarm release in case of an increase in gas concentration with automatic reset of the alarm

+/-SP Alarm continues to remain even after cessation of the reason for releasing the alarm until the internal Alarm Reset Key (T1) is pressed.

-/LOE Alarm release in case of a decrease in gas concentration with automatic reset of the alarm.

-/SP Alarm continues to remain even after cessation of the reason for releasing the alarm until the internal Alarm Reset Key (T1) is pressed.



A4-EFFECT:

Only A4 With alarm 4 only alarm 4 is released.

A1-A4 Through alarm 4 all alarm levels are released (f. ex. as an immediate alarm release at a high concentration with otherwise average depending alarm release)



COLLECTIVE ALARMS -->

[Collecting of zone alarms to collective alarms](#)



ZONE: Z CA-GRP: G
->CA: C1 C2 C3 C4

Enter a zone Z and the collective alarm group G.
Enter up to 8 collective alarms / zone
(It is displayed in 2 groups to 4 collective alarms)

The alarms of the zone Z release the collective alarms C.

A zone means a number of sensors assigned to the same zone. Any of these sensors can release the zone alarm.

The maximum number of the possible zones corresponds to the number of sensors connected to the device. The number of the possible collective alarms results from the number of zones made up due to the assignment of sensors to zones.



RELAYS -->

[Adjustment of the relay parameters](#)



Number: n

Enter the number n of the relays:

In case of centrals without extension: 8 relays.

If extension modules are used which have less than 8 relays (f. ex. zone outputs), 8 relays have to be calculated for each module. The relays not used in a group of eight have to be set out of function "OFF".



RELAY r Mode: mmmm

Enter a relay number r and the requested operation mode **OFF, S, Z, C** and **N, H, T**

OFF Relay out of function or not existing

SNHC **S** = sensor relay (controlled by the sensor alarm)

ZNHC **Z** = zone relay (controlled by assigned zone)

CNHC **C** = collective alarm relay (collective alarm from several zones, see CA)

N=negated relay, active with disconnected alarm

H=resettable relay (horn relay) via Reset Key (T2)

C=clocked relay (warning light, seconds rhythm)

Alarm: a SZC: s/z/c

Enter the alarm level a, from which the relay is switched on and the sensor, zone, or collective alarm number s/z/c, to which the relay is to belong to.



VENTILATOR-->

[Determine ventilator type](#)



VENTILATOR:

1- stage With a 1-stage ventilator the alarms 1 and 2 are indicated directly, means both simultaneously.

2-stage With 2-stage ventilator only one alarm is indicated, whereas alarm 2 has priority.

Observe: "Operation of ventilators"



STAGE BREAK: n sec

If the stage break is > 0 an eligible break time without alarm output is inserted when connecting to mains and when changing the ventilator stages.



FAULT ALARMS-->

[Output parameterization for operation malfunctions](#)

FAULT ALARM:



DFA(GSM) Output of device fault alar

DFA+A1+A2 In addition, the alarms 1 and 2 are activated (ventilation)

DFA+A1-A4 In addition, the alarms 1 to 4 are activated (ventilation + warning)



MAINS FAILURE-ALARM :

WITHOUT No message is produced.

A3+A4 The alarms 3 and 4 are activated (warning)

DFA+A3+A4 The device fault alarm and the alarms 3 and 4 are activated.



INDICATOR PANEL: -->

[Set operation mode of the LCD and LED displays](#)



n Display

Number of the LCD displays (1) used (with adjustment 1 the data from 4- or 8 measuring points are indicated simultaneously)



LED-Operation mode:-

Operation mode of the LED groups (L3)

Sensor alarms The LEDs indicate the alarms of the individual sensors

Zone alarms The alarms of the individual alarm zones are indicated

Collective alarms The released collective alarms are indicated



TEXT -->

[Processing of special texts](#)



DEVICE NUMBER:

A nnn KW JJ

Reading out of manufactory device number

A=evaluation device, **nnn**=serial number

KW=calencer week of manufacturing,

JJ=year of manufacturing



GAS TYPES:

3. CO

Input or modification of identificaton code (4 characters) for gas type description (maximum of up to 32) f. ex. CO for carbon monoxide, NO2 for nitrogen dioxide and so on.



TEST GAS ADJUSTMENT: -->

[Calibration of individual measuring point with test gas](#)
(Not for sensors with logarithmic characteristic line)



B: b TC: 0 ppm
/_5.60mA + 30 ppm

Enter the sensor b and the test gas concentration to set. It can be calibrated to zero gas (TC=0) or to a test gas concentration (TC>0).

Indication of the present measuring current and reading with sign +/- for exact zero point calibration.

If the cursor is moved to the underlined position _ and the Menu Key (T6), is pressed a "software adjustment" can be executed:

ADJUSTMENT TO TC ?

The current measuring value can be set to the test gas concentration introduced.

(TC=0 => zero point, TC>0 => test gas concentration

The new measuring range for the signal range 4-20mA is calculated automatically.

ADJUSTMENT to MAX ?

The current reading can be adjusted to the stored maximum values, if, before, during a tour test agents with a concentration exceeding threshold 1, at least, have been put on the measuring points, so that a maximum value is produced. The respective measured maximum value is indicated in the display and can be checked for plausibility.

High concentrations are ideal, which normally do not occur, as switching threshold 1 is exceeded after test agents feeding. The maximum value of the test agent feeding exceeds once again due to another reason, because a new maximal value is created, which can be used and, therefore it is recognized as being not plausible.

The new measuring range for the signal range 4-20mA is calculated automatically.

ADJUSTMENT ON BMR ?

The measuring range for the sensor is adjusted to the basic measuring range. Through this, the software adjustment of this sensor is erased. Calibrated sensors have to be used on this measuring point.



SENSOR m
M range 300 ppm

Verification of the modified measuring range through adjustment.

If the value is more than 30% from the desired measuring range, do the adjustment on RMR and renew the sensor.



COLD START

0 min Immediate possible alarm release with power on.

1 min Activation of the cold start routine with 1 minute of alarm suppression. Especially required, if heated sensors are connected.

Wiring Installation

For the connection of the sensors one separate connection cable, respectively, has to be installed from the plant.

If no special requirements are made, it is possible to use the shielded cable
JY (ST) Y 2x2x0,8 mm with supplementary earth wire.

The sensor connection is executed according to the instructions stated in the operating instructions:

Terminal 1:	24 V	red
Terminal 2:	4-20mA	white
Terminal 3:	0 V	black
Terminal 4:	PE	yellow (do not connect, if the housing has already been connected to earth on earthed steel support or something similar through mounting)
Housing :		supplementary earth wire, if the housing has not already been connected to earth)

It is also possible to install a stub cable from the plant.

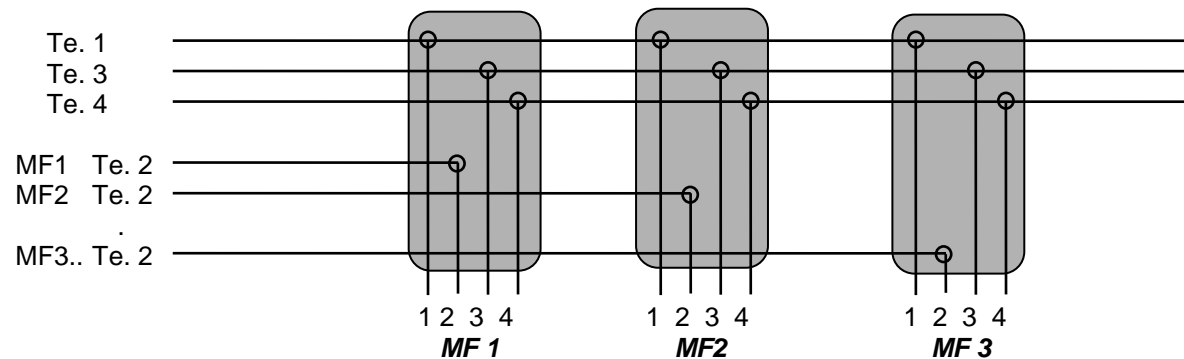
The wires of the terminals 1, 3, and 4 are connected parallelly to each sensor.

The wires for the terminals 2 are only to connect to the accompanying sensor.

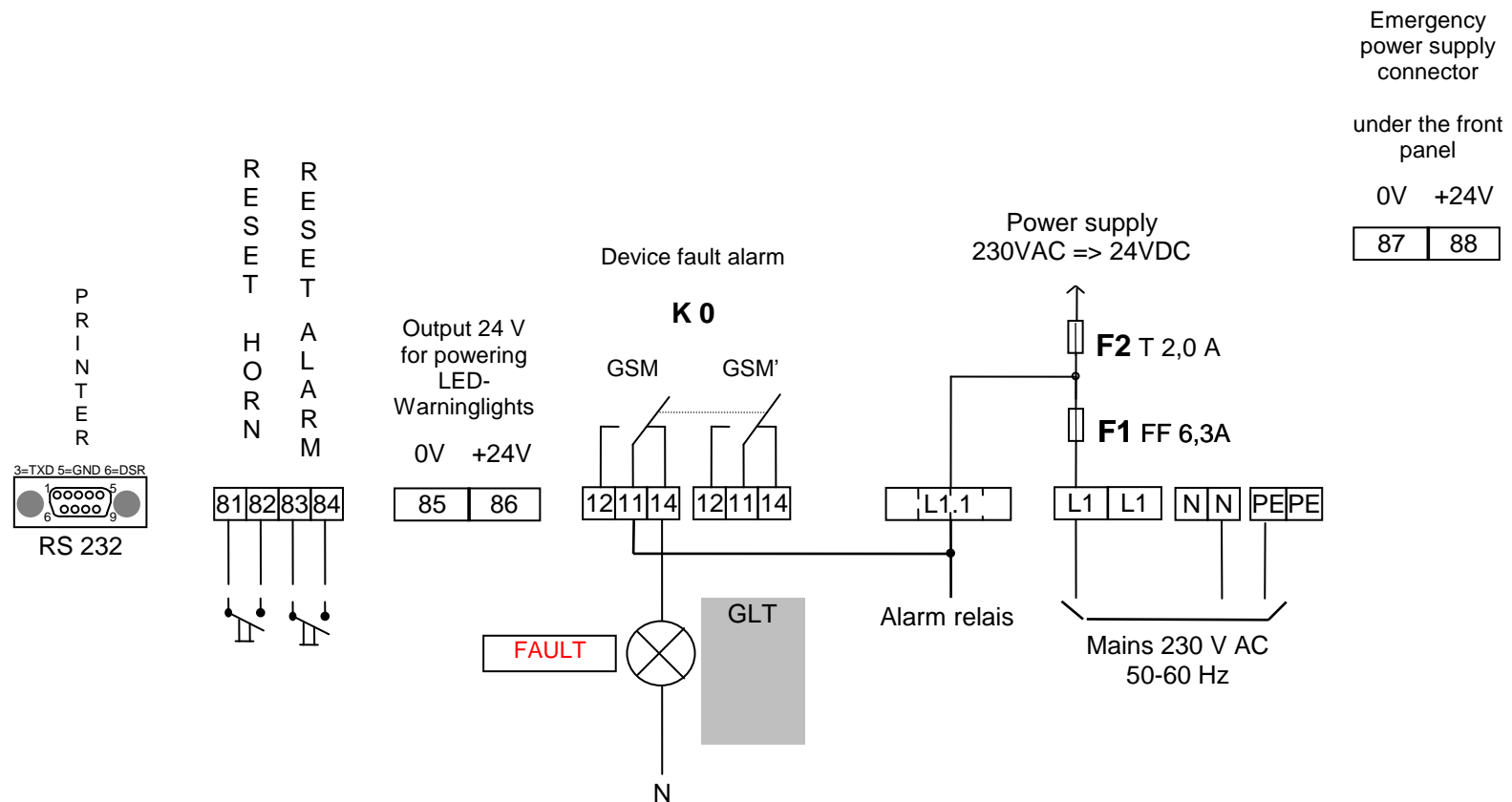
Futhermore, the fine-wire fuse on the connecting position of terminal 1 on the plant has to be increased accordingly.

Plant:

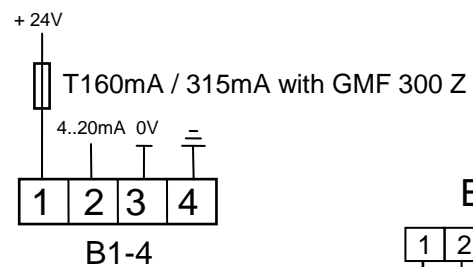
Branch box:



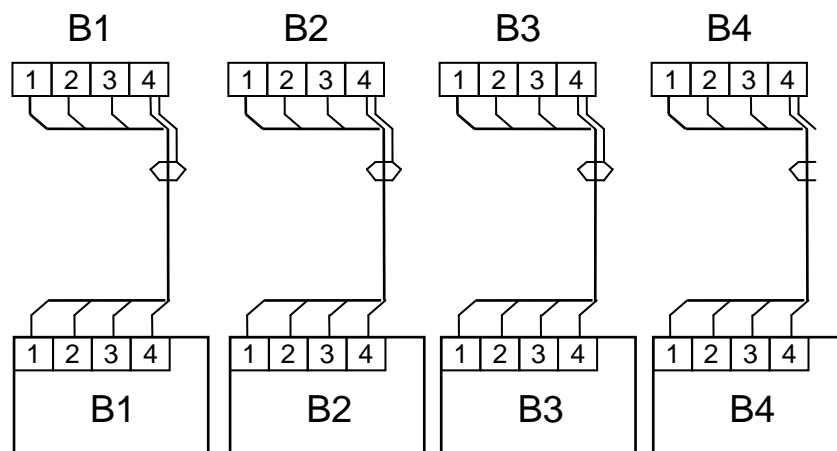
Terminal connecting plan: Power, Emergency power, Reset, Printer



Terminal connecting plan: Sensor heads 1...4



Sensor terminal



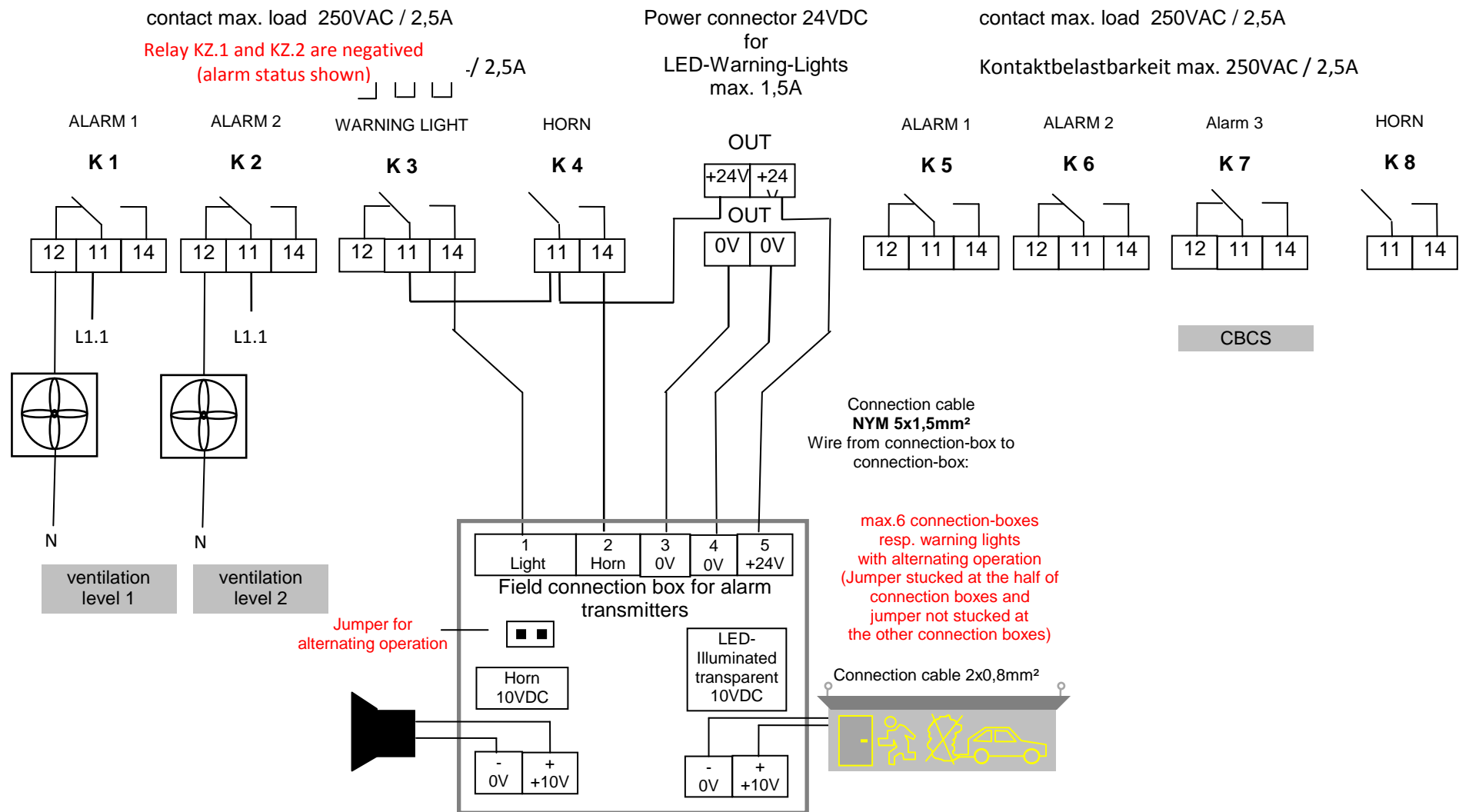
SENSOR 1..4



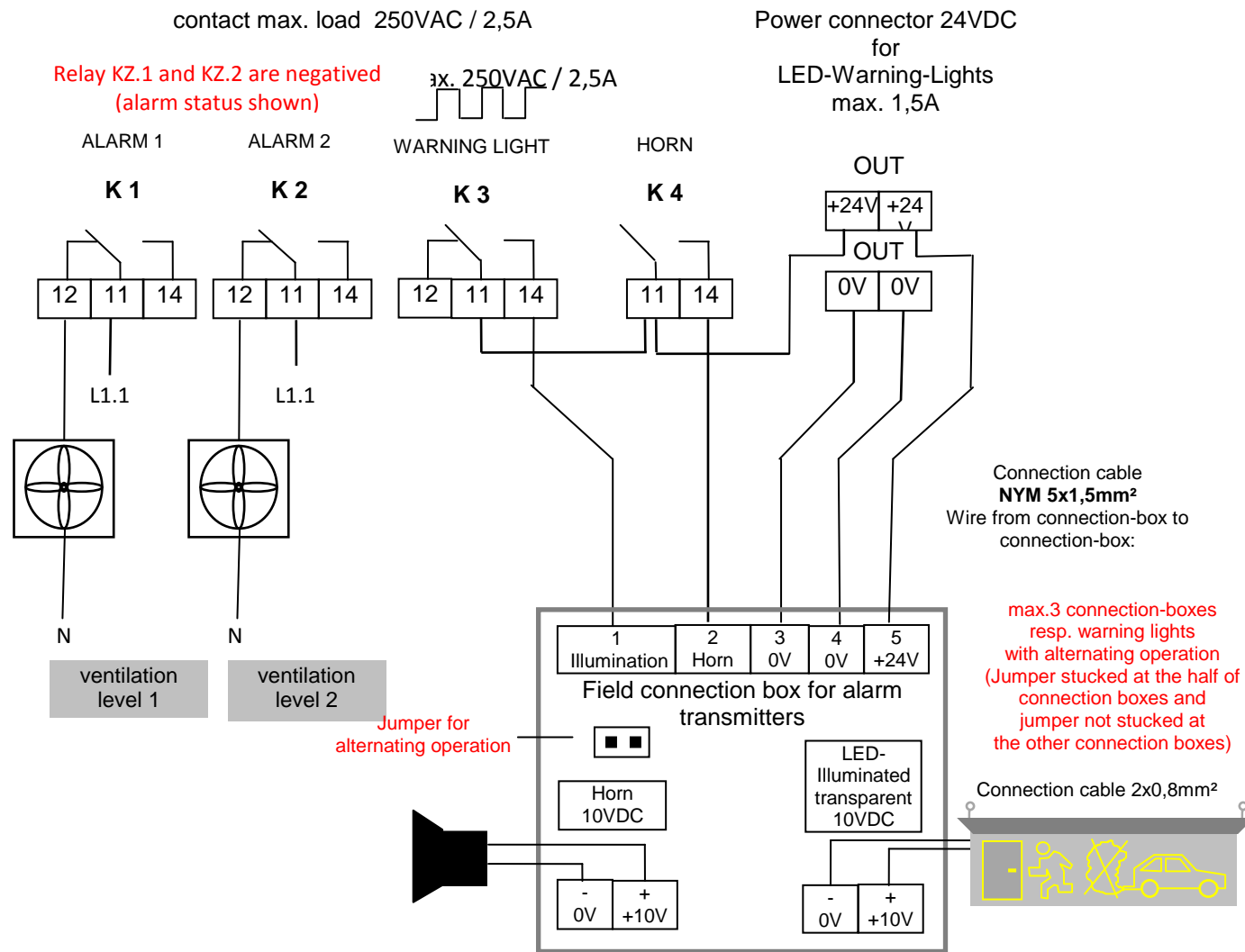
Connection cable (none-Ex-area)
up to 600m: JY(St)Y 2x2x0,8

Sensor connection: Observe absolutely sensor operation instructions!

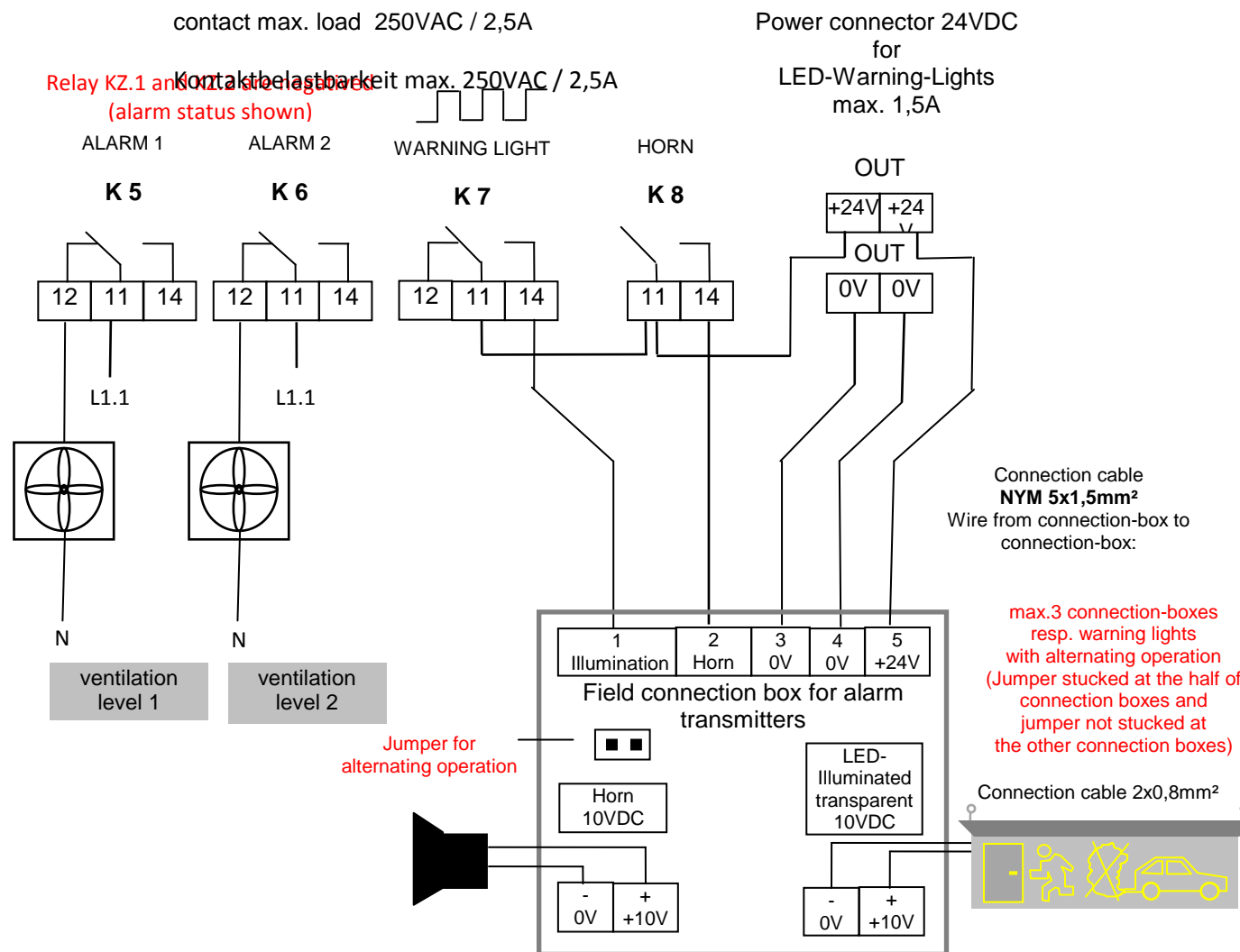
RELAY OUTPUTS (as a collective alarm and alarm terminal for connecting the Central Building Control System)



RELAY OUTPUTS K1..K4 (as a Zone 1 alarm output)



RELAY OUTPUTS K5..K8 (as a Zone 2 alarm output)

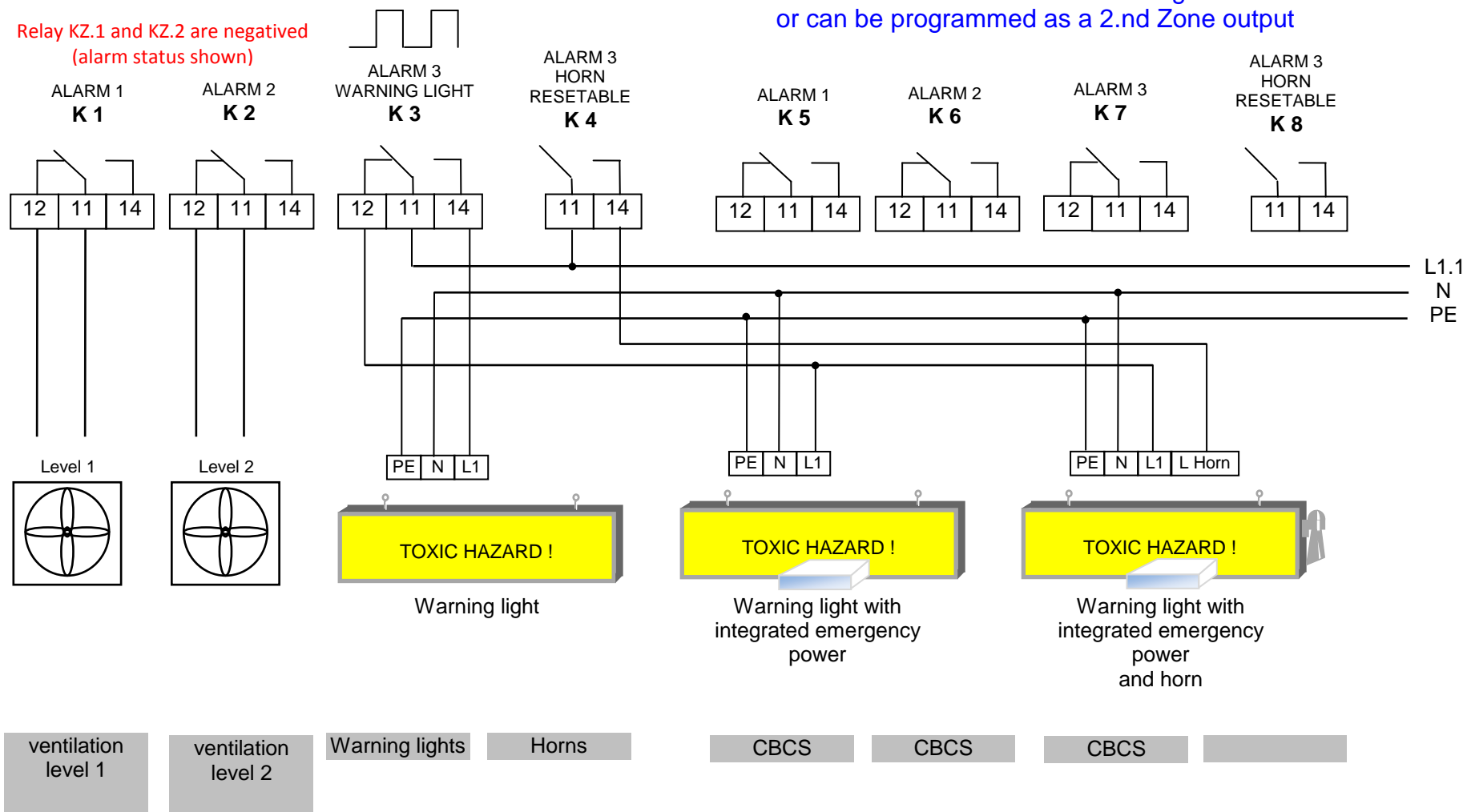


Terminal connection diagram: RELAY OUTPUTS with alarm transmitters 230VAC

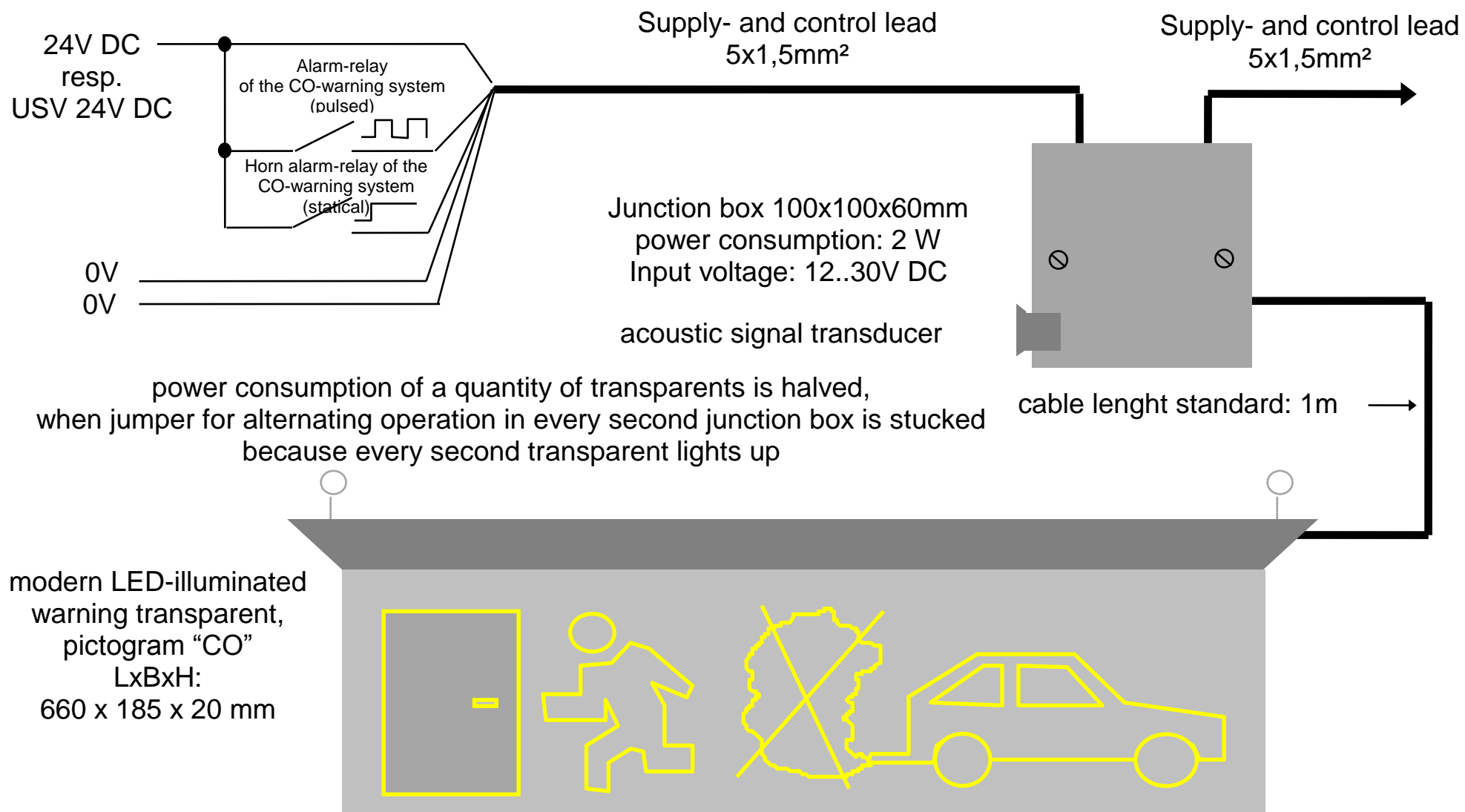
Kontaktbelastbarkeit max. 250VAC / 2,5A

Relay KZ.1 and KZ.2 are negative
(alarm status shown)

K5..K8 is reserved for connecting CBCS
or can be programmed as a 2.nd Zone output



Wiring diagram LED-illuminated warning transparent LT- CO

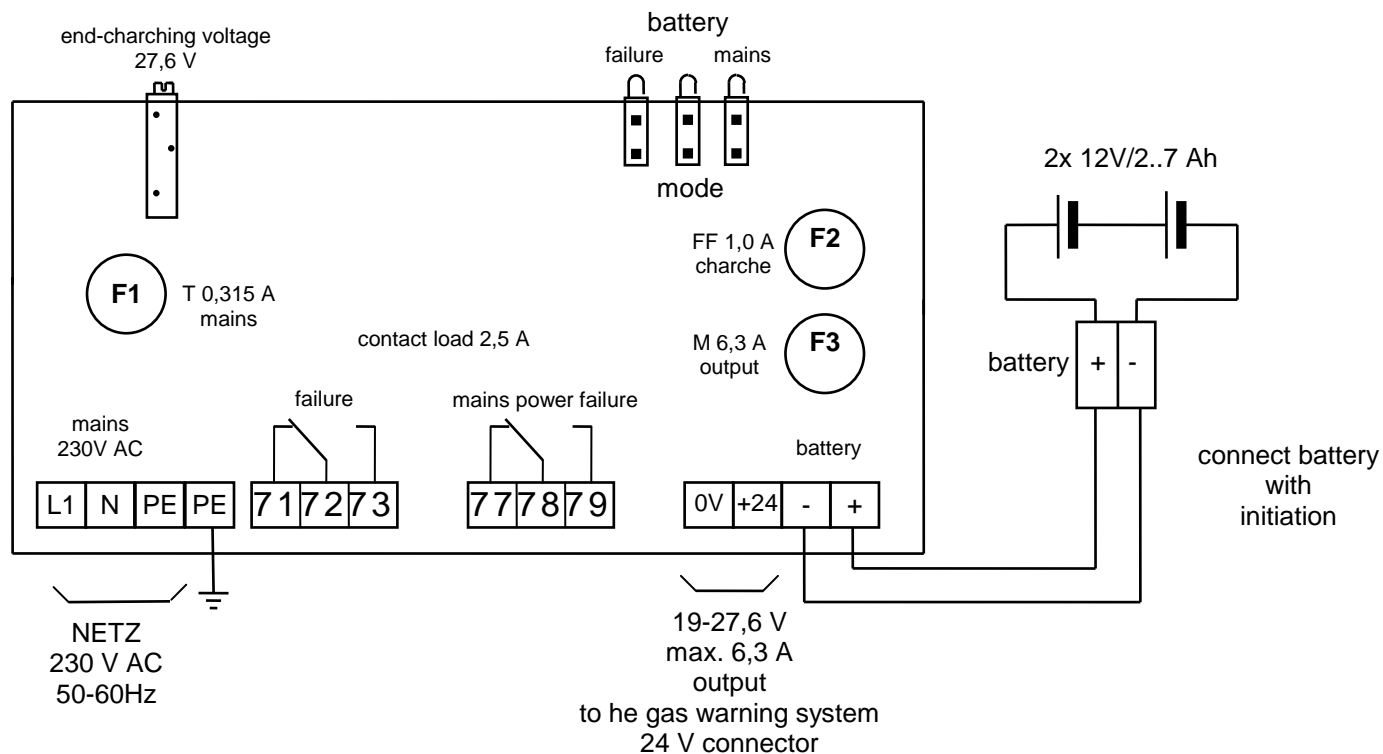


Housing dimensions:
B x H x T 300 x 260 x 90 mm
over all



Connecting diagram: Emergency power supply NSP-B-L for switch boards and NSP-Z-L (wall mounted housing)

Supply voltage: 230V AC
Output: 24V DC / 6,3A / 2..7 Ah



Capacity:	2..7 Ah depending on the battery capacity connected
Output current:	6,3 A max.
Charging current:	0,5 A max.
Deep discharge protection:	yes
Housing NSP-Z-L:	steel plate housing WxBxT 300x200x80(120)mm Rittal KL 1517(H=80mm) bzw. 1503(H=120mm)
Application:	Emergency power supply under mains power failure