Planungsbüro + Service:
Esteraustr. 10, 56379 Holzappel
Tel.: 0 64 39 / 90 19 90
Fax.: 0 64 39 / 90 19 91
E-Mail: u.ramakers@umsitec.de

Entwicklung + Fertigung + Service:
Heerweg 15 D, 73770 Denkendorf
Tel.: 07 11 / 34 14 - 159
Fax.: 07 11 / 34 14 - 047
E-Mail: info@umsitec.de

UMSITEC
Umwelt- und Sicherheitstechnik

OPERATING INSTRUCTION GNA Gas Emergency Stop

Emergency Stop Switch by Bus Connection

GNA Gas Emergency Stop

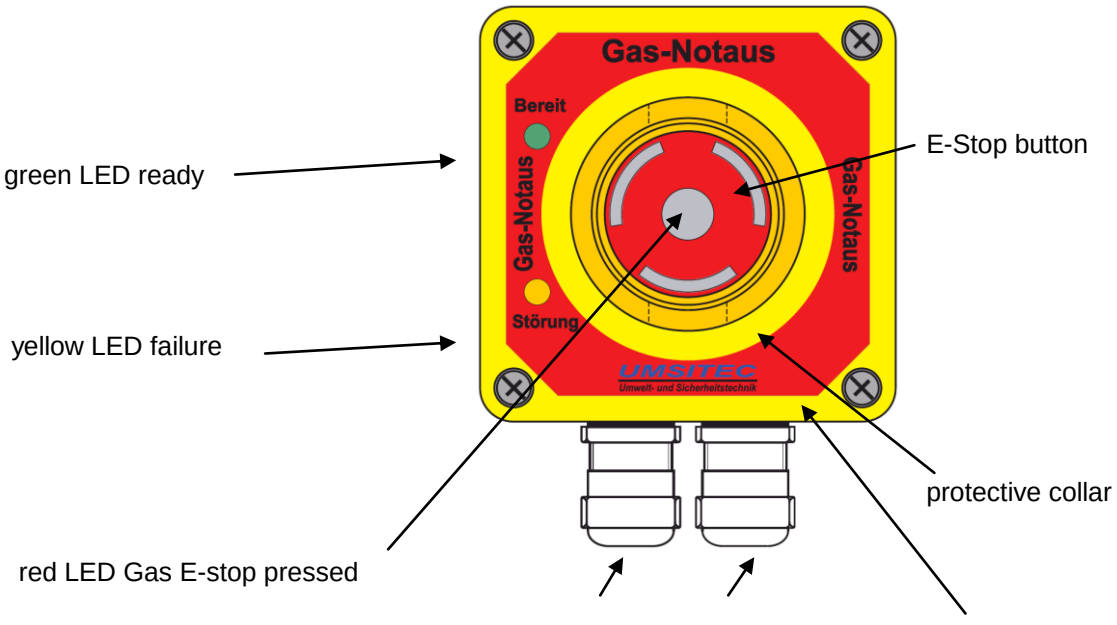
Important!

The GNA may only be operated if this operating instruction has been understood and is applied.

Function

- The GNA Gas Emergency Stop is an E-stop switch especially designed for gas alarm devices with RS 485 bus connection.
- It has an emergency opener for direct safety shutdown of devices and systems.
- In addition, a message is generated by RS 485 BUS connection, so that it is visible at the gas alarm center which emergency stop is triggered.
- When connecting two different signal circuits are available:
  1. The E-opener for direct safety shutdown of devices and systems.
  2. The digital RS 485 bus signal for connection to a bus gas center.
- Der The operating status is signaled by means of 3 LEDs:
  1. **Green LED ready**, lights up when there is no failure, the gas E-stop is ready for operation
  2. **Yellow LED failure**, lights up when there is a failure, the gas E-stop is not ready for operation
  3. **Red LED in the E-Stop botton** lights up when the gas E-stop is pressed
- As power supply a 24V supply is suitable, like it is usual in the switch cabinet construction.
- After pressing the gas e-stop must be unlocked in order to release the normal operation.
- To prevent accidental actuation of the emergency stop button is a key protective collar

Important: The gas E-alarm provides only the required protection when it conforming to standards be involved in the system by an expert!

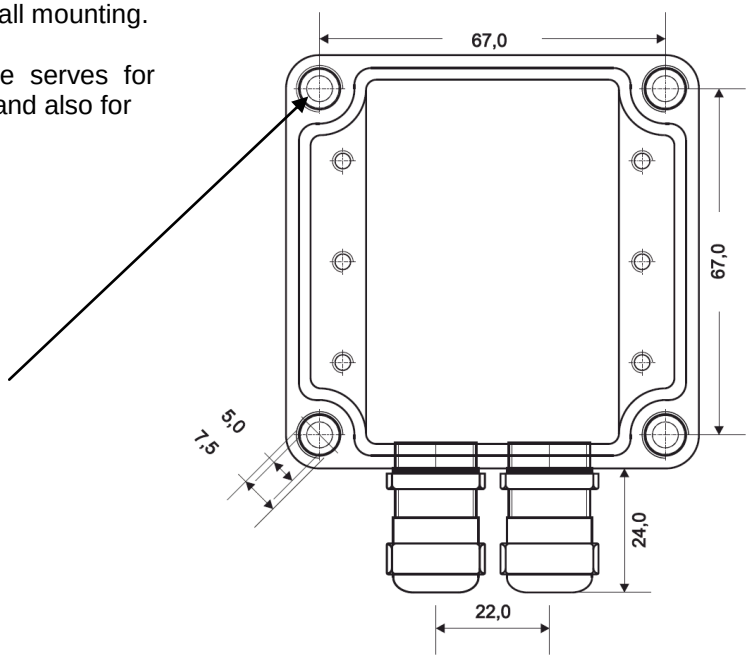


Mounting

The gas emergency stop is suitable for surface wall mounting.

The four 7,5mm drillholes in the housing base serves for receiving the mounting screws for wall mounting and also for the fixing of the housing cover.

4 x mounting screws for wall mounting



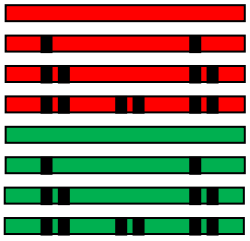
Gas Emergency Connection

The GNA emergency stop can be operated with an unregulated DC voltage of 12-30V.

As connecting cable it is used a shielded 6 core phone cabel. Two different types of cables are provided by default JY (St) 3x2x0, 8mm or halogen JH (St) 4x2x0, 8mm.
Please note the different core markings for the two types of cables.
In addition, the pairwise assignment of xa and xb wire in the cable must not be interchanged:

JY(St) 3x2x0,8mm

JH(St) 4x2x0,8mm



When connecting several gas E-stops two cables are needed, 1 x access and 1 x outgoing cables.
The wire colors at the JY (St) 3x2x0, 8mm cables are assigned as follows:

Upper part

Bus access		Bus outlet	
Double terminal 1: +24V	=> rot 1a	terminal 1: +24V	=> red 1a
Double terminal 2: RS485 terminal A	=> weiß 2a	terminal 2: RS485 double terminal A	=> white 2a
Double terminal 3: RS485 terminal B	=> gelb 2b	terminal 3: RS485 double terminal B	=> yellow 2b
Double terminal 4: 0V	=> blau 1b	terminal 4: 0V	=> blue 1b
Double terminal 5: shield	=> Beidraht	terminal 5: shield	=> drain wire

Lower part

Not-Aus Zugang		E-stop outlet	
Terminal 6: +24V	=> white	Klemme 7: +24V	=> white
Terminal 8: RS485 terminal A	=> green	Klemme 9: RS485 Klemme A	=> green

The drain wire is connected in the cable to the shield.

CAUTION: When installing, make sure that bare ground wire and the bare drain wire are covered with isulation and cannot come into contact with the circuit.

The wire colors at the **JH(St) 4x2x0,8mm** cable are assigned as follows:

Upper part

Bus access		Bus outlet	
Double terminal 1: +24V	=> red 1a	terminal 1: +24V	=> red 1a
Double terminal 2: RS485 terminal A	=> red 2a	terminal 2: RS485 double terminal A	=> red 1b
Double terminal 3: RS485 terminal B	=> red 2b	terminal 3: RS485 double terminal B	=> red 2a
Double terminal 4: 0V	=> red 1b	terminal 4: 0V	=> red 2b
Double terminal 5: shield	=> drain wire	terminal 5: shield	=> drain wire

Lower part

E-stop access		E-stop outlet	
Terminal 6: NC 11	=> green 1a	terminal 7: NC 12	=> green 1a
Terminal 8: bridge	=> green 1b	terminal 9: Brücke	=> green 1b
Terminal 10: drain wire (Schirm)			

The drain wire is connected in the cable to the shield.

Not to be used:	=> green 2a	=> green 2a
	=> green 2b	=> green 2b

CAUTION: When installing, make sure that bare ground wire and the bare drain wire are covered with isulation and cannot come into contact with the circuit.

Caution: GNA's which were wired before 01.01.2012 the following wiring configuration is applied.

The wire colors at the **JY(St) 3x2x0,8mm** cable are assigned as follows:

Upper part

Bus access		Bus outlet	
Double terminal 1: +24V	=> white	terminal 1: +24V	=> white
Double terminal 2: RS485 terminal A	=> white	terminal 2: RS485 double terminal A	=> white
Double terminal 3: RS485 terminal B	=> yellow	terminal 3: RS485 double terminal B	=> yellow
Double terminal 4: 0V	=> green	terminal 4: 0V	=> green
Double terminal 5: shield	=> drain wire	terminal 5: shield	=> drain wire

Lower part

E-stop access		E-stop outlet	
Terminal 6: NC 11	=> red	Terminal 7: NC 12	=> red
Terminal 8: bridge	=> blue	Terminal 9: bridge	=> blue
Terminal 10: drain wire (shield)			

Maintenance

The gas E-stop is factory-calibratet and tested.
Regular maintenance is required, especially the E-stop button, to obtain the functionality.

Maintenance Tools

Control element „Service-Handy 3“
Alarm lock switch

Programming

This GNA gas emergency stop can be set to any B-No. reprogrammed,
a serial number can not be programmed:

1. For this purpose, the service mobile phone 3 is logged into the GNA.
2. B-No. reprogram and save.

Connecting Diagram

Upper part: Bus plug with 2x5 contacts

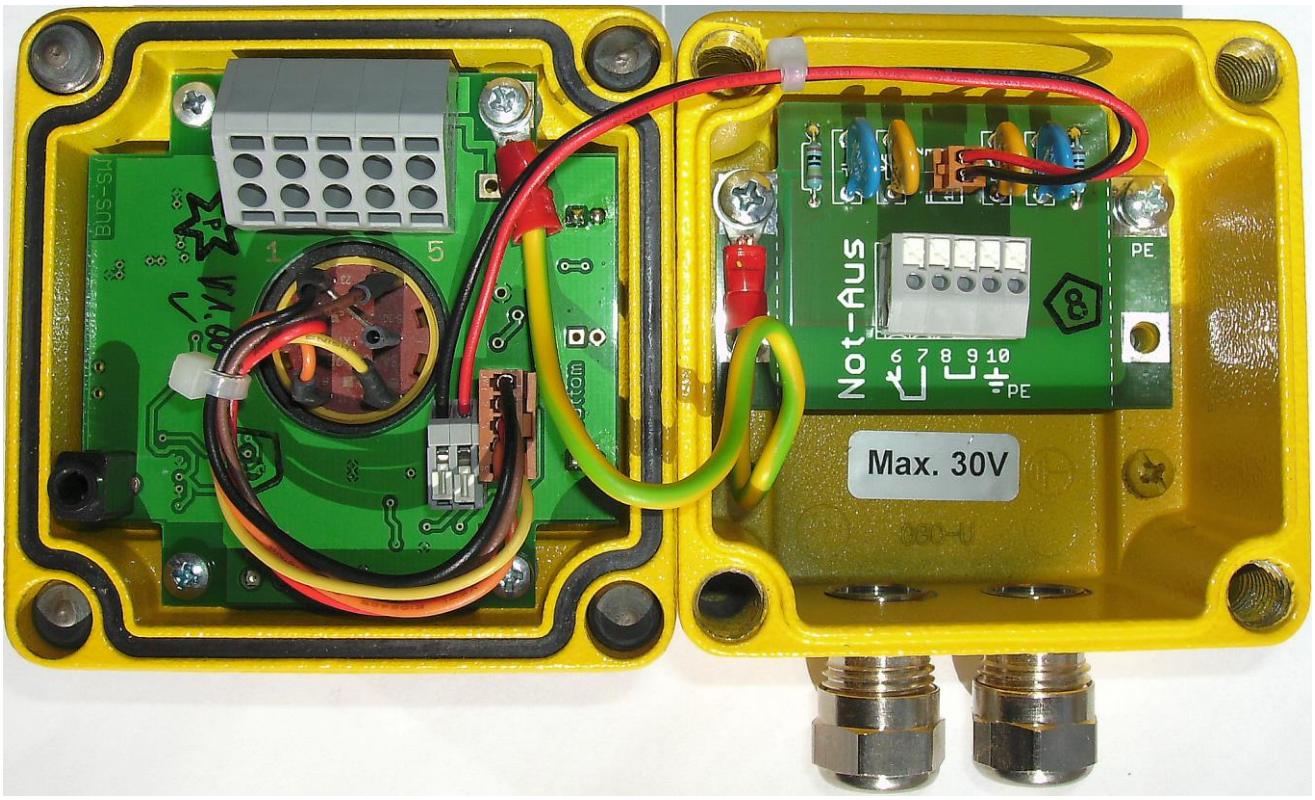
+24V A B 0V ⏚

1 2 3 4 5

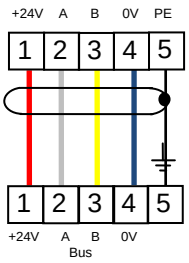
Lower part: Emergency connection wit 1x5 contacts

N/C Bridge ⏚

6 7 8 9 10

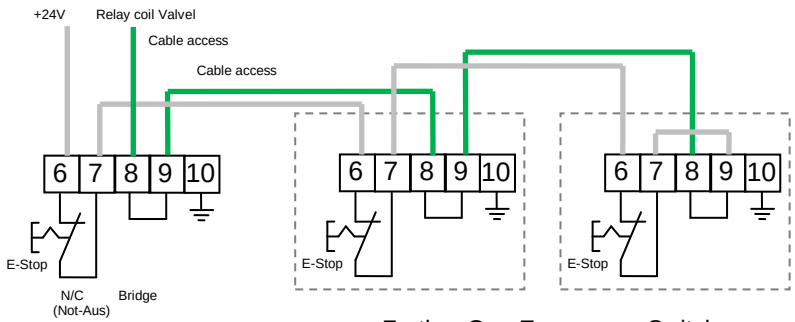


CCS4500 B



GNA / Emergency stop cover
Bus connection

e.g. Valve of the System



GNA / Emergency stop ground
Emergency stop contact

Further Gas-Emergency Switch

Specification: Gas Emergency Alarm GNA

Suitability::	industry, residential and office spaces
Temperature range:	-20..+50°C (ambiet)
Housing:	aluminium power-coated, LxWxD: 80x80x60mm
Protection:	housing: IP 66 / EN 60529; Emergency stop button: IP65
Outputsignal:	digital via RS 485 BUS
Warranty:	2 years
CE-conformity:	distribution: residential, immunity: industrial area
Weight:	490g
Supply:	12..30 VDC
Connection line:	up to 1200 m: JY (ST) Y 3x2x0,8 mm

Current consumption:
24,0mA @ 12 V DC
20,0mA @ 14 V DC
18,0mA @ 16 V DC
17,0mA @ 18 V DC
16,0mA @ 20 V DC
15,0mA @ 22 V DC
14,5mA @ 24 V DC
14,0mA @ 26 V DC
13,5mA @ 28 V DC

Emergency stop switch element: NC contact material gold, switching voltage 240V AC; switching current 1,5A

Applicable gas systems: GCZ 4500B, CCZ 4500B

Commissioning

When wiring and programming the gas warning system properly, the gas emergency stop should work immediately after the operating voltage has been switched on and the system detects it.
The correct function is indicated when the green "Operation" LED is lighting.

Maintenance

To maintain functional safety, maintenance must be carried out in accordance with VDE regulations.

State of September 2012

Subject to technical changes