



# Methane Detector-Transmitter E2608-CH4



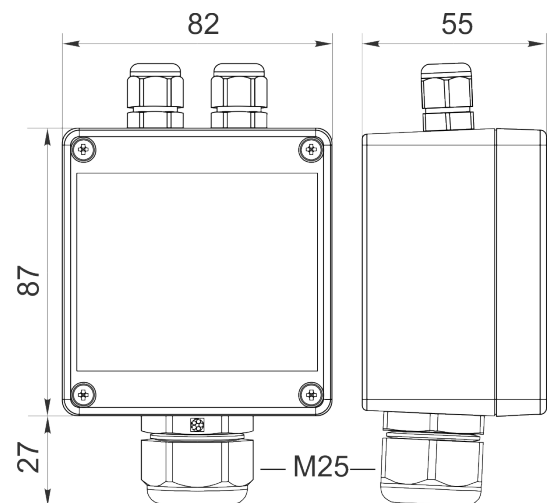
## Features

- Wall-mount or duct-mount version
- Industrial IP65 housing
- Two analog outputs settable to 4-20 mA or 0-10 V
- RS485 Modbus RTU digital interface
- Two relays for alarm / ventilation control
- Attached or remote sensor

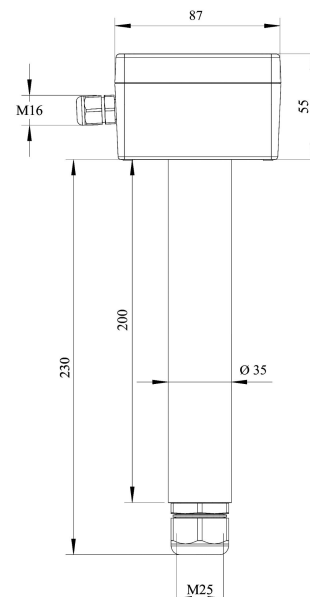
## Specifications

Calibration	Methane CH <sub>4</sub>	
Sensor type	Metal-oxide semiconductor pellistor (catalytic bead) on demand	
Sampling method	Diffusion	
Sensor	Metal-oxide	Pellistor
Typical detection range	0...100% LEL	0...100% LEL
Resolution / digital unit	0.1% LEL	1% LEL
Response time T90	ca. 60 s	≤10s
Sensor lifetime	> 5 years	> 5 years
Calibration interval	12 months	6 months
Operating temperature	-40...+70 °C	-40...+70°C
Signal update	Every 1 second	
Self-diagnostics	Full functionality check at start-up	
Warm-up time	≤ 1 min	
Power supply	11...30 VDC (default), 24 VAC or 90...265 VAC as options	
Power consumption	< 2 VA	
Digital interface	RS485, Modbus RTU protocol	
Analog outputs	2 × 4-20 mA / 0-10 V, user settable	
Output scale width	Recommended: 20-100% of the range; > 10 × resolution in any case	
Output relays	2 × SPST relays (closing contact), 250 VAC / 30 VDC, 5 A max	
Default alarm setpoints	LOW: set 20 %LEL, release 16% LEL; HIGH:set 50%LEL, release 40% LEL	
Enclosure	Light beige ABS plastic, wall mount, protection class IP65	
Dimensions	H87 × W82 × D55 mm	
Remote sensor probe	Protection IP65, shielded cable default cable length 3.0 m	
Operating environment	Industrial indoor and outdoor locations	
Operating conditions	(operating temperature is specified above) ≤ 95% RH non-condensing; 0.9...1,1 atm Explosion-safe areas; Normal ambient oxygen level; Avoid exposure to corrosive gases or silicone containing products.	

### Wall mount version



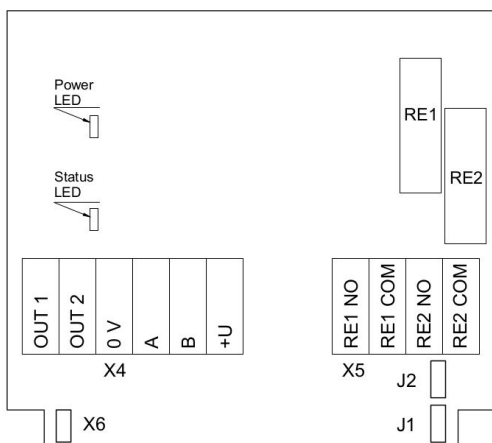
### Duct mount version



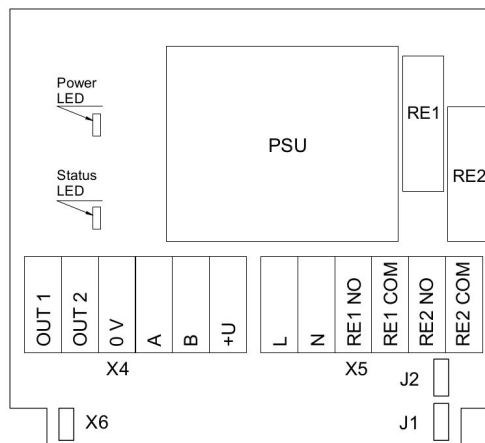
Ask for other versions or custom designed products



## Connection diagrams



Version without PSU



Version with PSU

### Jumpers

<b>J1</b>	OUT1 type (open: 4-20 mA; closed 0-10 V)
<b>J2</b>	OUT2 type (open: 4-20 mA; closed 0-10 V)
<b>X6</b>	Reset Modbus network parameters to default

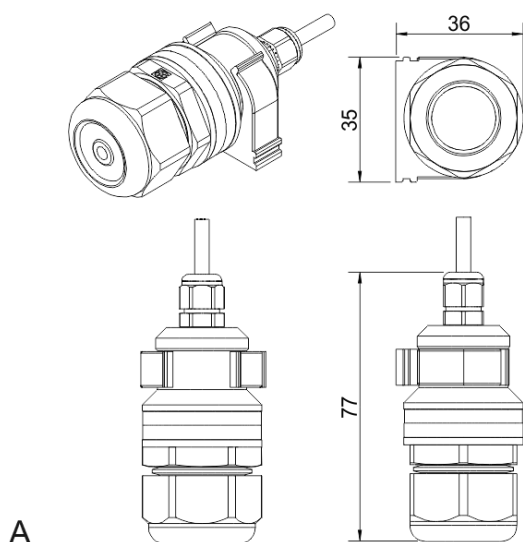
### X4 terminals

<b>OUT1</b>	4-20 mA / 0-10 V output
<b>OUT2</b>	4-20 mA / 0-10 V output
<b>0V</b>	0 V / 24 VAC Neutral (optional)
<b>A</b>	RS485 A / Data +
<b>B</b>	RS485 B / Data -
<b>+U</b>	+24 VDC / 24 VAC Phase (optional)

### X5 terminals (optional)

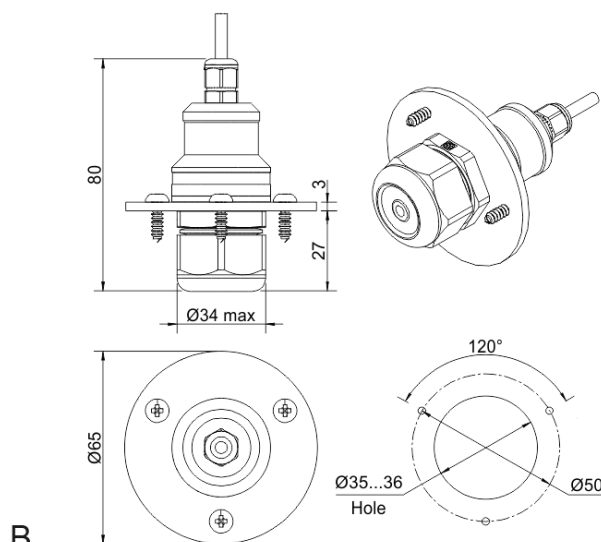
<b>L</b>	90...265 VAC Phase
<b>N</b>	90...265 VAC Neutral
<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal

## Remote probe



A

Wall mount remote probe with fixing clamp (default version)



B

Remote probe with rubber flange and three self-tapping screws (on request)





# Combustible Gases Detector-Transmitter E2608-LEL



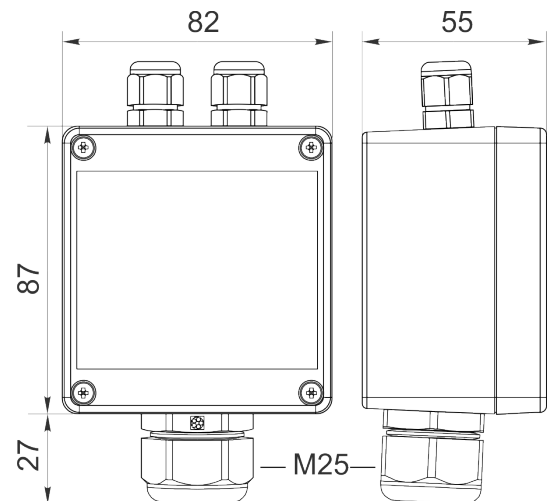
## Features

- Wall-mount or duct-mount version
- Industrial IP65 housing
- Two analog outputs settable to 4-20 mA or 0-10 V
- RS485 Modbus RTU digital interface
- Two relays for alarm / ventilation control
- Attached or remote sensor

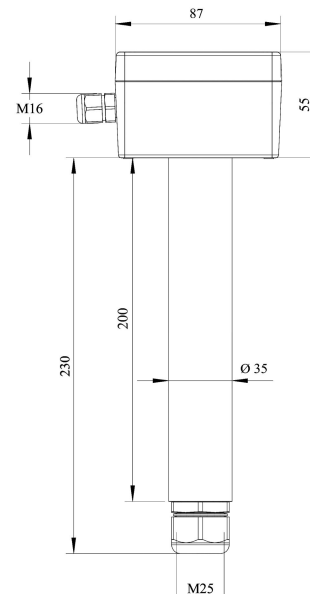
## Specifications

Detected gases	Hydrogen, methane, acetylene, propane, butane, hexane, octane	
Default calibration	Methane CH <sub>4</sub>	
Sensor type	Metal-oxide semiconductor Pellistor (catalytic bead) on demand	
Sampling method	Diffusion	
Sensor	MOS	Pellistor
Typical detection range	0...100% LEL	0...100% LEL
Resolution	0.1% LEL	1% LEL
Response time T90	ca. 60 s	≤10 s
Sensor lifetime	> 5 years	> 5 years
Calibration interval	12 months	6 months
Signal update	Every 1 second	
Self-diagnostics	Full functionality check at start-up	
Warm-up time	≤ 1 min	
Power supply	11...30 VDC (default), 24 VAC or 90...265 VAC as options	
Power consumption	< 2 VA	
Digital interface	RS485, Modbus RTU protocol	
Analog outputs	2 × 4-20 mA / 0-10 V, user settable	
Output scale width	Recommended: 20-100% of the range; > 10 × resolution in any case	
Output relays	2 × SPST relays (closing contact), 250 VAC / 30 VDC, 5 A max	
Default alarm setpoints	LOW: set 20 %LEL, release 16% LEL; HIGH:set 50%LEL, release 40% LEL	
Enclosure	Light beige ABS plastic, wall mount, protection class IP65	
Dimensions	H87 × W82 × D55 mm	
Remote sensor probe	Protection IP65, shielded cable default cable length 3.0 m	
Operating environment	Industrial indoor and outdoor locations	
Operating conditions	-40...+70 °C      -40...+70°C 95% RH non-condensing; 0.9...1,1 atm Explosion-safe areas Normal ambient oxygen level No strong mechanical shock, vibrations or EMI; Avoid exposure to corrosive gases or silicone containing products.	

### Wall mount version



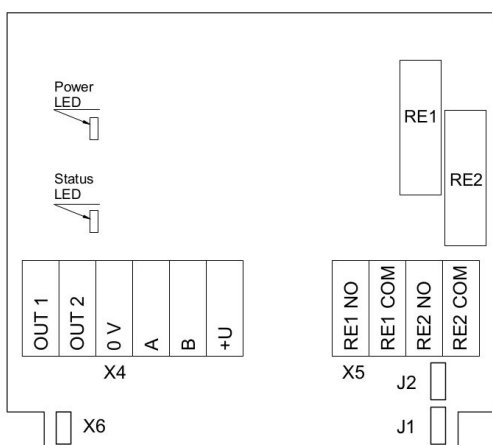
### Duct mount version



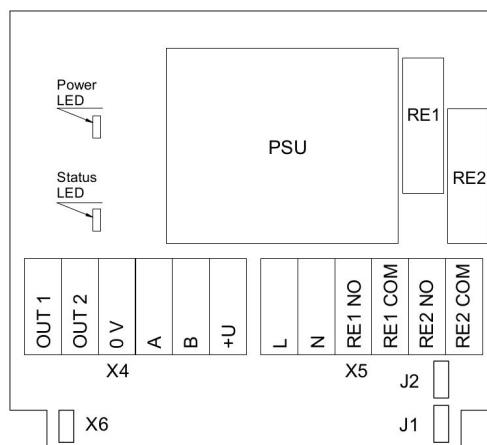
Ask for other versions or custom designed products



## Connection diagrams



Version without PSU



Version with PSU

### Jumpers

J1

OUT1 type (open: 4-20 mA; closed 0-10 V)

J2

OUT2 type (open: 4-20 mA; closed 0-10 V)

X6

Reset Modbus network parameters to default

### X4 terminals

OUT1

4-20 mA / 0-10 V output

OUT2

4-20 mA / 0-10 V output

0V

0 V / 24 VAC Neutral (optional)

A

RS485 A / Data +

B

RS485 B / Data -

+U

+24 VDC / 24 VAC Phase (optional)

### X5 terminals (optional)

L

90...265 VAC Phase

N

90...265 VAC Neutral

RE1 NO

Relay 1, normally open terminal

RE1 COM

Relay 1, common terminal

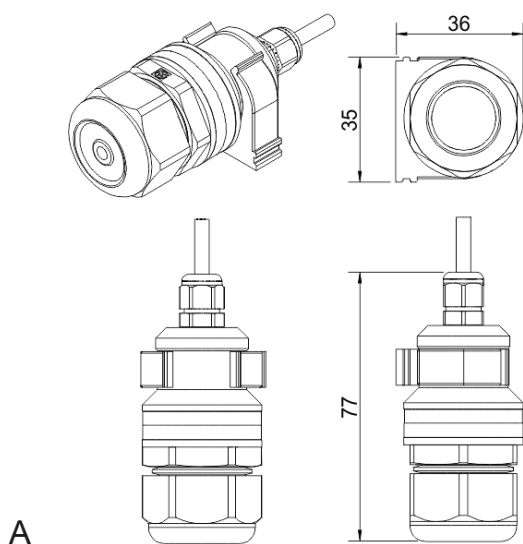
RE2 NO

Relay 2, normally open terminal

RE2 COM

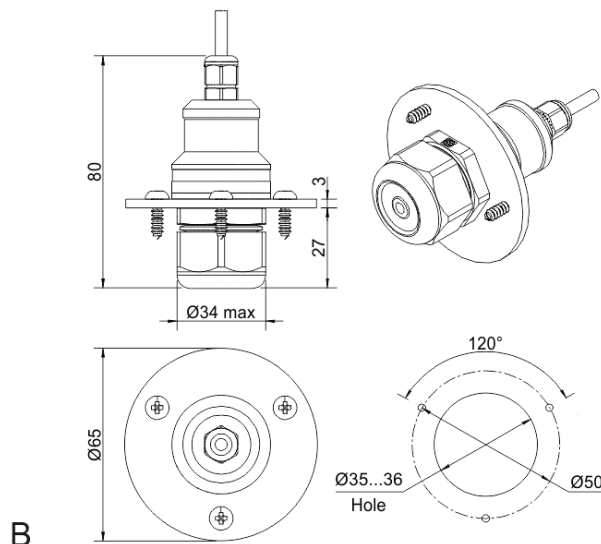
Relay 2, common terminal

## Remote probe



A

Wall mount remote probe with fixing clamp (default version)



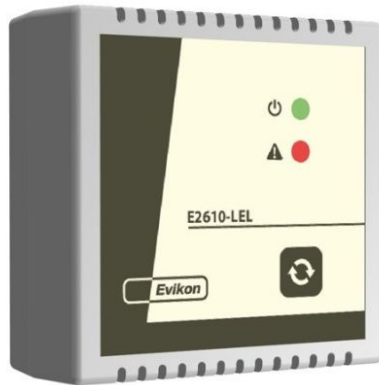
B

Remote probe with rubber flange and three self-tapping screws (on request)





# Combustible Gas Detector E2610-LEL



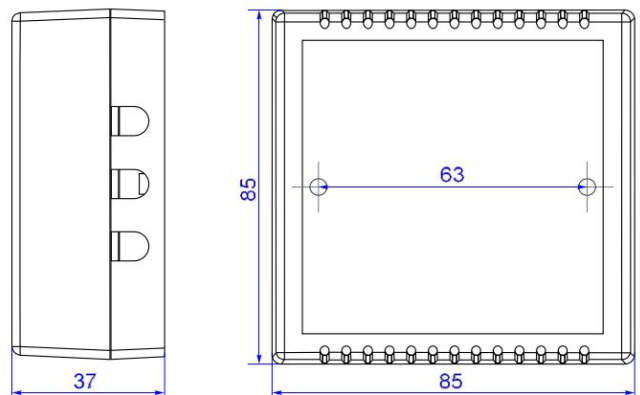
## Features

- Methane, LPG, Hydrogen, Acetylene
- Compact housing providing optimal airflow
- Visual and acoustic alarms
- Two output relays for alarm / ventilation control

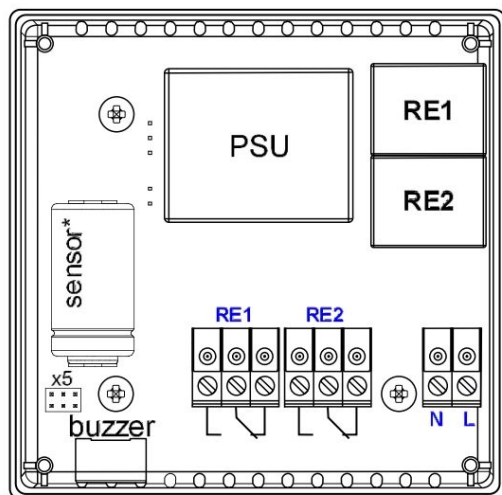
## Specifications

Detected gas	Acetylene, Butane, Hydrogen, Methane, Propane
Sensor type	Metal Oxide Semiconductor
Sampling method	Diffusion
Typical detection range	0...100% LEL
Response time	ca. 60 s
Signal update	Every 1 second
Sensor lifetime	> 5 years
Maintenance interval	12 months
Self-diagnostics	Full functionality check at start-up
Warm-up time	≤ 1 min
Power supply	24 VAC/DC or 90...265 VAC
Power consumption	< 2 VA
Digital interface	UART
Output relays	2 relays with switch-over contact (SPDT), 250 VAC / 30 VDC, 5 A max
Default alarm set-points	Release - LOW - HIGH 7 - 10 - 25% LEL
Alarms	Blinking LED, buzzer 85 dB
Enclosure	ABS plastic with ventilation slots, protection class IP20
Dimensions	H 85 × W 85 × D 37 mm
Operating conditions	-40...+70 °C <95 %RH, non-condensing pressure 0,9...1,1 atm Non-ATEX rated spaces Normal ambient oxygen level Avoid strong mechanical shock, vibrations or EMI; Avoid exposure to corrosive gases or silicone containing products.

## Dimensions



## Connection diagram



\*Sensors may have different shape and/or size

### Terminals

<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE1 NC</b>	Relay 1, normally closed terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal
<b>RE2 NC</b>	Relay 2, normally closed terminal
<b>L</b>	90...265 VAC Phase (optional 24 VAC / VDC)
<b>N</b>	90...265 VAC Neutral (optional 24 VAC / VDC)



# Methane Detector-Transmitter E2611-CH4



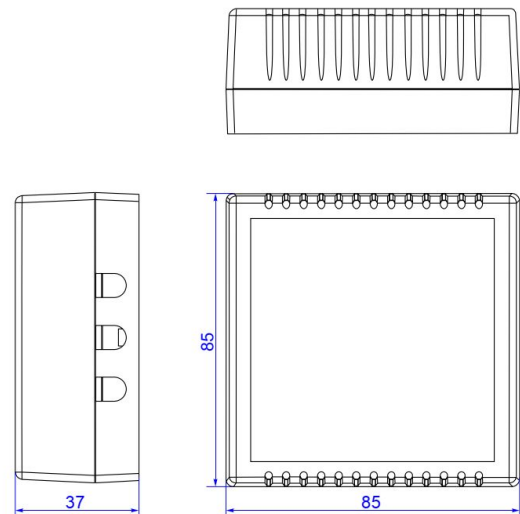
## Features

- Accurate and stable measurement
- Compact housing providing optimal airflow
- Two analog outputs settable to 4-20 mA or 0-10 V
- Two relays for alarm / ventilation control
- Acoustic alarm
- RS485 Modbus RTU digital interface

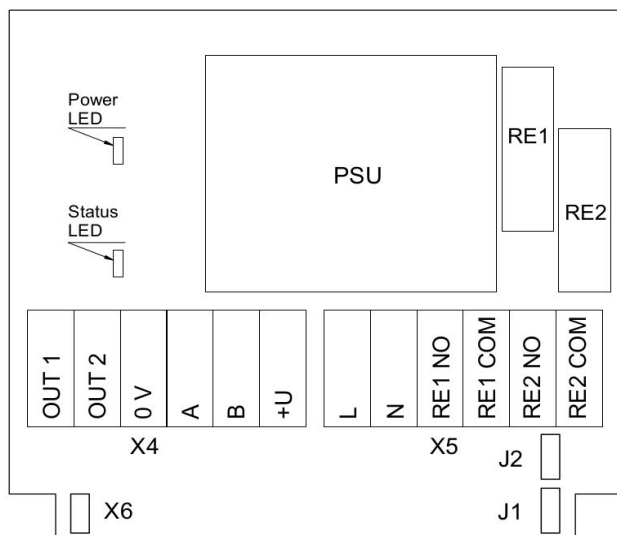
## Specifications

Calibration	Methane
Sensor type	Metal oxide semiconductor
Sampling method	Diffusion
Typical detection range	0...100%LEL
Resolution/digital unit	0,1 %LEL
Response time	> 60 s
Signal update	Every 1 second
Sensor lifetime	> 5 years
Maintenance interval	12 months
Self-diagnostics	Full functionality check at start-up
Warm-up time	≤ 1 min
Power supply	11...30 VDC/VAC or 90...265 VAC
Power consumption	< 2 VA
Digital interface	RS485, Modbus RTU protocol
Output relays	2 × SPST relays (closing contact), 250 VAC / 30 VDC, 5 A max
Default alarm set-points	LOW set 20, release 16% LEL HIGH set 50, release 40%LEL
Alarms	Buzzer 85 dB
Analog outputs	2 × 4-20 mA / 0-10 V, user settable
Enclosure	ABS plastic with ventilation slots, wall mount, protection class IP20
Dimensions	H85 × W85 × D37 mm
Operating conditions	-40...+70 °C, <95 %RH, without condensation Normal ambient O2 concentration Non-ATEX areas No corrosive gases or silicon containing volatile products in the atmosphere

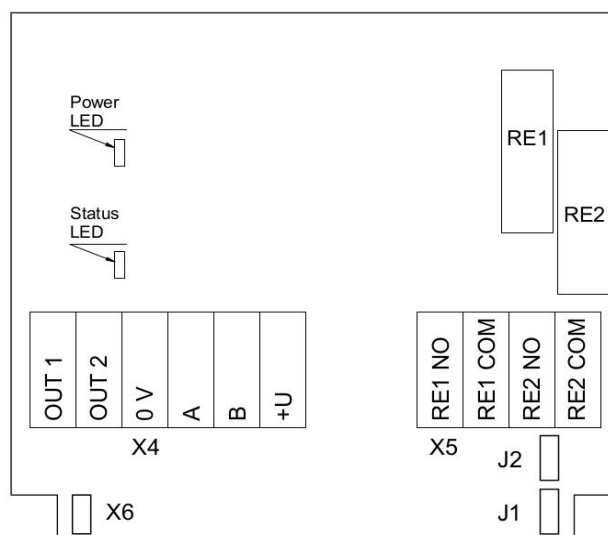
## Dimensions



## Connection diagrams



Version with PSU



Version without PSU

### Jumpers

<b>J1</b>	OUT1 type (open: 4-20 mA; closed 0-10 V)
<b>J2</b>	OUT2 type (open: 4-20 mA; closed 0-10 V)
<b>X6</b>	Reset Modbus network parameters to default

### X4 terminals

<b>OUT1</b>	4-20 mA / 0-10 V output
<b>OUT2</b>	4-20 mA / 0-10 V output
<b>0V</b>	0 V / 24 VAC Neutral (optional)
<b>A</b>	RS485 A / Data +
<b>B</b>	RS485 B / Data -
<b>+U</b>	+24 VDC / 24 VAC Phase (optional)

### X5 terminals (optional)

<b>L</b>	90...265 VAC Phase
<b>N</b>	90...265 VAC Neutral
<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal





# Combustible Gases Detector-Transmitter E2611-LEL



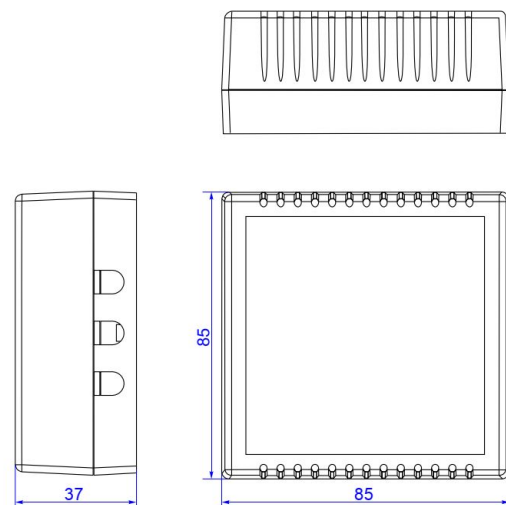
## Features

- Accurate and stable measurement
- Compact housing providing optimal airflow
- Two analog outputs settable to 4-20 mA or 0-10 V
- Two relays for alarm / ventilation control
- Acoustic alarm
- RS485 Modbus RTU digital interface

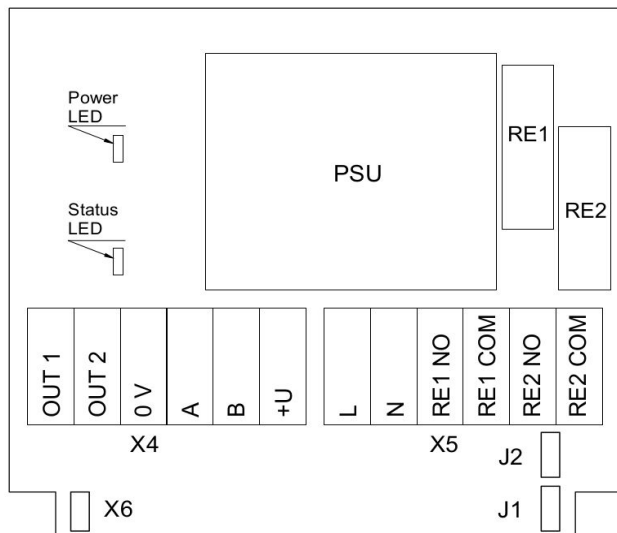
## Specifications

Detected gases	Acetylene, Butane, Hydrogen, Methane, Propane
Calibration	Methane CH <sub>4</sub>
Sensor type	Metal oxide semiconductor
Sampling method	Diffusion
Typical detection range	0...100%LEL
Resolution/digital unit	0,1 %LEL
Response time	> 60 s
Signal update	Every 1 second
Sensor lifetime	> 5 years
Maintenance interval	12 months
Self-diagnostics	Full functionality check at start-up
Warm-up time	≤ 1 min
Power supply	11...30 VDC/VAC or 90...265 VAC
Power consumption	< 2 VA
Digital interface	RS485, Modbus RTU protocol
Output relays	2 × SPST relays (closing contact), 250 VAC / 30 VDC, 5 A max
Default alarm set-points	LOW set 20, release 16% LEL HIGH set 50, release 40%LEL
Alarms	Buzzer 85 dB
Analog outputs	2 × 4-20 mA / 0-10 V, user settable
Enclosure	ABS plastic with ventilation slots, wall mount, protection class IP20
Dimensions	H85 × W85 × D37 mm
Operating conditions	-40...+70 °C, <95 %RH, without condensation Normal ambient O <sub>2</sub> concentration Non-ATEX areas No corrosive gases or silicon containing volatile products in the atmosphere

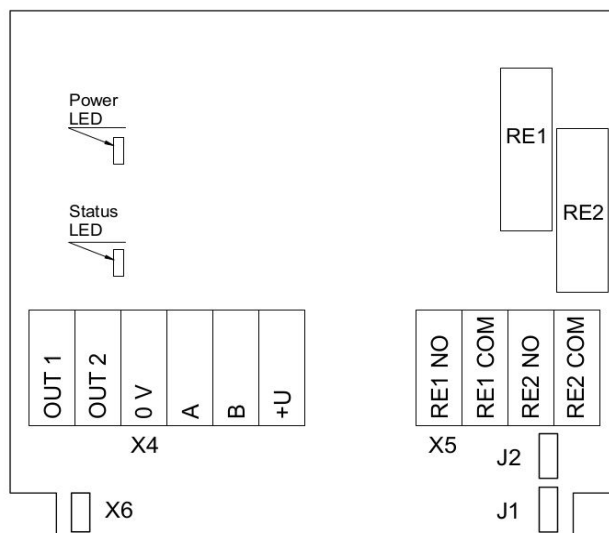
## Dimensions



## Connection diagrams



Version with PSU



Version without PSU

### Jumpers

<b>J1</b>	OUT1 type (open: 4-20 mA; closed 0-10 V)
<b>J2</b>	OUT2 type (open: 4-20 mA; closed 0-10 V)
<b>X6</b>	Reset Modbus network parameters to default

### X4 terminals

<b>OUT1</b>	4-20 mA / 0-10 V output
<b>OUT2</b>	4-20 mA / 0-10 V output
<b>0V</b>	0 V / 24 VAC Neutral (optional)
<b>A</b>	RS485 A / Data +
<b>B</b>	RS485 B / Data -
<b>+U</b>	+24 VDC / 24 VAC Phase (optional)

### X5 terminals (optional)

<b>L</b>	90...265 VAC Phase
<b>N</b>	90...265 VAC Neutral
<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal





# Combustible Gas Transmitter E2615-LEL



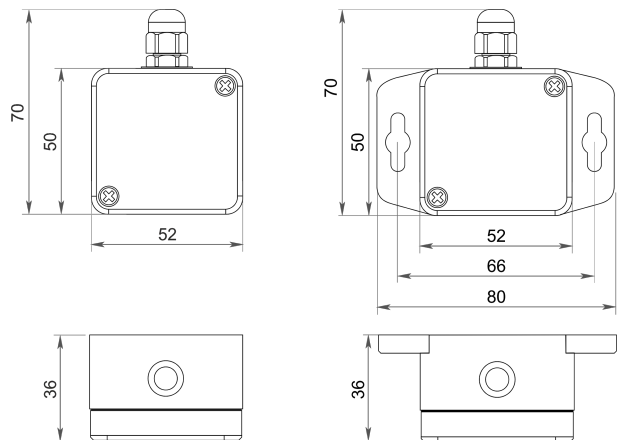
## Features

- Maintenance free sensor
- User selectable output 4-20 mA / 0-10 V
- Range of compact wall mount enclosures
- Low cost for volume HVAC applications

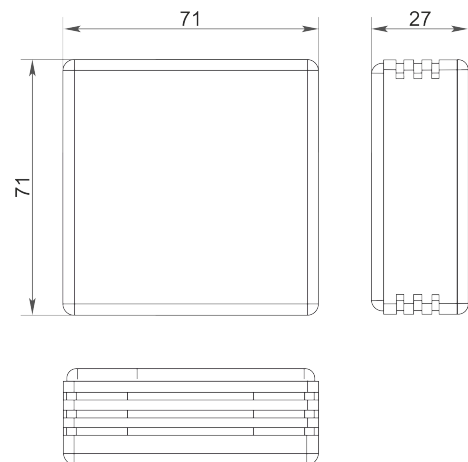
## Specifications

Calibration	Methane
Sensor type	Pellistor
Sampling method	Diffusion
Detection range	0-100% LEL
Response time T90	< 10 s
Sensor protection	Microporous PTFE dust filter
Warm-up time	≤ 1 min
Analog output	4-20 mA / 0-10 V, user settable
Power supply	24 VDC ± 20%
Power consumption	< 1 W
Sensor lifetime	≥ 10 years
Sensitivity drift	< ± 20% in 5 years
Indoors enclosure	White, ivory or black ABS plastic,
IP20 version	wall mount, protection class IP20
Weatherproof enclosure	Light or dark grey ABS plastic,
IP65 version	wall mount, protection class IP65
Operating conditions	-20...+40 °C recommended -20...+50 °C intermittently 10...95 %RH non-condensing, pressure 0,9...1,1 atm
EMC Emissions	To EN 61000-6-3, EN 61326-1
EMC Immunity	To EN 61000-6-1, EN 61000-6-2

## IP65 Enclosures

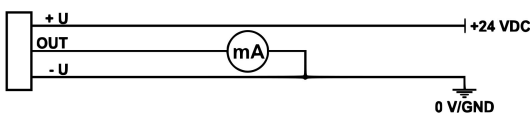


## IP20 Enclosures

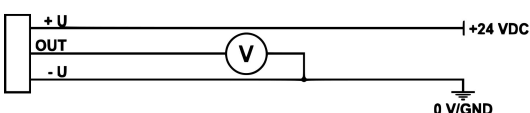


## Connection diagrams

### 3-wire 4-20 mA output

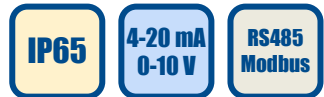


### 3-wire 0-10 V output



Ask for other versions or custom designed products





# Methane Transmitter E2618-CH4



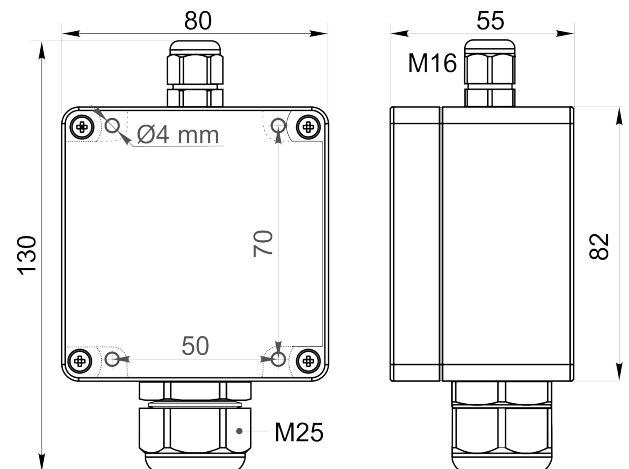
## Features

- Wall-mount or duct-mount version
- Industrial IP65 housing
- Two analog outputs settable to 4-20 mA or 0-10 V
- RS485 Modbus RTU digital interface
- Attached or remote sensor

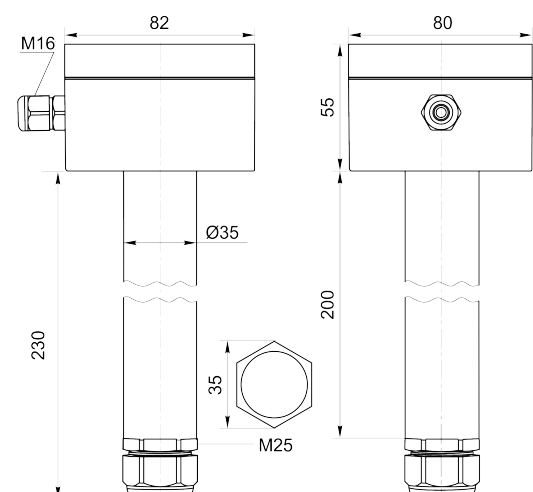
## Specifications

Calibration	Methane CH <sub>4</sub>	
Sensor type	Metal-oxide semiconductor Pellistor (catalytic bead) on demand	
Sampling method	Diffusion	
Sensor	MOS	pellistor
Typical detection range	0...100% LEL	0...100% LEL
Resolution	0.1% LEL	1% LEL
Response time T90	ca. 60 s	<10 s
Sensor lifetime	> 5 years	> 5 years
Maintenance interval	12 months	6 months
Operating temperature	-40...+70 °C	-40...+70°C
Signal update	Every 1 second	
Self-diagnostics	Full functionality check at start-up	
Warm-up time	≤ 1 min	
Power supply	11...30 VDC or 24 VAC	
Power consumption	< 2 VA	
Digital interface	RS485, Modbus RTU protocol	
Analog outputs	2 × 4-20 mA / 0-10 V, user settable	
Output scale width	Recommended: 20-100% of the range; > 10 × resolution in any case	
Enclosure	Light grey ABS plastic, wall mount, protection class IP65	
Dimensions	H82 × W80 × D55 mm	
Remote sensor probe	Protection IP65, shielded cable default cable length 3.0 m	
Operating environment	Industrial indoor and outdoor locations	
Operating conditions	(operating temperature is specified above) ≤ 95% RH non condensing; 0.9...1,1 atm Explosion-safe areas; normal ambient O <sub>2</sub> level Avoid exposure to corrosive gases or silicone containing products.	

### Wall mount version



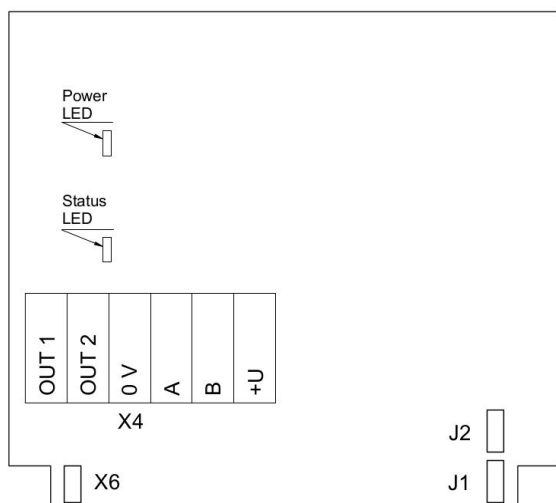
### Duct mount version



Ask for other versions or custom designed products



## Connection diagram



PCB without PSU and relays

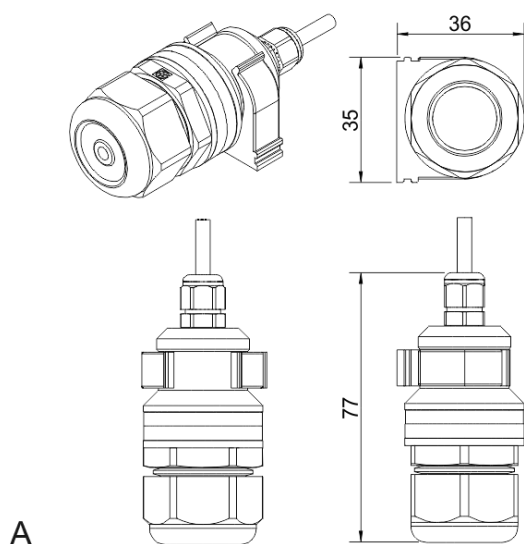
### Jumpers

- J1** OUT1 type (open: 4-20 mA; closed 0-10 V)
- J2** OUT2 type (open: 4-20 mA; closed 0-10 V)
- X6** Reset Modbus network parameters to default

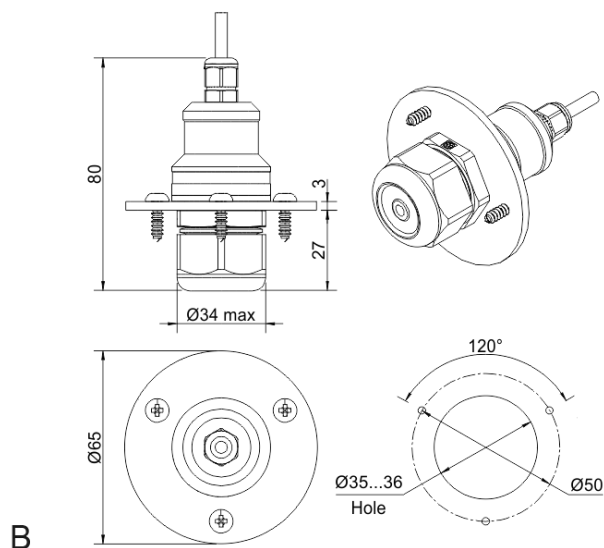
### X4 terminals

- OUT1** 4-20 mA / 0-10 V output
- OUT2** 4-20 mA / 0-10 V output
- 0V** 0 V / 24 VAC Neutral (optional)
- A** RS485 A / Data +
- B** RS485 B / Data -
- +U** +24 VDC / 24 VAC Phase (optional)

## Remote probe

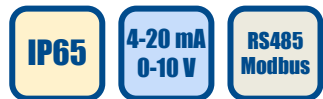


Wall mount remote probe with fixing clamp (default version)



Remote probe with rubber flange and three self-tapping screws (on request)





# Combustible Gases Transmitter E2618-LEL



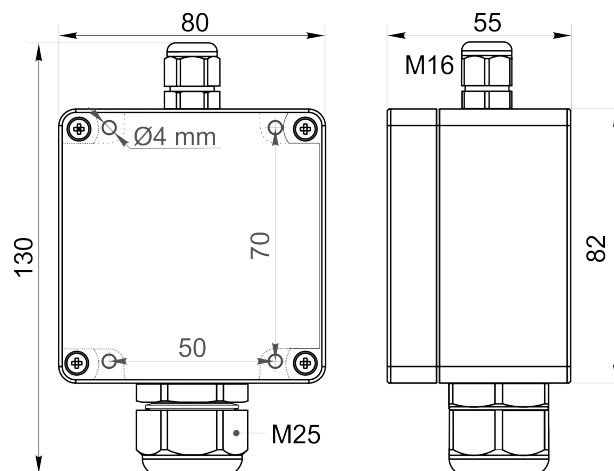
## Features

- Wall-mount or duct-mount version
- Industrial IP65 housing
- Two analog outputs settable to 4-20 mA or 0-10 V
- RS485 Modbus RTU digital interface
- Attached or remote sensor

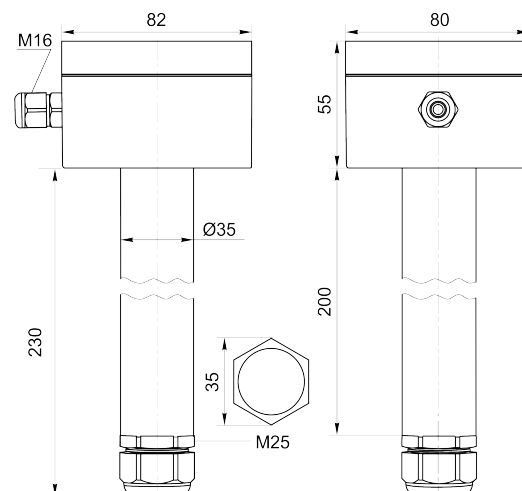
## Specifications

Detected gases	Hydrogen, methane, acetylene, propane, butane, hexane, octane	
Default calibration	Methane CH <sub>4</sub>	
Sensor type	Metal-oxide semiconductor Pellistor (catalytic bead) on demand	
Sampling method	Diffusion	
Sensor	MOS	Pellistor
Typical detection range	0...100% LEL	0...100% LEL
Resolution	0.1% LEL	1% LEL
Response time T90	ca. 60 s	≤10 s
Sensor lifetime	> 5 years	> 5 years
Maintenance interval	12 months	6 months
Operating temperature	-40...+70 °C	-40...+70°C
Signal update	Every 1 second	
Self-diagnostics	Full functionality check at start-up	
Warm-up time	≤ 1 min	
Power supply	11...30 VDC or 24 VAC	
Power consumption	< 2 VA	
Digital interface	RS485, Modbus RTU protocol	
Analog outputs	2 × 4-20 mA / 0-10 V, user settable	
Output scale width	Recommended: 20-100% of the range; > 10 × resolution in any case	
Enclosure	Grey ABS plastic, wall mount, protection class IP65	
Dimensions	H82 × W80 × D55 mm	
Remote sensor probe	Protection IP65, shielded cable default cable length 3.0 m	
Operating environment	Industrial indoor and outdoor locations	
Operating conditions	(operating temperature is specified above) ≤ 95% RH non condensing; 0.9...1,1 atm Explosion-safe areas; Normal ambient O <sub>2</sub> level; Avoid exposure to corrosive gases or silicone containing products.	

### Wall mount version



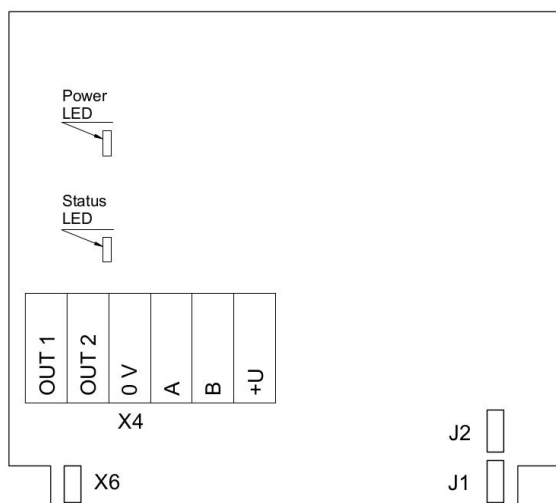
### Duct mount version



Ask for other versions or custom designed products



## Connection diagram



PCB without PSU and relays

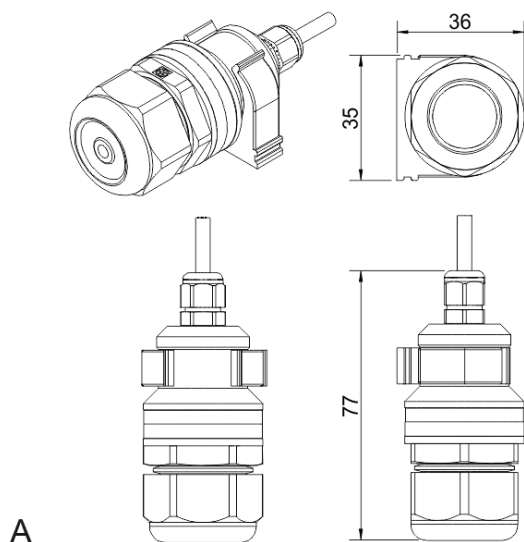
### Jumpers

- J1**                   OUT1 type (open: 4-20 mA; closed 0-10 V)
- J2**                   OUT2 type (open: 4-20 mA; closed 0-10 V)
- X6**                   Reset Modbus network parameters to default

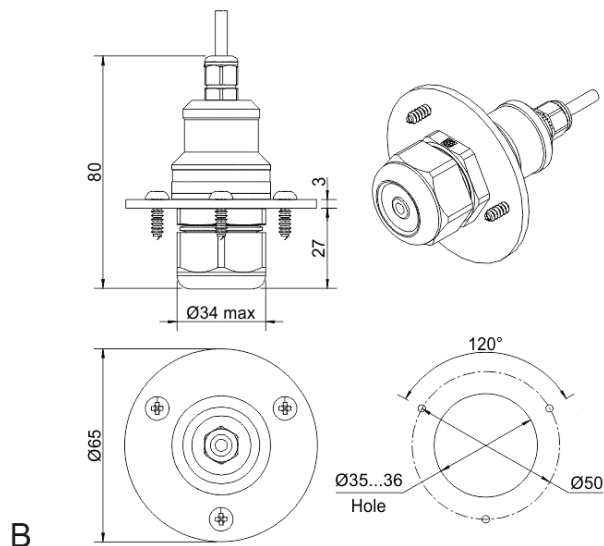
### X4 terminals

- OUT1**               4-20 mA / 0-10 V output
- OUT2**               4-20 mA / 0-10 V output
- 0V**                   0 V / 24 VAC Neutral (optional)
- A**                    RS485 A / Data +
- B**                    RS485 B / Data -
- +U**                  +24 VDC / 24 VAC Phase (optional)

## Remote probe



Wall mount remote probe with fixing clamp (default version)



Remote probe with rubber flange and three self-tapping screws (on request)





# Combustible Gas Detector E2630-LEL



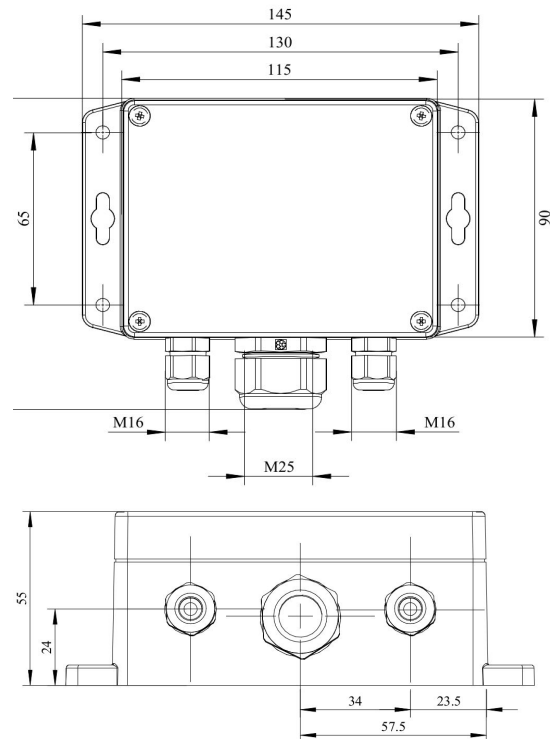
## Features

- Methane, LPG, Hydrogen, Acetylene
- Accurate and stable measurement
- Wall-mount IP65 protected housing
- Visual and acoustic alarms
- Two output relays for alarm / ventilation control

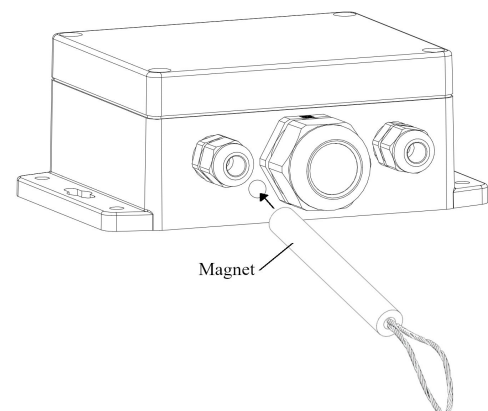
## Specifications

Calibration	Methane, Butane, Propane, Acetylene, Hydrogen
Sensor type	Metal Oxide Semiconductor
Sampling method	Diffusion
Typical detection range	0...100% LEL
Response time T90	~60 seconds
Signal update	Every 1 second
Sensor lifetime	> 5 years
Maintenance interval	12 months
Self-diagnostics	Full functionality check at start-up, testing by magnetic switch
Warm-up time	≤ 1 min
Power supply	24 VAC/DC or 90...265 VAC
Power consumption	< 2 VA
Digital interface	UART
Output relays	2 relays with switch-over contact (SPDT), 250 VAC / 30 VDC, 5 A max
Default alarm set-points	Release - LOW - HIGH 7 - 10 - 25% LEL
Alarms	Blinking LED, buzzer 85 dB
Enclosure	Grey ABS plastic, wall mount, protection class IP65
Dimensions	H140 × W145 × D55 mm
Operating conditions	-40...+70 °C <95 %RH, non-condensing pressure 0,9...1,1 atm Non-ATEX rated spaces Normal ambient oxygen level Avoid strong mechanical shock, vibrations or EMI; Avoid exposure to corrosive gases or silicone containing products.

## Dimensions



## Magnet key

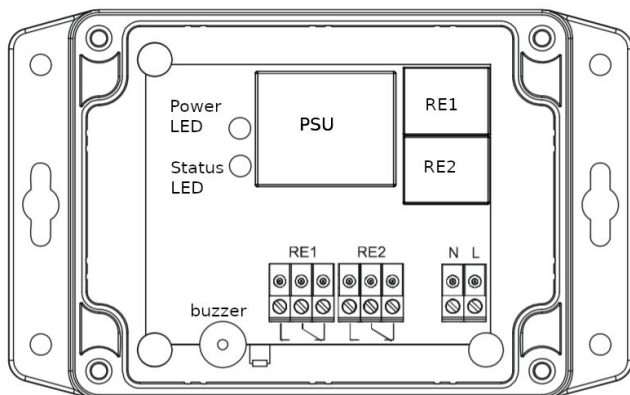


Ask for other versions or custom designed products





## Connection diagram



### Terminals

<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE1 NC</b>	Relay 1, normally closed terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal
<b>RE2 NC</b>	Relay 2, normally closed terminal
<b>L</b>	90...265 VAC Phase (optional 24 VAC / VDC)
<b>N</b>	90...265 VAC Neutral (optional 24 VAC / VDC)





# Two Channel Gas Detectors E2632



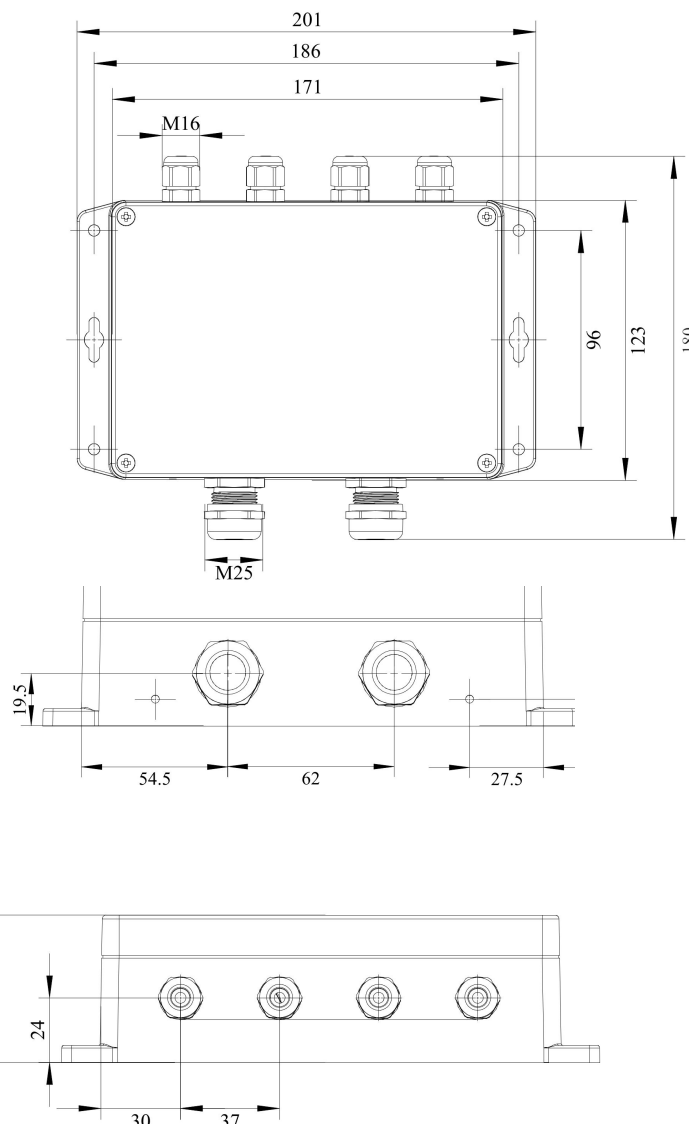
## Features

- Simultaneous detection of two gases
- Accurate and stable measurement
- Wall-mount IP65 protected housing
- Visual and acoustic alarms
- Two output relays for alarm / ventilation control

## Specifications

Sensor type	Depends on detected gases available are: metal oxide sensors, electrochemical sensors
Sampling method	Diffusion
Signal update	Every 1 second
Warm-up time	≤ 1 min
Power supply	11...30 VDC 24 VAC/DC or 90...265 VAC as options
Power consumption	< 4 VA
Digital interface	UART
Output relays	2 relays with switch-over contact (SPDT), 250 VAC / 30 VDC, 5 A max
Alarm set-points	Depending on target gas and application
Alarms	Blinking LED, buzzer 85 dB
Enclosure	Grey wall-mount ABS plastic, protection class IP65
Dimensions	H123 × W201 × D55 mm
Output cable	Max Ø8 mm
Operating environment	Residential, business and industrial indoor spaces
Operating conditions	15...95 %RH, atmospheric pressure ±10% Non-ATEX rated areas temperature depends on the sensor

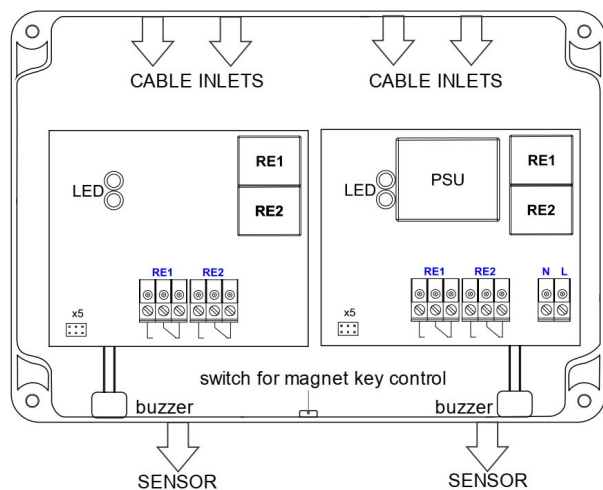
## Dimensions



Ask for available gas combinations and possible limitations



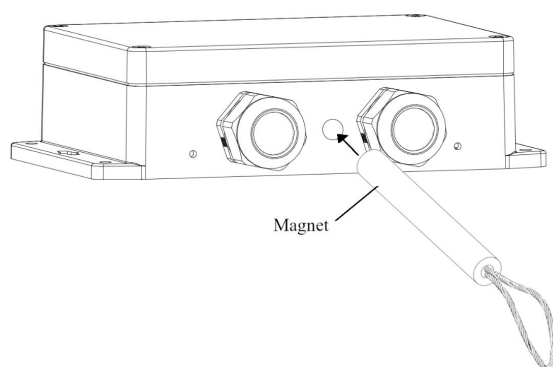
## Connection diagram



### Terminals

<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE1 NC</b>	Relay 1, normally closed terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal
<b>RE2 NC</b>	Relay 2, normally closed terminal
<b>L</b>	90...265 VAC Phase (optional 24 VAC / VDC)
<b>N</b>	90...265 VAC Neutral (optional 24 VAC / VDC)

## Magnet key





# Methane Detector-Transmitter E2638-CH4



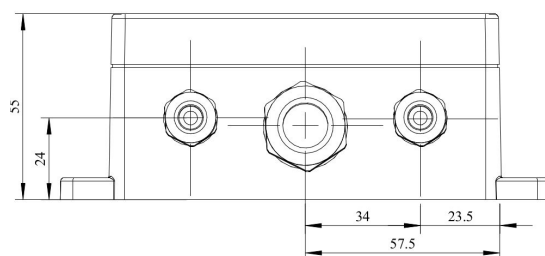
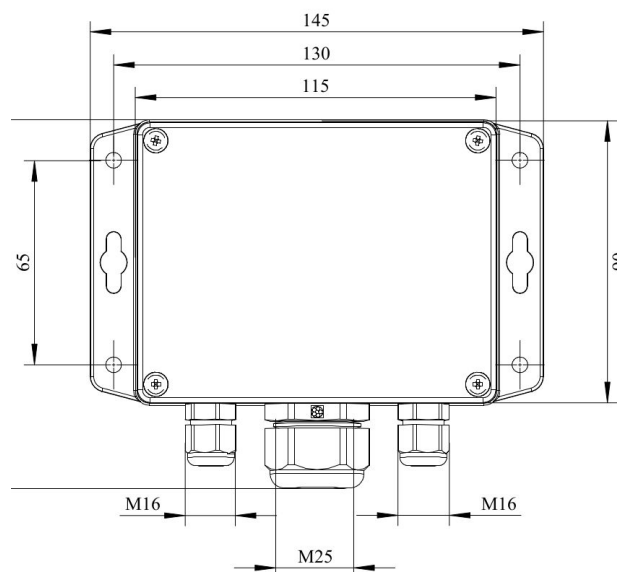
## Features

- Accurate and stable measurement
- Easy to install robust enclosure
- Two analog outputs settable to 4-20 mA or 0-10 V
- RS485 Modbus RTU digital interface
- Relay option
- Attached or remote sensor
- LCD indicator option

## Specifications

Calibration	Methane CH <sub>4</sub>	
Sensor type	Metal-oxide semiconductor Pellistor (catalytic bead) on demand	
Sampling method	Diffusion	
Sensor	MOS	Pellistor
Typical detection range	0...100% LEL	0...100% LEL
Resolution	0.1% LEL	1% LEL
Response time T90	ca. 60 s	≤10s
Sensor lifetime	> 5 years	> 5 years
Maintenance interval	12 months	6 months
Operating temperature	-40...+70 °C	-40...+70°C
Signal update	Every 1 second	
Self-diagnostics	Full functionality check at start-up	
Warm-up time	≤ 1 min	
Power supply	11...30 VDC 24 VAC or 90...265 VAC as options	
Power consumption	< 2 VA	
Digital interface	RS485, Modbus RTU protocol	
Analog outputs	2 × 4-20 mA / 0-10 V, user settable	
Output scale width	Recommended: 20-100% of the range; > 10 × resolution in any case	
Enclosure	Grey ABS plastic, wall mount, protection class IP65	
Dimensions	H90 × W145 × D50 mm (housing only) H140 with cable glands	
Operating environment	Industrial indoor and outdoor locations	
Operating conditions	(operating temperature is specified above) ≤ 95% RH non condensing; 0.9...1,1 atm Explosion-safe areas; Normal ambient oxygen level Avoid strong mechanical shock, vibrations or EMI; Avoid exposure to corrosive gases or silicone containing products	

## Dimensions



## Additional options

Remote sensor probe	Protection IP65, shielded cable default cable length 3.0 m
Self-test button	Triggers both relays simultaneously; push-button switch
<b>Relay outputs</b>	
Output relays	2 × SPST relays (closing contact), 250 VAC / 30 VDC, 5 A max
Default alarm set-points	LOW: set 20 %LEL, release 16% LEL; HIGH: set 50%LEL, release 40% LEL

### Alarm signalling

Visual	Red and green LEDs
Acoustic	Buzzer 85 dB

### LCD indicator

Operating temperature	0...+50 °C
Display dimensions	72 × 36 mm
Number of digits	3.5 7-segment
Character height	14 mm
Other features	Backlight

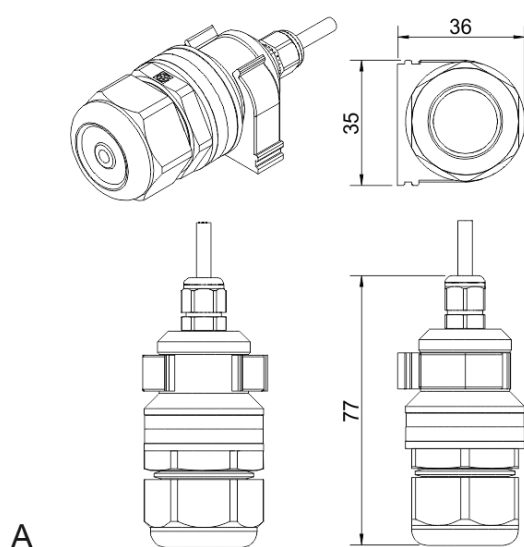
**NOTE!** Only second analog output (OUT2) is available for a version with LCD.

**NOTE!** LCD and LEDs can not be chosen simultaneously

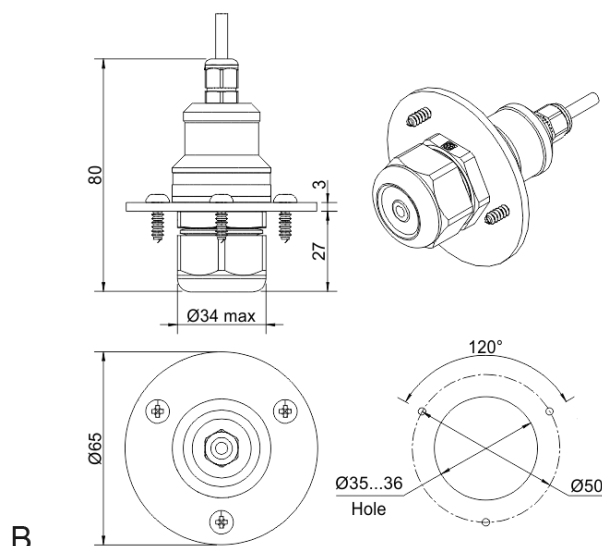
## Version with LCD indicator



## Remote probe



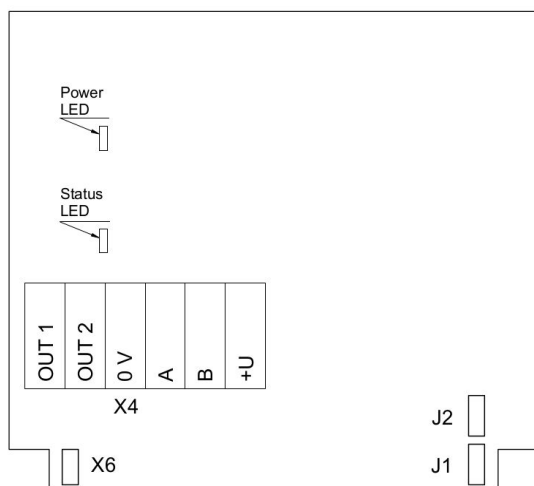
Wall mount remote probe with fixing clamp (default version)



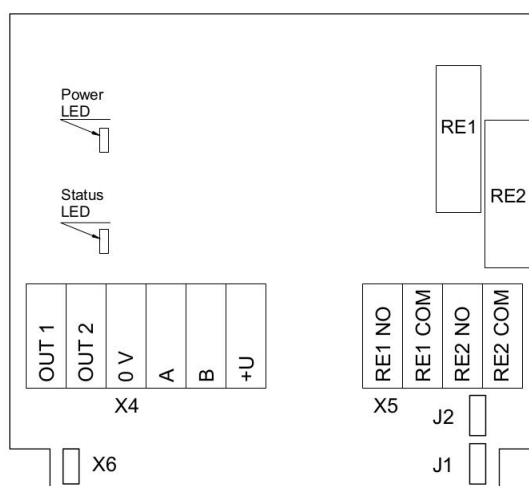
Remote probe with rubber flange and three self-tapping screws (on request)



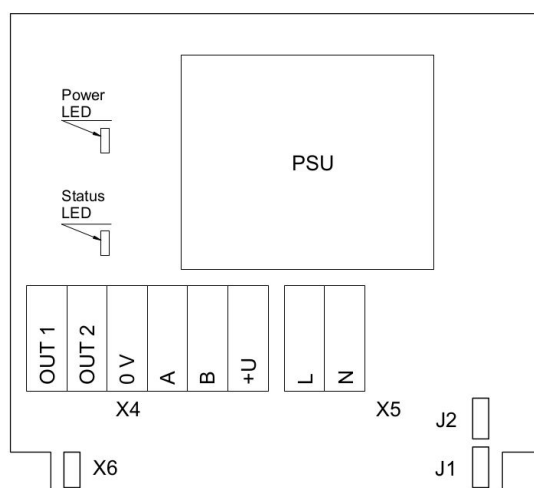
## Connection diagrams



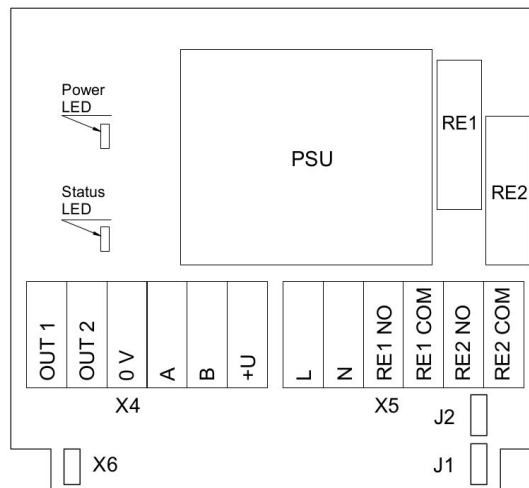
Version without PSU and relays



Version without PSU and with relays



Version with PSU and without relays



Version with PSU and relays

### Jumpers

<b>J1</b>	OUT1 type (open: 4-20 mA; closed 0-10 V)
<b>J2</b>	OUT2 type (open: 4-20 mA; closed 0-10 V)
<b>X6</b>	Reset Modbus network parameters to default

### X4 terminals

<b>OUT1</b>	4-20 mA / 0-10 V output
<b>OUT2</b>	4-20 mA / 0-10 V output
<b>0V</b>	0 V / 24 VAC Neutral (optional)
<b>A</b>	RS485 A / Data +
<b>B</b>	RS485 B / Data -
<b>+U</b>	+24 VDC / 24 VAC Phase (optional)

### X5 terminals (optional)

<b>L</b>	90...265 VAC Phase
<b>N</b>	90...265 VAC Neutral
<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal





# Combustible Gases Detector-Transmitter E2638-LEL



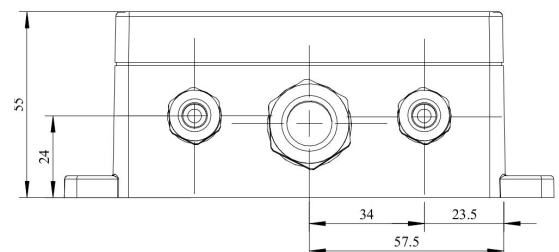
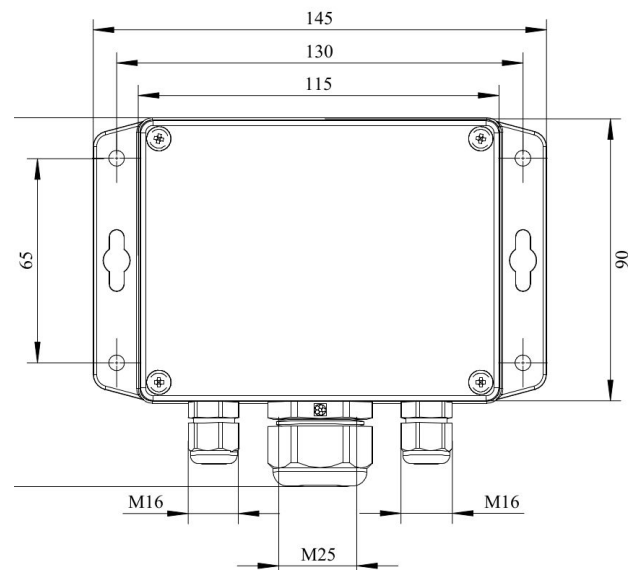
## Features

- Accurate and stable measurement
- Easy to install robust enclosure
- Two analog outputs settable to 4-20 mA or 0-10 V
- RS485 Modbus RTU digital interface
- Relay option
- Attached or remote sensor
- LCD indicator option

## Specifications

Detected gases	Hydrogen, methane, acetylene, propane, butane, hexane, octane	
Default calibration	Methane CH <sub>4</sub>	
Sensor type	Metal-oxide semiconductor Pellistor (catalytic bead) on demand	
Sampling method	Diffusion	
Sensor	MOS	Pellistor
Typical detection range	0...100% LEL	0...100% LEL
Resolution	0.1% LEL	1% LEL
Response time T90	ca. 60 s	≤10 s
Sensor lifetime	> 5 years	> 5 years
Maintenance interval	12 months	6 months
Operating temperature	-40...+70 °C	-40...+70 °C
Signal update	Every 1 second	
Self-diagnostics	Full functionality check at start-up	
Warm-up time	≤ 1 min	
Power supply options	11...30 VDC 24 VAC or 90...265 VAC as options	
Power consumption	< 2 VA	
Digital interface	RS485, Modbus RTU protocol	
Analog outputs	2 × 4-20 mA / 0-10 V, user settable	
Output scale width	Recommended: 20-100% of the range; > 10 × resolution in any case	
Enclosure	Grey ABS plastic, wall mount, protection class IP65	
Dimensions	H90 × W145 × D50 mm (housing only) H140 with cable glands	
Operating environment	Industrial indoor and outdoor locations	
Operating conditions	(operating temperature is specified above) ≤ 95% RH non condensing; 0.9...1,1 atm Explosion-safe areas Normal ambient oxygen level Avoid strong mechanical shock, vibrations or EMI; Avoid exposure to corrosive gases or silicone containing products.	

## Dimensions



## Additional options

Remote sensor probe	Protection IP65, shielded cable default cable length 3.0 m
Self-test button	Triggers both relays simultaneously; push-button switch
<b>Relay outputs</b>	
Output relays	2 × SPST relays (closing contact), 250 VAC / 30 VDC, 5 A max
Default alarm set-points	LOW: set 20 , release 16 %LEL HIGH: set 50, release 40 %LEL (for flammability range)

### Alarm signalling

Visual	Red and green LEDs
Acoustic	Buzzer 85 dB

### LCD indicator

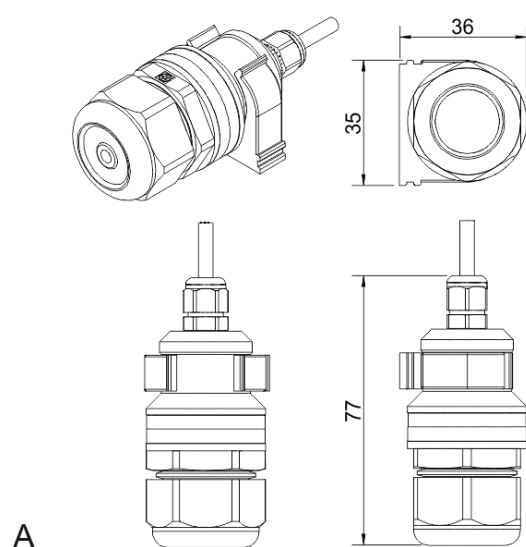
Operating temperature	0...+50 °C
Display dimensions	72 × 36 mm
Number of digits	3.5 7-segment
Character height	14 mm
Other features	Backlight

**NOTE!** Only one analog output is available for a version with LCD.  
**NOTE!** LCD and LEDs can not be chosen simultaneously.

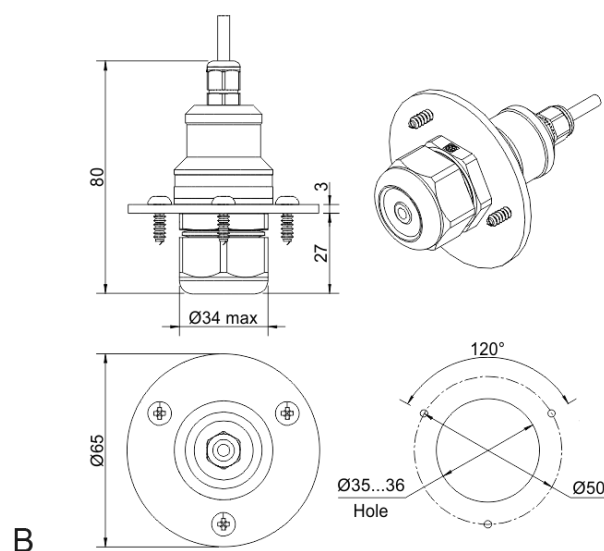
## Version with LCD indicator



## Remote probe



Wall mount remote probe with fixing clamp (default version)

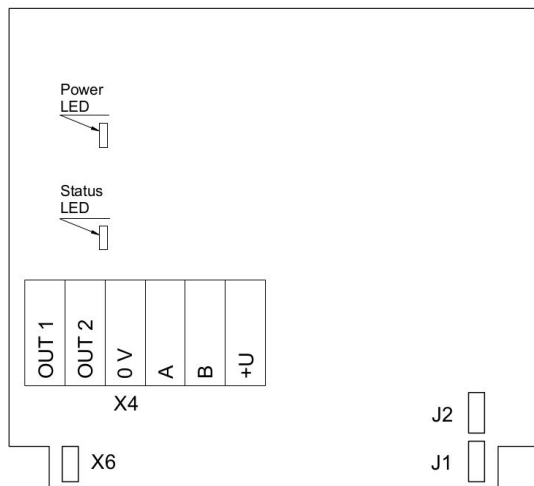


Remote probe with rubber flange and three self-tapping screws (on request)

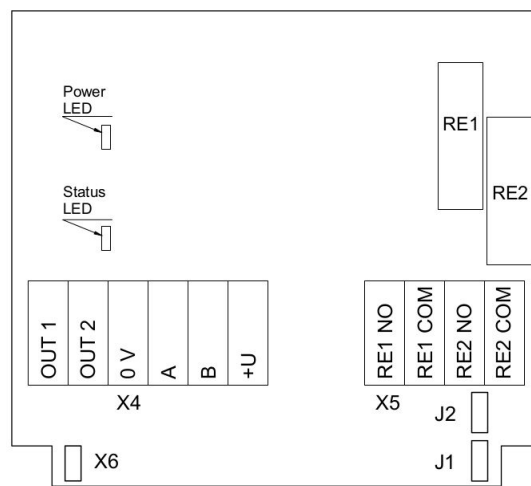




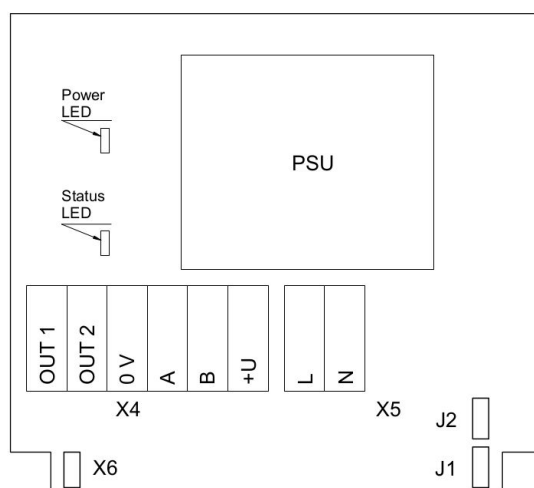
## Connection diagrams



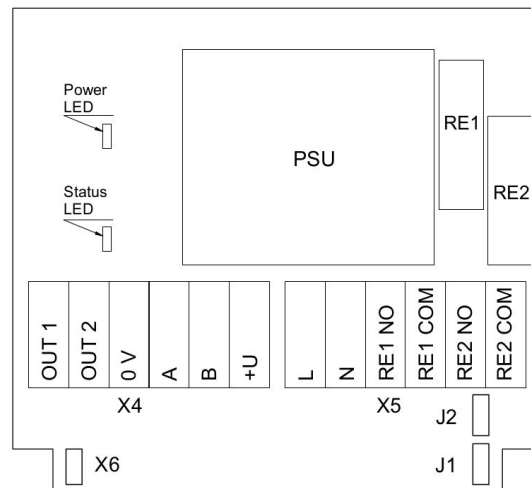
Version without PSU and relays



Version without PSU and with relays



Version with PSU and without relays



Version with PSU and relays

### Jumpers

<b>J1</b>	OUT1 type (open: 4-20 mA; closed 0-10 V)
<b>J2</b>	OUT2 type (open: 4-20 mA; closed 0-10 V)
<b>X6</b>	Reset Modbus network parameters to default
<b>X4 terminals</b>	
<b>OUT1</b>	4-20 mA / 0-10 V output
<b>OUT2</b>	4-20 mA / 0-10 V output
<b>0V</b>	0 V / 24 VAC Neutral (optional)
<b>A</b>	RS485 A / Data +
<b>B</b>	RS485 B / Data -
<b>+U</b>	+24 VDC / 24 VAC Phase (optional)
<b>X5 terminals (optional)</b>	
<b>L</b>	90...265 VAC Phase
<b>N</b>	90...265 VAC Neutral
<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal





# Methane Detector-Transmitter E2648-CH4



## Features

- Accurate and stable measurement
- Industrial IP66 wall mount housing
- Two analog outputs settable to 4-20 mA or 0-10 V
- RS485 Modbus RTU digital interface
- Two relays for alarm / ventilation control (option)
- Attached or remote sensor

## Specifications

Calibration	Methane CH <sub>4</sub>	
Sensor type	Metal-oxide semiconductor pellistor (catalytic bead) on demand	
Sampling method	Diffusion	
Sensor	MOS	pellistor
Typical detection range	0...100% LEL	0...100% LEL
Resolution	0.1% LEL	1% LEL
Response time T90	ca. 60 s	≤10s
Sensor lifetime	> 5 years	> 5 years
Maintenance interval	12 months	6 months
Operating temperature	-40...+70 °C	-40...+70°C
Signal update	Every 1 second	
Self-diagnostics	Full functionality check at start-up	
Warm-up time	≤ 1 min	
Power supply	11...30 VDC 24 VAC or 90...265 VAC as options	
Power consumption	< 2 VA	
Digital interface	RS485, Modbus RTU protocol	
Analog outputs	2 × 4-20 mA / 0-10 V, user settable	
Output scale width	Recommended: 20-100% of the range; > 10 × resolution in any case	
Enclosure	Die-cast aluminium, wall mount, protection class IP66	
Dimensions	H120 × W125 × D57 mm	
Operating environment	Industrial indoor and outdoor locations	
Operating conditions	((operating temperature is specified above) ≤ 95% RH non condensing; 0.9...1,1 atm Explosion-safe areas; Normal ambient oxygen level; Avoid exposure to corrosive gases or silicone containing products;	

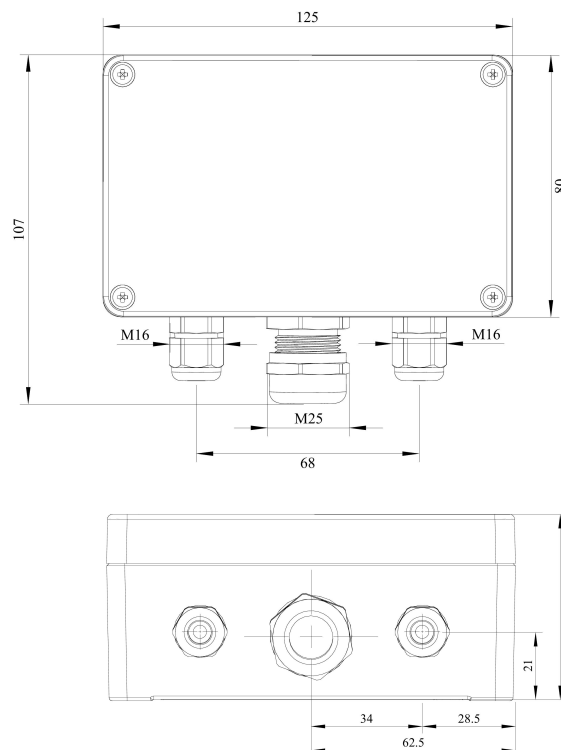
### Relay option (ordering code R)

Output relays	2 × SPST relays (closing contact), 250 VAC / 30 VDC, 5 A max
Default alarm setpoints	LOW: set 20 %LEL, release 16% LEL; HIGH:set 50%LEL, release 40% LEL

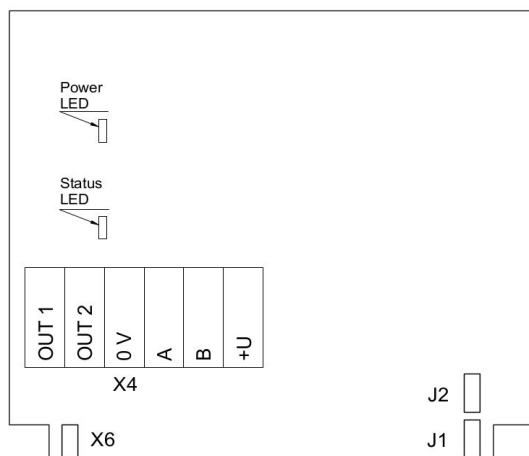
### Other options

Remote sensor probe	Protection IP65, shielded cable default cable length 3.0 m
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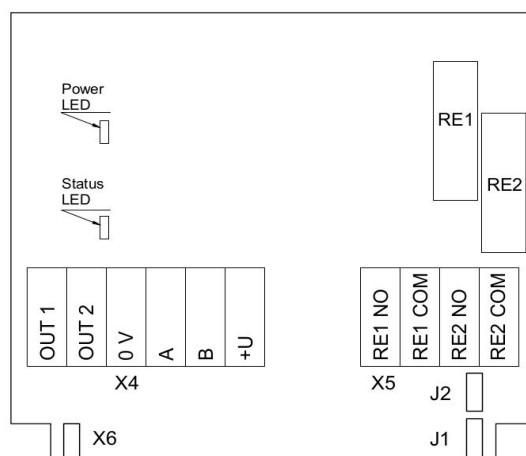
## Dimensions



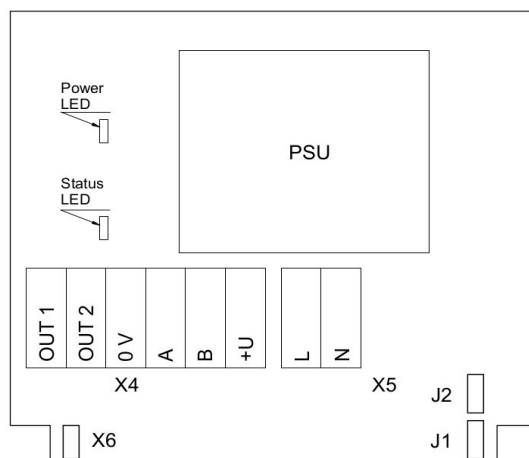
## Connection diagrams



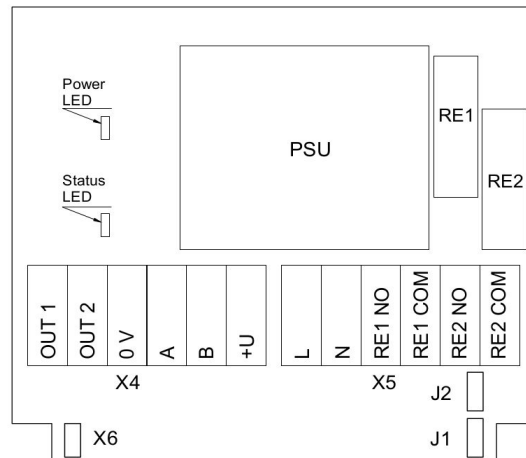
Version without PSU and relays



Version without PSU and with relays



Version with PSU and without relays



Version with PSU and relays

### Jumpers

<b>J1</b>	OUT1 type (open: 4-20 mA; closed 0-10 V)
<b>J2</b>	OUT2 type (open: 4-20 mA; closed 0-10 V)
<b>X6</b>	Reset Modbus network parameters to default

### X4 terminals

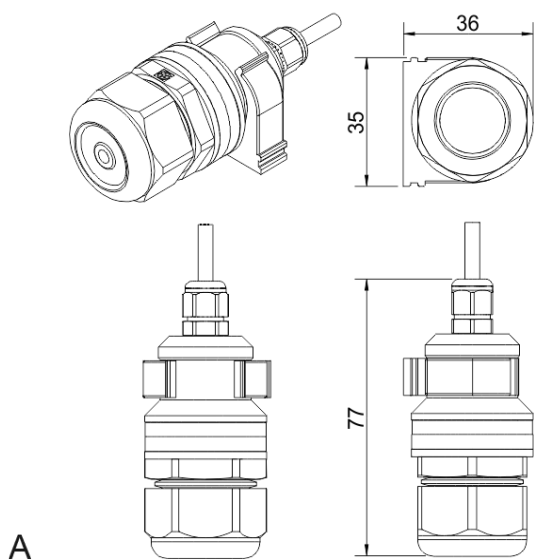
<b>OUT1</b>	4-20 mA / 0-10 V output
<b>OUT2</b>	4-20 mA / 0-10 V output
<b>0V</b>	0 V / 24 VAC Neutral (optional)
<b>A</b>	RS485 A / Data +
<b>B</b>	RS485 B / Data -
<b>+U</b>	+24 VDC / 24 VAC Phase (optional)

### X5 terminals (optional)

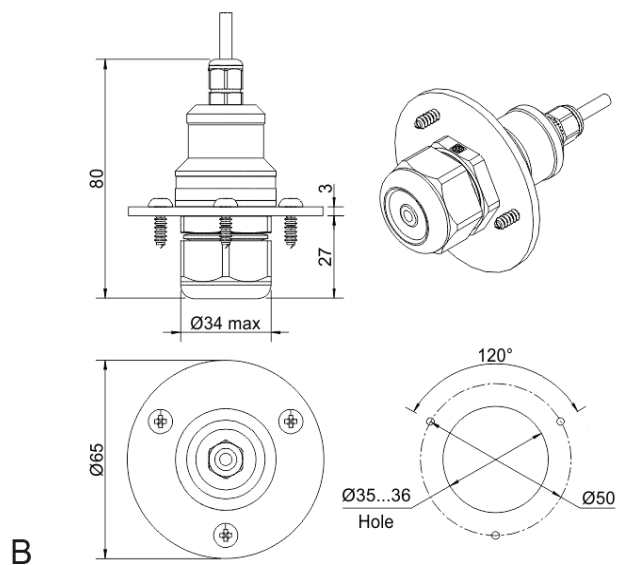
<b>L</b>	90...265 VAC Phase
<b>N</b>	90...265 VAC Neutral
<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal



## Remote probe



Wall mount remote probe with fixing clamp (default version)



Remote probe with rubber flange and three self-tapping screws (on request)





# Combustible Gases Detector-Transmitter E2648-LEL



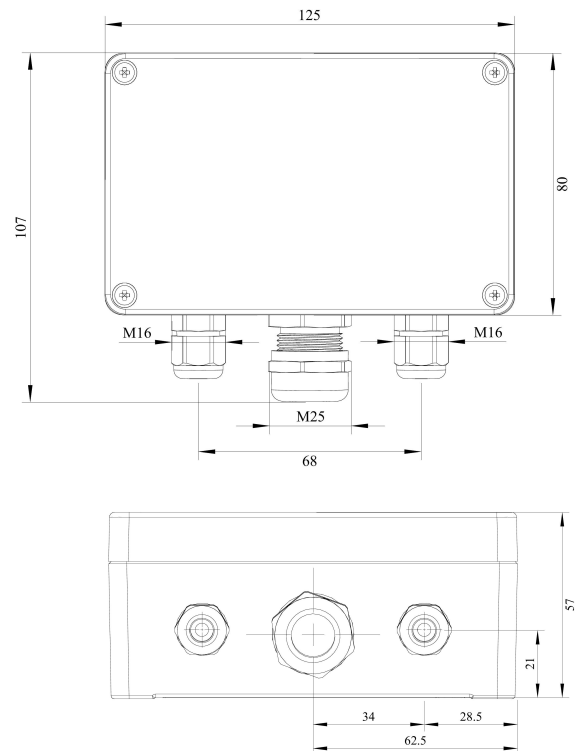
## Features

- Accurate and stable measurement
- Industrial IP66 wall mount housing
- Two analog outputs settable to 4-20 mA or 0-10 V
- RS485 Modbus RTU digital interface
- Two relays for alarm / ventilation control (option)
- Attached or remote sensor

## Specifications

Detected gases	Hydrogen, methane, acetylene, propane, butane, hexane, octane	
Default calibration	Methane CH <sub>4</sub>	
Sensor type	Metal-oxide semiconductor pellistor (catalytic bead) on demand	
Sampling method	Diffusion	
Sensor	MOS	pellistor
Typical detection range	0...100% LEL	0...100% LEL
Resolution	0.1% LEL	1% LEL
Response time T90	ca. 60 s	≤10 s
Sensor lifetime	> 5 years	> 5 years
Maintenance interval	12 months	6 months
Operating temperature	-40...+70 °C	-40...+70°C
Signal update	Every 1 second	
Self-diagnostics	Full functionality check at start-up	
Warm-up time	≤ 1 min	
Power supply options	11...30 VDC, 24 VAC or 90...265 VAC	
Power consumption	< 2 VA	
Digital interface	RS485, Modbus RTU protocol	
Analog outputs	2 × 4-20 mA / 0-10 V, user settable	
Output scale width	Recommended: 20-100% of the range; > 10 × resolution in any case	
Enclosure	Die-cast aluminium, wall mount, protection class IP66	
Dimensions	H120 × W125 × D57 mm	
Operating environment	Industrial indoor and outdoor locations	
Operating conditions	(operating temperature is specified above) <95% RH non condensing; 0.9...1,1 atm Explosion-safe areas; normal ambient O <sub>2</sub> level Avoid exposure to corrosive gases or silicone containing products	

## Dimensions



### Relay option (ordering code R)

Output relays	2 × SPST relays (closing contact), 250 VAC / 30 VDC, 5 A max
Default alarm setpoints	LOW: set 20 %LEL, release 16% LEL; HIGH:set 50%LEL, release 40% LEL

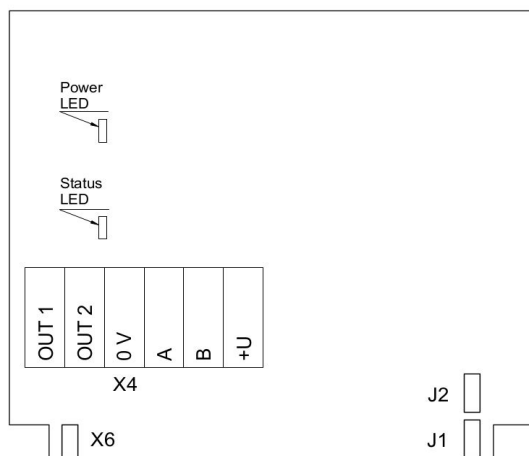
### Other options

Remote sensor probe	Protection IP65, shielded cable default cable length 3.0 m
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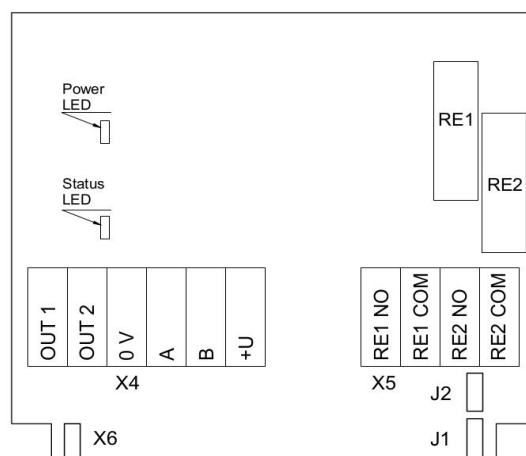
Ask for other versions or custom designed products



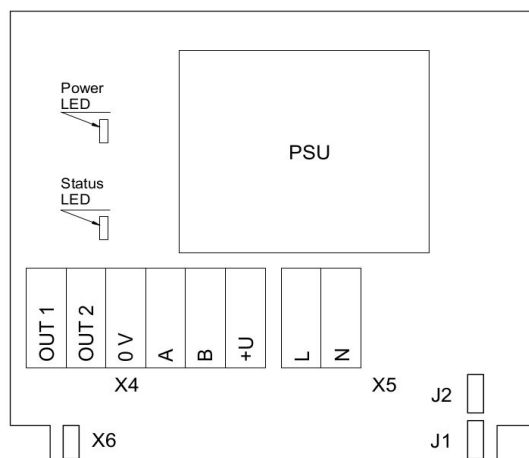
## Connection diagrams



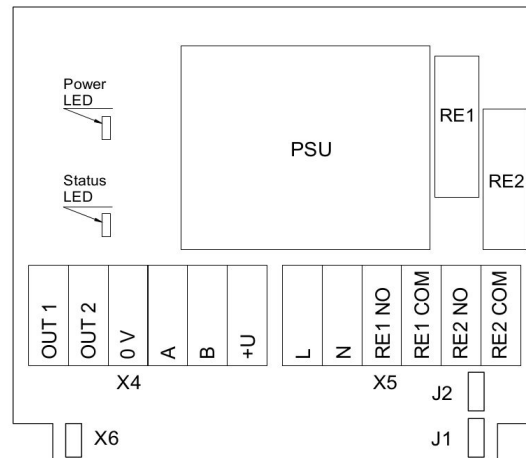
Version without PSU and relays



Version without PSU and with relays



Version with PSU and without relays



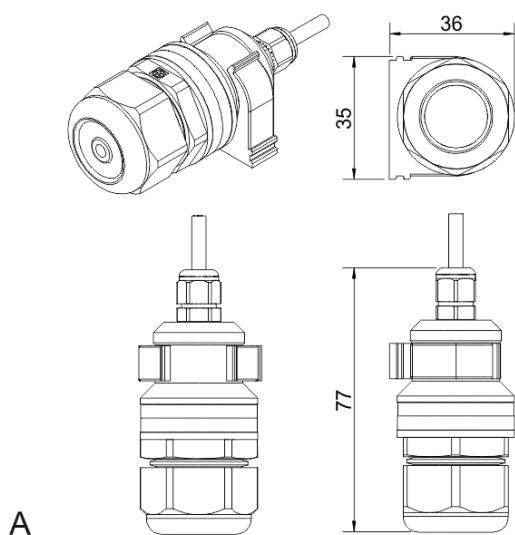
Version with PSU and relays

### Jumpers

<b>J1</b>	OUT1 type (open: 4-20 mA; closed 0-10 V)
<b>J2</b>	OUT2 type (open: 4-20 mA; closed 0-10 V)
<b>X6</b>	Reset Modbus network parameters to default
<b>X4 terminals</b>	
<b>OUT1</b>	4-20 mA / 0-10 V output
<b>OUT2</b>	4-20 mA / 0-10 V output
<b>0V</b>	0 V / 24 VAC Neutral (optional)
<b>A</b>	RS485 A / Data +
<b>B</b>	RS485 B / Data -
<b>+U</b>	+24 VDC / 24 VAC Phase (optional)
<b>X5 terminals (optional)</b>	
<b>L</b>	90...265 VAC Phase
<b>N</b>	90...265 VAC Neutral
<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal

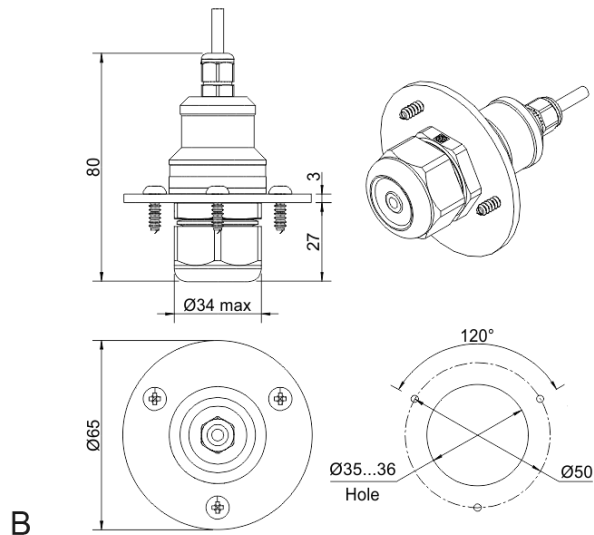


## Remote probe



A

Wall mount remote probe with fixing clamp (default version)

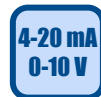


B

Remote probe with rubber flange and three self-tapping screws (on request)



# Flameproof Methane Detector-Transmitter E2658-CH4



## Features

- Wall mount robust flameproof metal enclosure
- Suitable for ATEX Zones 2 and 22
- Two analog outputs settable to 4-20 mA or 0-10 V
- RS485 Modbus RTU digital interface
- Relay option

## Specifications

Calibration	Methane CH <sub>4</sub>	
Sensor type	Metal-oxide semiconductor Pellistor (catalytic bead) on demand	
Sampling method	Diffusion	
Sensor	MOS	Pellistor
Typical detection range	0...100% LEL	0...100% LEL
Resolution	0.1% LEL	1% LEL
Response time T90	ca. 60 s	≤10s
Sensor lifetime	> 5 years	> 5 years
Calibration interval	12 months	6 months
Operating temperature	-40...+70 °C	-40...+70°C
Signal update	Every 1 second	
Self-diagnostics	Full functionality check at start-up	
Warm-up time	≤ 1 min	
Power supply	11...30 VDC (default), 24 VAC or 90...265 VAC as options	
Power consumption	< 2 VA	
Digital interface	RS485, Modbus RTU protocol	
Analog outputs	2 × 4-20 mA / 0-10 V, user settable	
Output scale width	Recommended: 20-100% of the range; > 10 × resolution in any case	
Enclosure	Grey die-cast aluminium, protection class IP66	
Dimensions	H80 × W125 × D57 / H80 × W175 × D80 mm	
Operating environment	Industrial indoor and outdoor locations	
Operating conditions	(operating temperature is specified above) ≤ 95% RH non condensing; 0.9...1,1 atm Explosion-safe areas; Normal ambient oxygen level; Avoid exposure to corrosive gases or silicone containing products.	

### Relay option (ordering code R)

Output relays	2 × SPST relays (closing contact), 250 VAC / 30 VDC, 5 A max
Default alarm setpoints	LOW: set 20 %LEL, release 16% LEL; HIGH:set 50%LEL, release 40% LEL

Ask for other versions or custom designed products

## Approvals

### Enclosure:

ATEX / IECEx  
DEMKO 13 ATEX 1327771U  
 II 2 G Ex e IIC Gb  
 II 2 D Ex tb IIIC Db IP66

### Glands:

ATEX / IECEx  
EESF 19 ATEX 023X  
 II 2 G Ex db IIC Gb  
 II 2 D Ex tb IIIC Db IP66

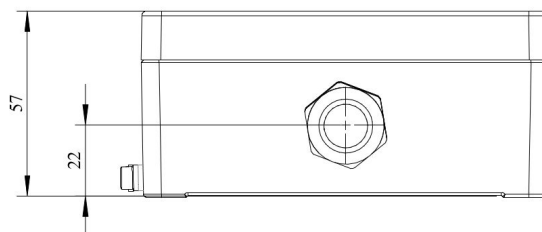
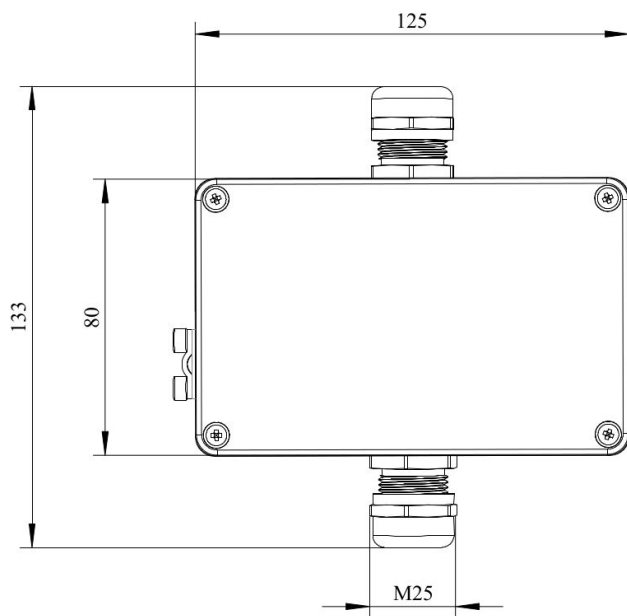
### CE conformity

Flameproof to IEC EN 60079-1  
Increased safety to IEC EN 60079-7  
EMC Emissions to EN 61000-6-3, EN 61326-1  
EMC Immunity to EN 61000-6-1, EN 61000-6-2

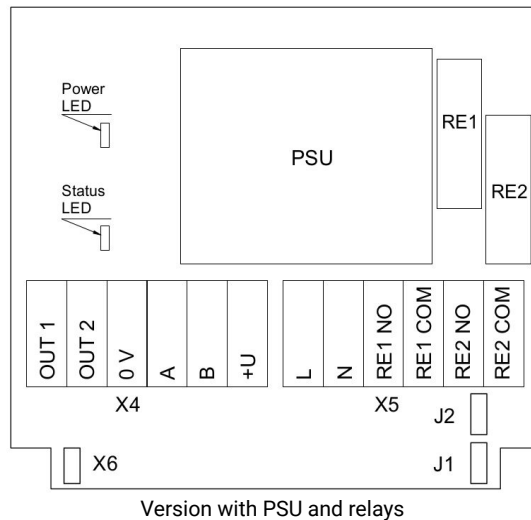
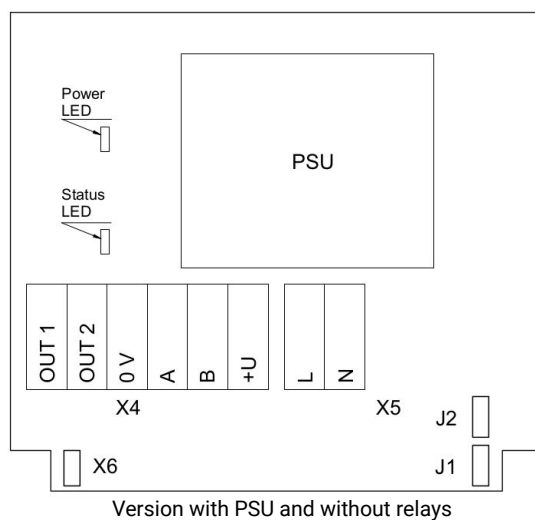
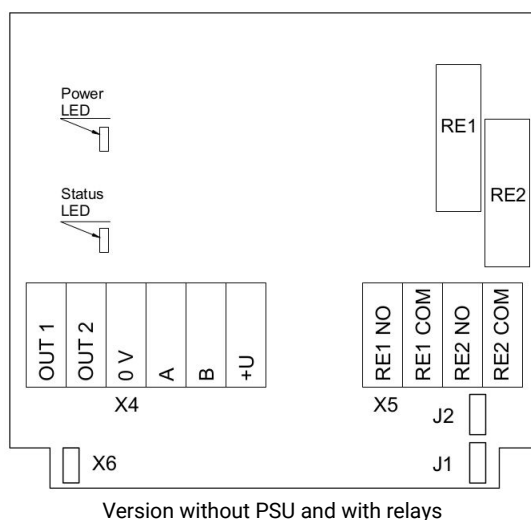
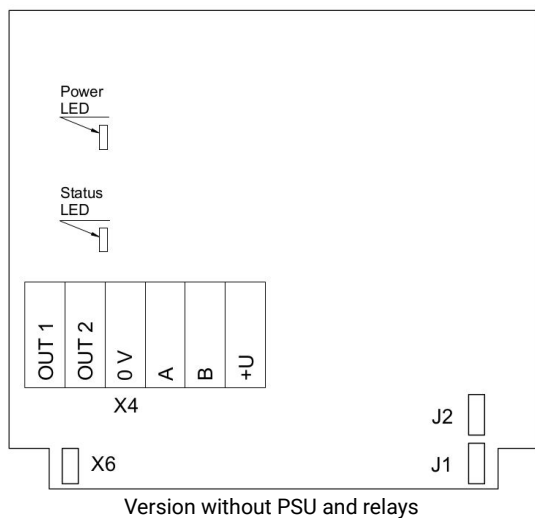




## Dimensions



## Connection diagrams



**Jumpers**

<b>J1</b>	OUT1 type (open: 4-20 mA; closed 0-10 V)
<b>J2</b>	OUT2 type (open: 4-20 mA; closed 0-10 V)
<b>X6</b>	Reset Modbus network parameters to default
<b>X4 terminals</b>	
<b>OUT1</b>	4-20 mA / 0-10 V output
<b>OUT2</b>	4-20 mA / 0-10 V output
<b>0V</b>	0 V / 24 VAC Neutral (optional)
<b>A</b>	RS485 A / Data +
<b>B</b>	RS485 B / Data -
<b>+U</b>	+24 VDC / 24 VAC Phase (optional)
<b>X5 terminals (optional)</b>	
<b>L</b>	90...265 VAC Phase
<b>N</b>	90...265 VAC Neutral
<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal



# Flameproof Combustible Gases Detector-Transmitter E2658-LEL



## Features

- Wall mount robust flameproof metal enclosure
- Suitable for ATEX Zones 2 and 22
- Two analog outputs settable to 4-20 mA or 0-10 V
- RS485 Modbus RTU digital interface
- Relay option

## Specifications

Detected gases	Hydrogen, methane, acetylene, propane, butane, hexane, octane	
Default calibration	Methane CH <sub>4</sub>	
Sensor type	Metal-oxide semiconductor Pellistor (catalytic bead) on demand	
Sampling method	Diffusion	
Sensor	MOS	Pellistor
Typical detection range	0...100% LEL	0...100% LEL
Resolution	0.1% LEL	1% LEL
Response time T90	ca. 60 s	≤10 s
Sensor lifetime	> 5 years	> 5 years
Calibration interval	12 months	6 months
Operating temperature	-40...+70 °C	-40...+70°C
Signal update	Every 1 second	
Self-diagnostics	Full functionality check at start-up	
Warm-up time	≤ 1 min	
Power supply	11...30 VDC (default), 24 VAC or 90...265 VAC as options	
Power consumption	< 2 VA	
Digital interface	RS485, Modbus RTU protocol	
Analog outputs	2 × 4-20 mA / 0-10 V, user settable	
Output scale width	Recommended: 20-100% of the range; > 10 × resolution in any case	
Enclosure	Grey die-cast aluminium, protection class IP66	
Dimensions	H80 × W125 × D57 / H80 × W175 × D80 mm	
Operating environment	Industrial indoor and outdoor locations	
Operating conditions	(operating temperature is specified above) ≤ 95% RH non condensing; 0.9...1,1 atm Explosion-safe areas; Normal ambient oxygen level; Avoid exposure to corrosive gases or silicone containing products.	

### Relay option (ordering code R)

Output relays	2 × SPST relays (closing contact), 250 VAC / 30 VDC, 5 A max
Default alarm setpoints	LOW: set 20 %LEL, release 16% LEL; HIGH: set 50%LEL, release 40% LEL

Ask for other versions or custom designed products

## Approvals

### Enclosure:

ATEX / IECEx  
DEMKO 13 ATEX 1327771U  
 II 2 G Ex e IIC Gb  
 II 2 D Ex tb IIIC Db IP66

### Glands:

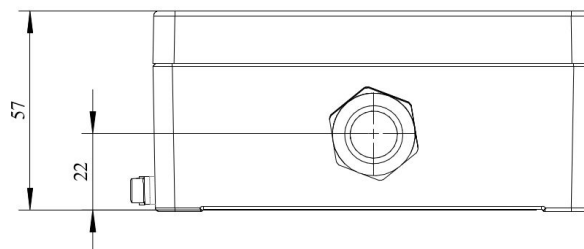
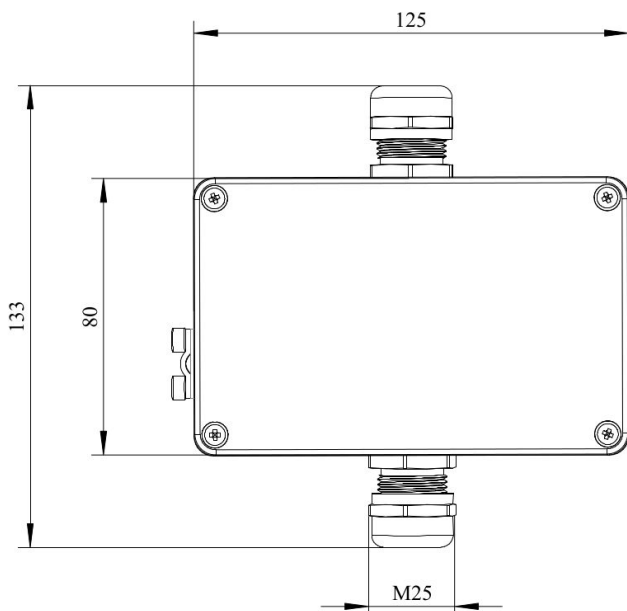
ATEX / IECEx  
EESF 19 ATEX 023X  
 II 2G Ex db IIC Gb  
 II 2D Ex tb IIIC Db IP66

### CE conformity

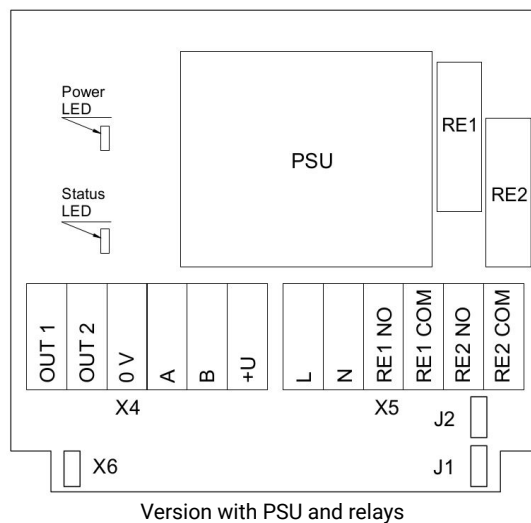
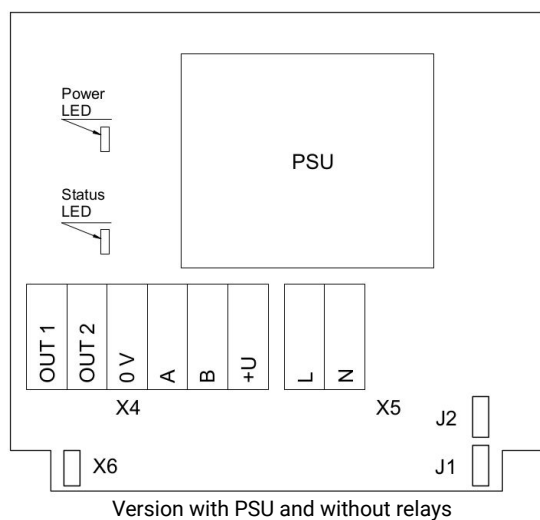
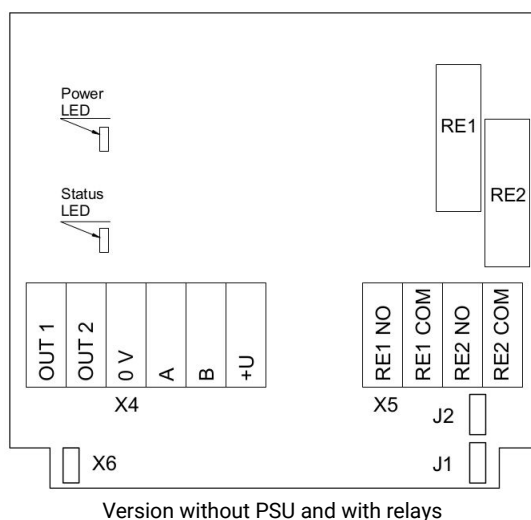
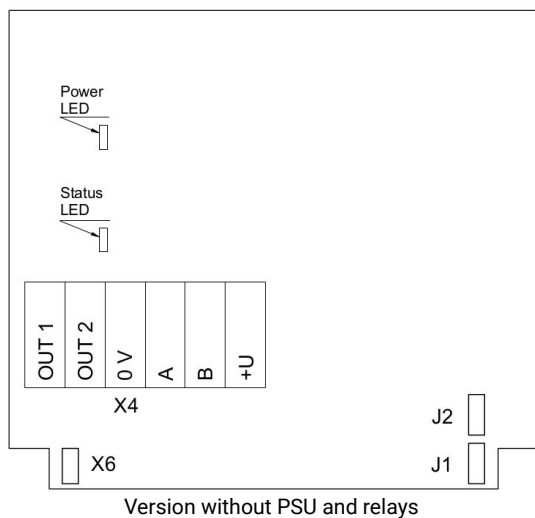
Flameproof to IEC EN 60079-1  
Increased safety to IEC EN 60079-7  
EMC Emissions to EN 61000-6-3, EN 61326-1  
EMC Immunity to EN 61000-6-1, EN 61000-6-2



## Dimensions



## Connection diagrams



**Jumpers**

<b>J1</b>	OUT1 type (open: 4-20 mA; closed 0-10 V)
<b>J2</b>	OUT2 type (open: 4-20 mA; closed 0-10 V)
<b>X6</b>	Reset Modbus network parameters to default
<b>X4 terminals</b>	
<b>OUT1</b>	4-20 mA / 0-10 V output
<b>OUT2</b>	4-20 mA / 0-10 V output
<b>0V</b>	0 V / 24 VAC Neutral (optional)
<b>A</b>	RS485 A / Data +
<b>B</b>	RS485 B / Data -
<b>+U</b>	+24 VDC / 24 VAC Phase (optional)
<b>X5 terminals (optional)</b>	
<b>L</b>	90...265 VAC Phase
<b>N</b>	90...265 VAC Neutral
<b>RE1 NO</b>	Relay 1, normally open terminal
<b>RE1 COM</b>	Relay 1, common terminal
<b>RE2 NO</b>	Relay 2, normally open terminal
<b>RE2 COM</b>	Relay 2, common terminal

