

Warning



- Transmitters / detectors should be installed in a place protected from vibrations, water and corrosive gases, where the ambient temperature does not exceed the value indicated in the technical data.
- The transmitters / detectors are not suitable for areas classified as potentially explosive.

**-Transmitters/detectors supervise a point and not an area. If the gas leak does not reach the sensor, or the level of concentration in that point does not reach the foreseen values according to the type of gas no alarm will be activated. If perimeter supervision is required, several sensors should be installed around that area.**

- Avoid installing the device on metal walls or near devices that may produce radio emissions.
- This device must be installed in a location where a minimum distance of 20 cm to the human body can be guaranteed, in order to ensure compliance with standards on human exposure to electromagnetic fields.

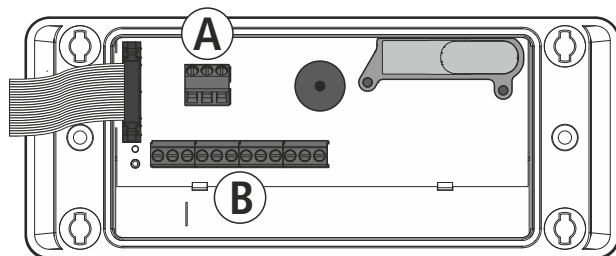
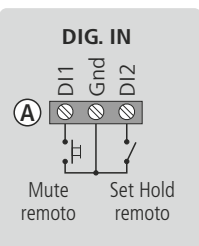
**Working conditions:**

- Avoid handling refrigerant gases near the sensor. If this is unavoidable, use Set Hold or Maintenance mode. Do not paint the sensor or place it near solvents or paints. Exposure to acetone vapours may generate false alarms.
- The sensor should be installed away from:
  - Smoke outlets located in confined spaces or from engines, generators or motorised machinery (fork-lift trucks, etc.).
  - Particularly damp areas or areas with strong ventilation.

-The detector should usually be installed in an area where gas may concentrate, near places where gas leaks could start

-The gases currently used in industrial refrigeration, for which this transmitter has been designed, are heavier than air. They are therefore always concentrated in the lowest part of the refrigerated room or space. Please take this into consideration when choosing the installation site. It is advisable to leave a distance of around 50 cm free.

Gas transmitter with NBloT communication V2 Quick guide



Always disconnect the power supply to do the wiring.

The wiring between the transmitter and the station must **NEVER** be installed in a conduit together with power, control or power supply cables.

Cables for wiring the relay contact should have an adequate section depending on the unit to be connected.

Certain international standards maintain that the power supply of the alarm should originate from a different circuit to that used by the refrigeration and ventilation system. **Please ensure that you comply with current local regulations.**

If connecting to a MODBUS network the double connection strips included must be used (see box)

Operation

Without alarms

The display shows the current gas concentration in ppm.

Parameter **b02** allows you to fix a value below which the display will always show zero.

The transmitter regularly sends to the cloud (akonet.cloud) the gas concentration data and other operation information at specific intervals based on the akonet.cloud parameter "continual log interval".

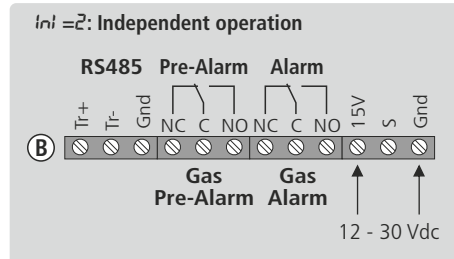
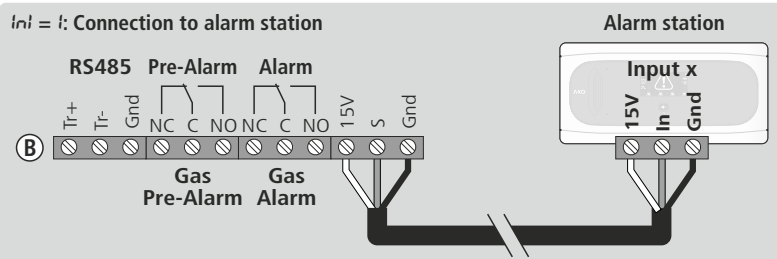
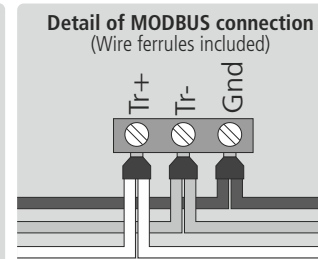
Any change in the configuration of the transmitter or its operation (mode changes, errors, etc.) are sent to the cloud instantly.

Alarms

The transmitter emits an acoustic alarm, the alarm indicator flashes and activates the relays when certain gas concentration levels are exceeded. If the transmitter is connected to a station, the station will emit the acoustic alarm. The relays will be activated in both devices.

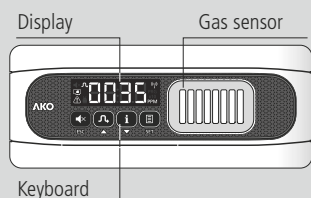
There are two alarm levels depending on the concentration of gas detected: Pre-Alarm and Alarm. These have a factory setting of 500 and 1000 PPM respectively. These values comply with domestic and international regulations. However, please ensure that these values comply with current local regulations. In order to modify these values, parameter **AL1** should be configured to 1.

Activations and deactivations of pre-alarms and alarms are sent to the cloud instantly.



AKO-575xxxN / AKO-575xxxV

Descripción



**Fixed:** Gas pre-alarm activated.  
**Flashing:** Gas alarm activated.



**Fixed:** Set Hold mode activated  
**Flashing:** Maintenance mode activated



The display shows the type of gas detected.



**Constant:** NBloT module in operation  
**Flashing:** Malfunction in NBloT module



**Constant:** Connected to the NBloT network (Narrow band)  
**Switched off:** NOT connected to the NBloT network or expired license.



PPM The display shows the current gas concentration in ppm (parts per million).

x10 The value displayed should be multiplied by 10.



Gas alarm on mute



PRG Unit in programming mode.



Pressing once (< 1 second) will show the type of gas detected, the date and time in sequential order.  
Pressing for 3 seconds displays the Pre-Alarm and Alarm levels that have been configured. In the programming menu it allows scrolling around the different levels, or during the setting of a parameter, changing its value.



Pressing for 3 seconds accesses the configuration of alarm and pre-alarm levels. Pressing it for 6 seconds accesses the advanced programming menu. In the programming menu, it accesses the level shown on the display or, during the setting of a parameter, accepts the new value.



If the gas Pre-Alarm or Alarm sounds, pressing once will mute the alarm tone (See parameter **b03**). In the programming menu, it exits the parameter without saving changes, returns to previous level or exits programming.



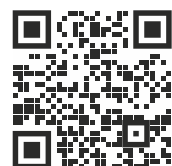
Pressing for 3 seconds activates or deactivates Set Hold mode. Pressing for 6 seconds activates or deactivates maintenance mode.



In the programming menu it allows scrolling around the different levels, or during the setting of a parameter, changing its value.



Forces data transfer to the cloud via NBloT connectivity.



akonet.cloud

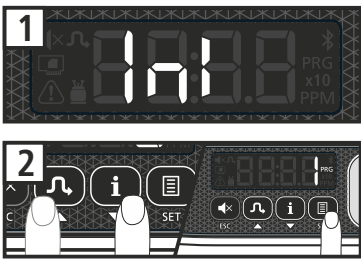
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# Setup wizard

- 1-. Connect the power supply. The display will show the message **InI** flashing with 0.
- 2-. Use keys **▲** and **▼** to select one of the options depending on the type of installation and press **SET** to confirm:



- InI=0:** Demo mode\*
- InI=1:** Connection to alarm station
- InI=2:** Independent operation

**i** If 1 minute elapses without any key being pressed, the transmitter will automatically proceed to demo mode\*.

### AKO-575400N only

- 3-. The display will show the message **Gc2**. Use keys **▲** and **▼** to select the type of gas to be measured (ALL, 125, 134A, 404A, 407A, 407F, 410A, 448A, 449A, 513A, 452A, 32, 23 or 455A), and press **SET** to confirm.

**All models**  
The transmitter will begin to operate normally.

**⚠** If the transmitter is connected to an alarm station, initiate the configuration wizard in the transmitter before doing so in the station.

**i** This function will not reactivate once the transmitter has been configured. To reactivate the function, disconnect the power supply, reconnect it and press **▲**, **▼** and **SET** before 2 minutes are up.

- 4-. If this is not the first time you initiate the wizard, after completing the last step the display will show the message **dFP** (parameters per defect). You may choose between two options:

- 0:** Only changing the parameters which affect the wizard (**Gc2**, **b04** and **o00**). The other parameters will remain the same.
- 1:** All parameters return to their factory setting except those which have been modified by the wizard,

**i** It is advisable to reset to zero on start-up. For further information, refer to the user manual available on [www.ako.com](http://www.ako.com)

\* Demo mode shows the reading of the gas concentration on a flashing panel with the message **InI**. It does not activate Alarms or Pre-Alarms. This mode enables you to postpone configuration of the transmitter.

# Signing up to akonet.cloud

In order for the transmitter to be able to send operating data to akonet.cloud, it must be registered. To do this, go to <https://akonet.cloud> (requires registration), click on "Add new device" **+** and continue with one of these two methods:

- A.-Enter the serial number (S/N) and validation code / IMEI that appear on the tag and press "Search".
- B.-Capture the QR code that appears on the tag using the **QR** option (requires having a camera on your PC, tablet or mobile phone).



These data are found on the tag on the right hand side of the transmitter. More information can be found in the akonet.cloud user guide at: ["http://help.ako.com/manuales/akonet-cloud"](http://help.ako.com/manuales/akonet-cloud)

To access akonet.cloud, enter this address in your browser (the use of Google Chrome is recommended): <https://akonet.cloud>.

**⚠** Before activating the device, make sure that there is enough reception at the installation location. **Activated devices may not be returned.**

# Forcing transmission

When the steps of the configuration wizard and the registration process are completed in akonet.cloud, you must force a first transmission to verify the level of reception:

- Press and hold the **ESC** and **SET** keys for 3 seconds.
- After a moment, the display shows the quality of the NBloT signal received:



**⚠** The transmitter does not start transmitting data to akonet.cloud until the first transmission is forced.

# Parameters

The unit operating parameters are organised in different groups or families according to their function. The **Def.** column indicates the default parameters set in the factory. In order to access the programming menu, hold the **SET** key for 6 seconds, or until "**PrG**" appears on the display. To modify the Pre-Alarm and Alarm levels, press **SET** for 3 seconds or until "**Ai3**" appears on the display (Only if AL1=1).

**▲** This allows you to scroll through the different levels, or when setting a parameter, to change its value. **SET** This accesses the level shown on the display or, when setting a parameter, it accepts the new value. **ESC** This exits the parameter without saving changes, returns to previous level, or exits programming.

Level 1	Level 2	ALARM CONFIGURATION					
		Description	Values	Min.	Def.	Max.	
RL	RL1	Alarm levels: <b>0:</b> According to regulation <b>1:</b> Set by user		0	1	1	
	RL2	Pre-Alarm <b>0:</b> Disabled; <b>1:</b> Enabled		0	1	1	
	RL3	Pre-Alarm Level (1) <b>AKO-575744</b> <b>Other models</b>	PPM	b02 / 3000 AL4+1 500			AL6
	RL4	Pre-Alarm Differential	PPM	10	100	200	
	RL5	Pre-Alarm Delay <b>0:</b> Disabled	Min.	0	0	15	
	RL6	Alarm Level (1) <b>AKO-575744</b> <b>Other models</b>	PPM	AL3 4000 1000 2000			
	RL7	Alarm Differential	PPM	10	100	200	
	RL8	Alarm Delay <b>0:</b> Disabled	Min.	0	0	15	
EP	Output to level 1						

Level 1	Level 2	INPUT AND OUTPUT CONFIGURATION				
		Description	Values	Min.	Def.	Max.
i n0	i00	Reset to zero of the sensor (Calibration only) <b>0:</b> Disabled <b>1:</b> Reset to zero activated		0	-	1
	i01	Setting the sensor (Calibration only) <b>0:</b> Disabled <b>1:</b> Setting activated		0	-	1
i i1	i11	Polarity of digital input 1 (Remote Mute) <b>0:</b> Activates on opening contact; <b>1:</b> Activates on closing contact		0	0	1
	i12	Polarity of digital input 2 (Remote Set Hold) <b>0:</b> Activates on opening contact; <b>1:</b> Activates on closing contact		0	0	1
o00	o00	Type of output 4/20 mA (Reading only) <b>0:</b> Calibrated for alarm station; <b>1:</b> Linear		0	(3)	1
	EP	Output to level 1				

BASIC CONFIGURATION						
	Description	Values	Min.	Def.	Max.	
bcn	Gc1	Type of gas to be measured (Reading only) Gas to be measured with the Universal sensor (Only if Gc1=brd1) <b>ALL; 125; 134A; 404A; 407A; 407F; 410A; 448A; 449A; 513A; 452A; 32; 23; 455A (2)</b>		-	-	-
	b01	Display <b>0:</b> Measurement in PPM <b>1:</b> Type of gas to be measured		0	0	1
b02	b02	Minimum value to be shown on the display (Lower values are shown as 0) Does not affect the values shown by communication (AKONet or CAMM module)	PPM	0	0	250
	b03	Function of the mute key (Applicable to Alarm and Pre-Alarm) <b>0:</b> Disabled <b>1:</b> Deactivate acoustic alarm <b>2:</b> Deactivate relay <b>3:</b> Deactivate both		0	1	3
b04	Acoustic alarm <b>0:</b> Disabled <b>1:</b> Enabled		0	(3)	1	
b05	Access code (password) function <b>0:</b> Disabled; <b>1:</b> Block access to parameters <b>2:</b> Block keypad		0	0	2	
b11	Access code (password)		0	0	99	
b20	MODBUS address		1	(4)	247	
b21	MODBUS speed	<b>0:</b> 9600 bps	<b>1:</b> 19200 bps	0	0	3
		<b>2:</b> 38400 bps	<b>3:</b> 57600 bps			
EP	Output to level 1					

INFORMATION (Reading only)						
	Description	Values	Min.	Def.	Max.	
t, d	i n1	Operation modes (Reading only) <b>0:</b> Demo mode; <b>1:</b> Connection to alarm station <b>2:</b> Independent operation		0	(3)	2
	PL	Programme version		-	-	-
Pr	Programme revision		-	-	-	
bU	Bootloader version		-	-	-	
br	Bootloader revision		-	-	-	
PRr	Parameter map revision		-	-	-	
PCr	CRC value of the programme		-	-	-	
bCr	CRC value of the bootloader		-	-	-	
EP	Output to level 1					

- (1) In order to modify these levels, parameter **AL1** should be configured to 1.
- (2) R-450A, R-442A, R-454A, R-454C, R-1234YF, R-1234ZE are detected using **GC2=ALL**.
- (3) According to the setup wizard.
- (4) The MODBUS address will be shown on the transmitter label by default.

# Technical specifications

Power supply	.....12 - 30 Vdc
Consumption Typical	.....75 mA
Maximum	.....125 mA
Pre-Alarm/Alarm relay	.....SPDT 30 Vdc, 2 A, cos φ = 1
Working ambient temperature	.....-30 °C to 50 °C
Storage ambient temperature	.....-30 °C to 60 °C
Range of maximum moisture permitted	.....0 - 95 % HR (without condensation)
Protection degree	.....IP 68
Type of sensor	.....NDIR (Non-Dispersive Infrared Technology)
Display range	.....0 - 2000 x1 ppm
Estimated working life	.....7 years
Dimensions	.....202 mm (W) x 82 (H) x 55.5 mm (D)

MESSAGES	
<b>InI</b>	Setup wizard initiated
<b>PRL</b>	Gas pre-alarm activated. Flashing together with the gas concentration.
<b>RL</b>	Gas alarm activated. Flashing together with the gas concentration.
<b>Scn</b>	Initialisation process of the gas sensor. This may last for up to 3 minutes.
<b>ES</b>	Error or malfunction of the sensor. The Pre-Alarm relay is activated, the transmitter emits 3 alert tones every 2 minutes and the <b>⚠</b> icon flashes. Deactivate the power supply and activate it again. If after a few seconds the error persists, please contact your technical support centre.
<b>ESh</b>	The sensor has reached its maximum working temperature.
<b>ESL</b>	The sensor has reached its minimum working temperature.

Bands	.....NBloT (Narrow band) LTE Cat NB1   B2, B3, B4, B8, B12, B13, B20	
<b>Band</b>	<b>Frequency Rx</b>	<b>Frequency Tx</b>
2	1930 MHz ~ 1990 MHz	1850 MHz ~ 1910 MHz
3	1805 MHz ~ 1880 MHz	1710 MHz ~ 1785 MHz
4	2110 MHz ~ 2155 MHz	1710 MHz ~ 1755 MHz
8	925 MHz ~ 960 MHz	880 MHz ~ 915 MHz
12	729 MHz ~ 746 MHz	699 MHz ~ 716 MHz
13	746 MHz ~ 756 MHz	777 MHz ~ 787 MHz
20	791 MHz ~ 821 MHz	832 MHz ~ 862 MHz
Maximum transmission power	.....23.5 dBm conducted	
Antenna	.....Internal	