



| Signalling devices

Comfort and Safety

Our most basic, fundamental human need is the need for comfort, as the state of satisfaction in terms of physical and mental needs and absence of worries. As humans, we constantly seek to increase it.

However, as it turns out, the essence of the human nature is not so much ensuring comfort, but unceasingly striving to increase it. It is also unrelenting curiosity of the world, discovering and exploring it. By giving in to this temptation, as humans, we have created civilisation – science, industry, technology, culture...

Today, we live and work in the industrialised, intensively changing world. In the world, the development of which most often means construction of increasingly complex and sophisticated systems and technological installations, frequently the ones that process high amounts of energy, as well as dangerous, flammable or toxic substances.

As a result of various causes, for example failure of technological installations, someone's deliberate decision, unaware action, or just ignorance, those substances may be released to the environment, thus creating a hazard to people, property, or natural environment.

Aiming to ensure the sense of safety, apart from preventive measures, it is necessary to take actions that eliminate the threat immediately after it occurs.

Therefore, it is necessary to monitor the presence of dangerous gas substances in the environment, and in case of their detection – taking appropriate actions in order to prevent losses or stop their increase.

History

Atest Gaz was established by Mr Zygmunt Pachole in Borzęcin, Poland in 1973, as a company specializing in gas heating technology.

In 1992, a branch of Atest Gaz called the Measurements and Automation Laboratory was created in Gliwice, Poland. The branch was managed by Aleksander (the son of Zygmunt Pachole) and his wife Małgorzata - current owners of the Company. The Laboratory dealt with electronic control and safety systems for heating equipment, but after the Company was transformed in 1996 to an independent entity called "Atest Gaz Automation and Electronics Lab", it began to specialise in the systems for detection of combustible and toxic gases. Since 2008, the Company has been operating as „general partnership” **Atest Gaz A. M. Pachole**.

From the beginning, the owners of Atest Gaz relied on knowledge, competence, high quality, innovation and investments in state-of-the-art technologies.



Signalling devices produced by Atest Gaz

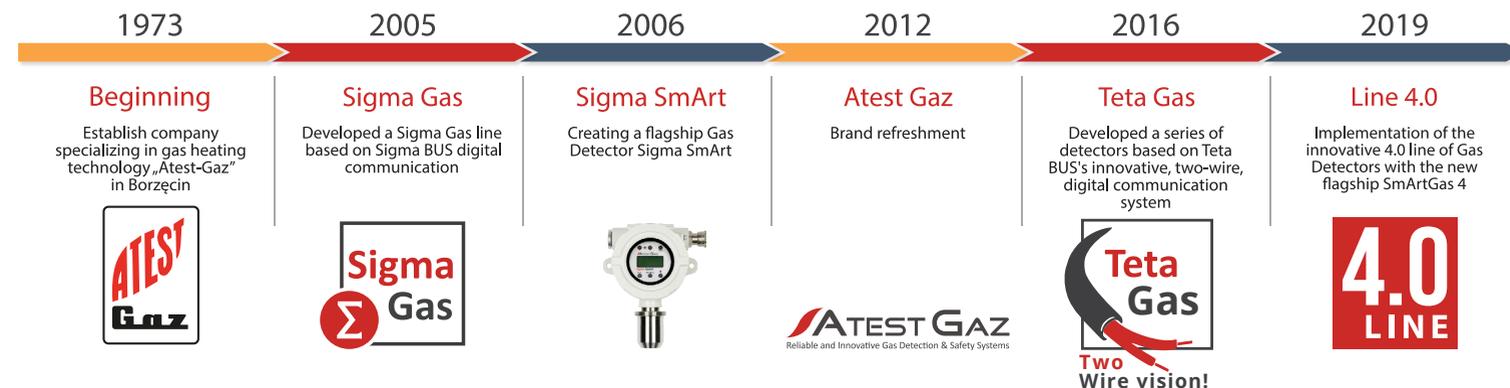
Thanks to the experience gained on the most demanding clients industrial installations and the knowledge obtained during numerous meetings with our clients, we have created a modern design and well-thought-out structure signalling devices:

- LTT2 and LTT4
- HTT - NEW!
- SOLED3

Careful workmanship and the use of high-quality materials as well as an innovative optical and acoustic signaling system allowed us to create signaling devices that are used in many industrial applications. The devices allow any configuration adapted to the needs of demanding customers and the specificity of a given market or facility. The object signaling devices manufactured by Atest Gaz in Gas Safety Systems of **Sigma Gas** are among others, System Optical Indicator (for the following states: monitoring, alarm and failure).

Designed entirely by the development department of Atest Gaz, they are distinguished by:

- a wide range of configurations,
- FLASH module,
- proprietary **R-G-OFF** signalling,
- **GASOK** signal.



Individual configuration



Reliability - **GASOK**



Integrity



The original and innovative **GASOK** message allows for an immediate assessment of the system's efficiency and the level of security, consistently on all devices. Any other light message, apart from green light, obliges the staff to react appropriately.

Key advantages of signalling device

FLASH module

The signaller is equipped with a FLASH module made of High Power LEDs. The applied solution facilitates the identification of an emergency thanks to the generated flashes, causing light reflections on the elements of the technological installation. This attracts the attention of personnel and bystanders in the area of work of the device.

Easy integration with other systems

Signalling device can be connected and controled by on/off signals or by RS-485 (Modbus, ASCII, RTU, Profibus, etc). The digital interface enables the operation of signalling devices in the bus architecture. The devices are equipped with an autonomous control module „continuous / intermittent“ signalling“.

Transparent messages

Optical-acoustic signalling devices are equipped with LED modules, which enable any configuration with the use of five colours and the function of informing about the correct operation of devices that correspond to its activation.

LED modules allow for wide configuration options:



- ▶ Signalling up to two different alarm levels
- ▶ Information about a broken cable

- ▶ Four 2-coloured light segment

- ▶ FLASH function

- ▶ 4 alarm level



R-G-OFF is a proprietary designation of the signaller operation logic, ensuring a very high level of people safety in the protected area.

It presents 3 main states of the signaller:

- R - red colour - Danger
- G - green colour - No threats
- OFF - no light - Requires verification by staff

1.0 | Object signalling LTT

Warning LED Tower with Sounder

The LTT is a unique and reliable device that is designed for operation in areas with really versatile ambient conditions. It is offered in two manufacturing options, as LTT 4 and LTT 2 devices. LTT stack lights comprise light modules with very bright LEDs.

These light modules are independently configurable and controlled. Owing to these properties the LTT devices are really dependable and clearly visible source of detailed information about hazards that occur on the specific area. A unique feature of the signaller is the ability to inform about the correct operation of devices that are responsible for its activation, as well as monitoring the line to which it is connected.

Enclosure

The device body made of stainless steel (AISI-304) and IP65 protection index enable operation of the LTT under the most demanding and harsh environmental conditions, with presence of aggressive factors, dust or liquids. On the other hand, it is also suitable for such applications, where highly demanding hygienic requirements are imposed to the device, for instance in food processing industry.

The LTT2 signalling device can be used in the second explosion hazard zone.

Key Features

- **GASOK** Green colour signalling the correct operation of the system
- Connection line monitoring
- Information on the correct operation of master devices
- Signalling two or four alarm thresholds
- FLASH module increasing the level of security

LTT 4



- 40% LEL
- 20% LEL
- TLV-STEL
- Gas-OK / TLV-TWA / Failure



Technical specification

Power supply	
• Voltage V_{CC}	PW-091-S 12 – 30 V DC PW-091-M 12 – 30 V DC PW-091-C 18 – 30 V DC
• Power P_{CC}	6 W - LTT2 11 W - LTT4
Environment	
• Ambient temperatures	-30 ÷ 40 °C
• Humidity	0 ÷ 100%
IP	IP 65
Digital communication parameters	
Port SBus	
• Electric standard	RS-485
• Communication protocol	Sigma BUS
Port ExBUS	
• Electric standard	RS-485
• Communication protocol	Modbus ASCII/RTU, 4800 – 115200 b/s
Integrated signalling equipment (audiable)	90 dB, 1 m distance
Protection class	III
Cable glands (diameter range)	8 – 13 mm
Acceptable cables	0.08 – 1.5 mm ² (cable glands 2 x 1 mm ² or 2 x 0.75 mm ² should be used for double wires)
Enclosure material	Stainless steel 1.4301, polycarbonate
Weight	about 1 kg (LTT2), about 1.5 kg (LTT4)
Mounting	Hanger, 2 holes for screw / bolt, diameter 5 mm

LTT 2



1.1 | Object signalling HTT

Warning Beacon with Sounder

Thanks to the experience gained in the most demanding industrial installations and the knowledge gained during numerous meetings with our clients, we have created a new product distinguished by modern design and thoughtful construction. The **HTT** signalling device is a unique and reliable device, designed to work in the most diverse conditions.

The device allows any configuration tailored to the needs of demanding customers and the specifics of a given market:

- Thanks to the two-threshold acoustic signaling, you can easily identify the state of emergency in the facility.
- The HTT signalling device, thanks to its design, can work in facilities with the most demanding environmental conditions.
- HTT guarantees reliability thanks to the use of a solution based on LED diodes and a Flash module

The use of the presented solution allows to standardize the communication system in the facility, thanks to which all employees can quickly and clearly determine the current level of risk at the workplace.

HTT



Technical specification

Due to the ongoing design work, the table below is indicative.

Power supply	10 – 30 V
• Voltage V_{cc}	
Environment	
• Ambient temperatures	-30 – 40°C
• Humidity	10 – 90% long term 0 – 99% short term
ATEX	Ex d IIC T6 pending
IP	IP 65
Digital communication parameters	
Port SBUS	
• Electric standard	RS-485
• Communication protocol	Sigma BUS
Port ExBUS	
• Electric standard	RS-485
• Communication protocol	Modbus ASCII, RTU, 4800 – 115200 bod
Parameters of control and power supply inputs	
• Inactive	0 – 1 V
• Active	10 – 30 V
Optical signalling	
• Light intensity	LED maximum 60 Cd (depending on the number of modules and their colour)
Integrated signalling equipment (audible)	>100dB
Protection class	III
Cable glands	
• Cable diameter range	10 – 16 mm (there is a possibility of execution with a cable gland with an adjustable diameter 4 – 12 mm)
• External thread	M20 x 1.5
Acceptable cables	0.5 – 2.5 mm ²
Enclosure material	Aluminium, covering epoxy paint, glass cover

1.2 | Object signalling SOLED 3

Warning Beacon

SOLED3 Warning Beacon is a device for optical signalling of hazards in potentially explosive areas, through lighting signals of different colours. SOLED3 uses three independently set and controlled lighting sections with very bright LED lights. Thank to such a construction, SOLED3 is a very universal warning beacon, which can be used in many industrial applications.

Key advantages

- The warning beacon is designed for operation in areas with a potential hazard of gas explosion (zone 2) and /or dust explosion (zone 22).
- Light-emitting modules are made up of LEDs with various colours and independent control.
- The aluminum, weather-resistant enclosure and glass cover ensure a wide range of applications.

Thanks to the extensive terminal strip and the possibility of using 3 cable inlets, it is possible to connect another optical and / or acoustic signaling device.

SOLED 3



Technical specification

Power supply	10 – 30 V
• Voltage V_{cc}	
• Power	max 34 W (depending on the number of LED segments and sounder)
• Power consumption per module	Red and yellow segment: 2 W Green, blue and white segment: 1.25 W Flash light module: 3 W Sounder: 24 W Standby power (all light and sound warning components are off): 0.5 W
Environment	PW-081-A-X-G
• Ambient temperatures	Pozostałe wersje
• Humidity	-30 – 55°C
	-30 – 40°C
	10 – 90% long term 0 – 99% short term
ATEX	II 3G Ex d IIC T6 Gc II 3D Ex t IIIC T85°C Dc
IP	IP 65
Time parameters of modulation and flash	
• Period	About 1.5 s
• Filling modulation	about 50%
• Flash time	about 50 ms
Parameters of control and power supply inputs	
• Inactive	0 - 1 V
• Active	10 - 30 V
Optical signalling	
• Light intensity	LED maximum 60 Cd (depending on the number of modules and their colour)
Protection class	III
Cable glands	
• Cable diameter range	10 – 16 mm (there is a possibility of execution with a cable gland with an adjustable diameter 4 – 12 mm)
• External thread	M20 x 1.5
Acceptable cables	0.5 - 2.5 mm ²
Enclosure material	Aluminium, covering epoxy paint, glass cover
Weight	1.6 kg



For more details of our devices and other products and services offered by us, visit:

www.atestgaz.com

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