Pressure and Differential Pressure switches, gauges and transmitters, COMHAS Series AT-10****

Safety Note according to ATEX Directive 2014/34/EU
EN 60079-0:2018
EN 60079-1:2014
EN 60079-31:2014

IECEx Scheme
IEC 60079-0:2017
IEC 60079-1:2014
IEC 60079-31:2013
Pressure and Differential Pressure switches, gauges, temperature switches, transmitters, COMHAS Series AT-10**** are instruments for pressure control protected by Ex db/tb enclosure for IIC gas atmospheres and IIIC dust atmospheres. COMHAS Series AT-10**** are suitable to be installed in hazardous area and complies with the requirements of:

- Directive ATEX 2014/34/EU
- IECEx Scheme

And applicable standards IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-31 as apparatus of group II, Category 2GD types of protection Ex db IIC T5, T6 Gb and Ex tb IIIC T85°C Db IP66, ambient temperature -60° / +60°C (or +50°C)

ATEX Marking:
- II 2G Ex db IIC T5, T6 Gb
- II 2D Ex tb IIIC T75°C Db IP66

IECEx Marking:
- Ex db IIC T5, T6 Gb
- Ex tb IIIC T75°C Db IP66

T6 with Ambient Temperature -60°C to +50°C
T5 with Ambient Temperature -60°C to +60°C

**TECHNICAL CHARACTERISTICS**

**Electrical data**

- Maximum Nominal power: 6 W
- Maximum Nominal current consumption: 0,5 A
- Maximum Nominal Voltage: 230 V
- Ambient temperature range: -60°C/+60°C (for T5) and -60°C/+50°C (for T6)
- Max Process temperature ≤ Max ambient temperature
### Equipment Codification

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e or e1</th>
<th>f</th>
<th>g</th>
<th>h</th>
<th>i</th>
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<tbody>
<tr>
<td><strong>a</strong></td>
<td>Equipment Type</td>
<td>AT</td>
<td>Explosion proof version</td>
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<tr>
<td><strong>b</strong></td>
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<td>100</td>
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<td>101</td>
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<td><strong>c</strong></td>
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<td>N</td>
<td>Without extension</td>
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<tr>
<td><strong>d</strong></td>
<td>Materials</td>
<td>A</td>
<td>Enclosure in Aluminum alloy</td>
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<tr>
<td></td>
<td></td>
<td>S</td>
<td>Enclosure in stainless steel</td>
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</tr>
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<td>-</td>
<td>Instrument identification code starting letter</td>
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<tr>
<td></td>
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<td>*</td>
<td>Instrument code (manufactured by Dwyer Instruments Inc.)</td>
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<td>-</td>
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<tr>
<td></td>
<td></td>
<td>*</td>
<td>these instruments types shall not be connected to a process that contains a flammable fluid or explosive atmosphere</td>
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<td></td>
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<td>20XX-XXX BUNA IC</td>
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<td>*</td>
<td>182X-XX BUNA</td>
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<td>the instruments listed above can be connected to a process that contains a flammable fluid or explosive atmosphere</td>
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<td><strong>f</strong></td>
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<td>Blind top cover</td>
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<tr>
<td></td>
<td></td>
<td>W</td>
<td>Top cover with cemented glass window</td>
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<td><strong>g</strong></td>
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<td>Identification</td>
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<td>Brass made breathing device</td>
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<td>Configuration</td>
<td>VS0*</td>
<td>Two identical STD breathing valves installed at measure pressure ports with no additional breathing device, connected to the enclosure internal volume</td>
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<tr>
<td></td>
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<td>VLO*</td>
<td>Two identical LD breathing valves installed at measure pressure ports with no additional breathing device, connected to the enclosure internal volume</td>
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<tr>
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<td></td>
<td>VS1*</td>
<td>Two identical STD breathing valves installed at measure pressure ports with an additional breathing device type STD, connected to the enclosure internal volume</td>
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<tr>
<td></td>
<td></td>
<td>VS2*</td>
<td>Two identical STD breathing valves installed at measure pressure ports with an additional breathing device type LD, connected to the enclosure internal volume</td>
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<tr>
<td></td>
<td></td>
<td>VL1*</td>
<td>Two identical LD breathing valves installed at measure pressure ports with an additional breathing device type LD, connected to the enclosure internal volume</td>
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<tr>
<td></td>
<td></td>
<td>*</td>
<td>the maximum process pressures permitted for these configurations are detailed as safety parameters</td>
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<tr>
<td><strong>h</strong></td>
<td>Cable entry</td>
<td>12</td>
<td>¾” NPT ANSI/ASME B1.20.1</td>
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<td></td>
<td>34</td>
<td>½” NPT ANSI/ASME B1.20.1</td>
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<tr>
<td><strong>i</strong></td>
<td>Other options</td>
<td>*</td>
<td>Digits describing other options of the equipment, not related to the safety of the equipment</td>
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## Ports configurations

<table>
<thead>
<tr>
<th>Breathing device defined configurations</th>
<th>Simplified scheme of breathing devices</th>
<th>Maximum pressure value with</th>
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<tbody>
<tr>
<td></td>
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<td>Only one pressure port connected</td>
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<tr>
<td>VS0</td>
<td>STD</td>
<td>None</td>
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<tr>
<td>VL0</td>
<td>LD</td>
<td>None</td>
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<tr>
<td>VS1</td>
<td>STD</td>
<td>STD</td>
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<tr>
<td>VS2</td>
<td>STD</td>
<td>STD</td>
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<tr>
<td>VL1</td>
<td>LD</td>
<td>LD</td>
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### Enclosure breathing device

<table>
<thead>
<tr>
<th>Pressure port 1 breathing device</th>
<th>Pressure port 2 breathing device</th>
<th>Maximum pressure value with</th>
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<tr>
<td>STD</td>
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<td>None</td>
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<tr>
<td>STD</td>
<td>STD</td>
<td>None</td>
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<tr>
<td>STD</td>
<td>STD</td>
<td>None</td>
</tr>
<tr>
<td>LD</td>
<td>LD</td>
<td>None</td>
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</table>

### MARKING

Example of Marking Label:
Safety note

«Pressure and Differential Pressure switches, gauges and transmitters, COMHAS Series AT-10****»

Via Matteotti 66 – 20092 – Cinisello Balsamo (MI) - Italy

Rev 2

Page 5 of 8

Comhas AT series, are marked as required by:

- ATEX Directive 2014/34/UE:
  
  **Model**: AT10X
  **SERIAL NUMBER**: E.g. XXXXXX

**0080**

II 2G Ex db IIC T5, T6 Gb

II 2D Ex tb IIIC T75°C Db IP66

INERIS 21ATEX0033X

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**0080** = Notified Body identification number for quality production surveillance (INERIS)

II = group II

2G = category 2G, equipment for surface with the presence of gas

2D = category 2D, equipment for surface with the presence of dust

Ex db = type of protection

IIC = Group of gas IIC

Gb = EPL (gas suitable for zone 1 and 2)

Ex tb = type of protection

IIIC = Group of dust IIIC

Db = EPL (dust suitable for zone 21 and 22)

INERIS 21ATEX0033X = EU Type Certificate

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**Relation between hazardous areas, categories and EPL**

<table>
<thead>
<tr>
<th>Hazardous area</th>
<th>ATEX categories 2014/34/EU</th>
<th>EPL</th>
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</thead>
<tbody>
<tr>
<td>ZONE 0</td>
<td>1G</td>
<td>Ga</td>
</tr>
<tr>
<td>ZONE 1</td>
<td>2G</td>
<td>Gb or Ga</td>
</tr>
<tr>
<td>ZONE 2</td>
<td>3G</td>
<td>Gc or Gb or Ga</td>
</tr>
</tbody>
</table>

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- IECEx Marking:
  
  Ex db IIC T5, T6 Gb
  Ex tb IIIC T75°C Db IP66

  **IECEx INE 21.0064X**

  Ex db = type of protection

  IIC = Group of gas IIC

  Gb = EPL (gas suitable for zone 1 and 2)

  Ex tb = type of protection

  IIIC = Group of dust IIIC

  Db = EPL (dust suitable for zone 21 and 22)

  **IECEx INE 21.0064X** = **IECEx Certificate**

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**WARNING** – **DO NOT OPEN WHEN ENERGIZED**

Prepared: F. Meyer

Approved: R. Hassan
SAFETY INSTRUCTIONS FOR INSTALLATION IN HAZARDOUS AREAS

Before installing, carefully read the instruction manual provided with the AT10**** Series.

The system can be used in environments with explosive gas group IIIC and dust group IIIC, Ambient temperature = -60°C / +60°C (for T5) and -60°C/+50°C (for T6).

The AT10**** series shall be installed and maintained according to the applicable standards regarding electrical installations in hazardous area (EN 60079-14 and EN 60079-17 or other national standard).

After connection to the ground check PE cable to avoid rotation or twist of the cable.

The maximum fluid temperature at pneumatic connection shall be +60°C and not greater than maximum ambient temperature.

Do not open when an explosive atmosphere is present.

This apparatus must be installed and put into operation in accordance with the provisions and regulations. Shall not be liable for damage caused by non-observance of the instructions and inappropriate use.

It is forbidden any technical modification. Any repair activity is not permitted without manufacturer Authorization. For any repair contact the manufacturer.

Periodic maintenance of the system in accordance with the instruction manual have to be performed regularly.

Additional residual risks present are:
- System maintenance not performed according to the manufacturer
- improperly Use and / or incorrect way of the system.

The user shall perform a regular cleaning of the enclosure to avoid any dust layer on the equipment. Clean the equipment with a dumb cloth to avoid electrostatic charge risk.

COMHAS is not responsible any damage caused by misuse and / or abuse of the system.
# EU DECLARATION OF CONFORMITY

**DICHIARAZIONE DI CONFORMITA’ UE**  
**EU DECLARATION OF CONFORMITY**

**We**  
Comhas.srl  
Via Matteotti 66,  
Cinisello Balsamo 20092 (MI) – ITALY

I declare under our sole responsibility that the product

Pressure and Differential Pressure switches, gauges and transmitters, COMHAS Series AT-10****

is in conformity with

**Directive 2014/34/EU (ATEX)**

The conformity are under observance of the following standards:

**ATEX**  
EN 60079-0 : 2018  
EN 60079-1 : 2014  
EN 60079-31 : 2014

**ATEX marking**

<table>
<thead>
<tr>
<th>IIC T5</th>
<th>T6 Gb</th>
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<tbody>
<tr>
<td>II 2G Ex db</td>
<td>II 2D Ex tb</td>
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<tr>
<td>IIC T75°C Db IP66</td>
<td>T5</td>
</tr>
<tr>
<td>Tamb: -60°C ÷ +60°C</td>
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</tr>
<tr>
<td>Tamb: -60°C ÷ +50°C</td>
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</tr>
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</table>

**ATEX EU type certificate**  
INERIS 21ATEX0033X

ATEX/Q notify body:  
INERIS (0080)

Cinisello Balsamo, 01/02/2022  
Riccardo Hassan  
Managing Director

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**Prepared:** F. Meyer  
**Approved:** R. Hassan
EU DECLARATION OF CONFORMITY

Dichiariamo con la presente che i prodotti forniti e sopra citati sono conformi alle seguenti direttive comunitarie e con la relativa legislazione nazionale di recepimento. (Non applicabile per Modello AT-100/101/102S-2000 Magnehelic)

We declare that products supplied as per above mentioned order conform with following European Community directives and with the relevant National laws (does not apply for Models AT-100/101/102S-2000 Magnehelic)

Directive 2011/65/EU Restriction of Certain Hazardous Substances in Electrical and Electronic Equipment

Directive 2014/35/EU Low Voltage Directive (LVD)

IEC 61010-1:2010 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements

Directive 2014/30/EU Electromagnetic Compatibility (EMC)

EN 61326 1:2013 Electrical Equipment for Measurement, Control and Laboratory Use – EMC Requirements

IEC 61000-4-2:2008 Electromagnetic Compatibility (EMC) - Part 4-2: Testing and Measurement Techniques - Electrostatic Discharge Immunity Test


IEC 61000-4-4:2012 Electromagnetic Compatibility (EMC) - Part 4-4: Testing and Measurement Techniques - Electrical Fast Transient/Burst Immunity Test


IEC 61000-4-6:2013 Electromagnetic Compatibility (EMC) - Part 4-6: Testing and Measurement Techniques - Immunity to Conducted Disturbances, Induced By Radio-Frequency Fields

Comhas srl
Il Direttore Generale
Managing Director
Riccardo Hassan

Data/Date 01/02/2022