

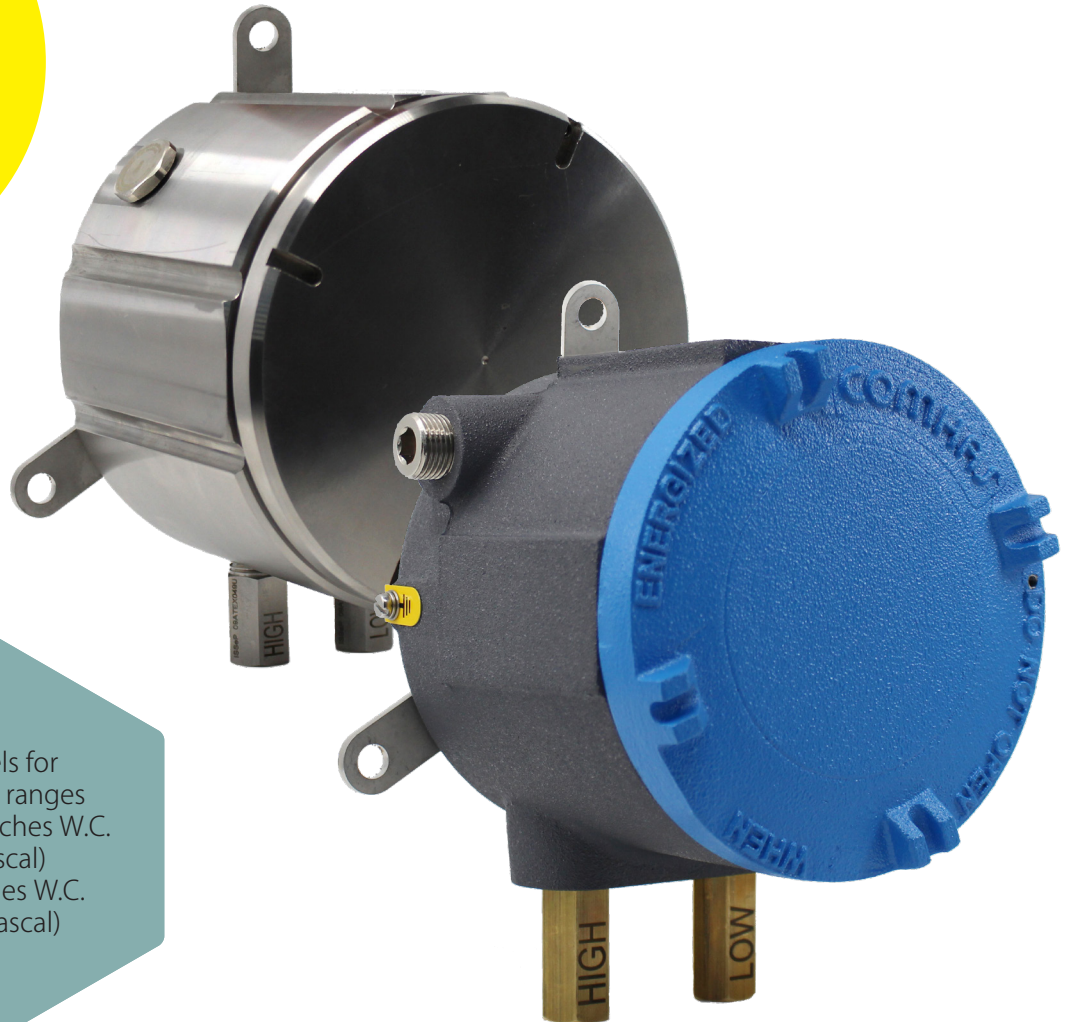
# COMHAS

## AT-101-1900 AT-102S-1900

Explosion-proof ATEX/IECEX Exd differential pressure switch for low ranges

**NEW**

Now available with Low DP pressure ports. Improved response time.



One of the most popular Dwyer® pressure switch series 1900 it is now available from Comhas as single instrument ATEX/IECEX approved

6 models for operating ranges from 0.07 inches W.C. (18 Pascal) to 20 inches W.C. (5000 Pascal)

Repeatability  $\pm 3\%$

**ATEX**

CE 0080

II 2G Ex db IIC T5, T6 Gb -60°C ≤ Ta ≤ +50°C (T6)  
-60°C ≤ Ta ≤ +60°C (T5)

II 2D Ex tb IIIC T75 °C Db  
Certificate: INERIS 21 ATEX 0033 X

**IECEX**

Ex db IIC T5, T6 Gb -60°C ≤ Ta ≤ +50°C (T6)  
-60°C ≤ Ta ≤ +60°C (T5)

Ex tb IIIC T75°C Db  
Certificate: IECEX INE 21.0064X

# Specifications

<b>Service:</b>	air and non-conductive gases. Not suitable for combustible gases.
<b>Temperature limits:</b>	-30 to 180°F (-34 to 82,2°C) Case: -76 to 140°F (-60 to 60°C)* T5 (-60 to 50°C) T6
<b>Pressure limits:</b>	see table 2
<b>Switch:</b>	type SPDT
<b>Repeatability:</b>	±3%
<b>Electrical rating:</b>	15A @ 120-480 VAC 60 Hz resistivo 1/8 HP @ 125 VAC 1/4 HP @ 250 VAC, 60 Hz Derate to 10A for operating at high cycle rates
<b>Electrical wiring:</b>	3 screw type, common normally open and normally closed.
<b>Set point adjustment:</b>	screw type on pressure switch inside the Exd enclosure accessible by hole with plug on housing. Setpoint regulation must be done with instrument denergised. Follow instructions and safety warning to open cover.
<b>Response time:</b>	Pls see 3. Time response graph
<b>Installation:</b>	in vertical position
<b>Diaphragm:</b>	silicon rubber stand
<b>Housing material:</b>	aluminium (stainless steel optional).
<b>Finishing:</b>	Grey - texture epoxy coat RAL7015 (aluminum case) Blue - RAL 5015 (top cover)
<b>Process connections:</b>	1/8" female NPT brass (stainless steel optional)
<b>Electrical connections:</b>	2 x 1/2" NPT F standard (cable gland not included).
<b>Enclosure rating:</b>	IP66
<b>Dimensions:</b>	see drawing below
<b>Weight:</b>	from 4,8 to 15,5 Kg

\* Operating ambient temperature is defined also according to the options and pressure instrument choosed.

**CAUTION FOR USE ONLY WITH AIR OR COMPATIBLE GASES!  
CONTACT FACTORY FOR USE WITH GASES,  
OTHER THAN AIR AND NITROGEN.**

## IMPORTANT NOTES FOR INSTALLATION:

Cables must be fitted through 1/2" NPT cable gland or Atex/IECEx conduit (not supplied with instrument).

Make sure after cabling to close tight cover and cable gland, in order to keep IP66 rating (only without venting valve).

Open cover only after de-energizing instrument.

Attention: check local safety rules and warnings on unit and manual for a correct use of the instrument in hazardous area.

# 1. Model configuration

CODE	AT-101			-	1910	-		-												
	AT-102 (only for stainless steel material version)																			
Enclosure extension	Enclosure without extension	N																		
	Enclosure with extension	n/a																		
Material	Aluminum		A																	
	Stainless steel (only AT-102 version)		S																	
Dwyer model	1900				1910															
Ranges	0.07-0.15 Inch W.C. (17.5-37 Pa)									00										
	0.15-0.55 Inch W.C. (37.5-137 Pa)									0										
	0.40-1.6 Inch W.C. (100-398 Pa)									1										
	1.4-5.5 Inch W.C. (348.5-1368 Pa)									5										
	3.0-11.75 Inch W.C. (747-2924 Pa)									10										
	4.0-20.0 Inch W.C. (996-4977 Pa)									20										
Cover	Blind										B									
	Glass window										n/a									
Pressure port / venting valve material	Brass											1								
	Stainless steel											2								
Pressure port/venting valve (check table 2 based on max static pressure)	STD pressure port 1/8" F NPT / no venting valve												V50							
	LD pressure port 1/8" F NPT / no venting valve												VL0							
Cable entry	1/2" NPT ANSI/ASME B1.20.1																		12	
Other options	Stainless steel tag																			

n/a: NOT AVAILABLE

# 2. Max static pressure admitted - Pressure ports and venting valve configuration

		Simplified scheme of pressure port / breathing device (venting valve)				Maximum pressure value with:	
						only one pressure port connected	both pressure ports connected
Code	V50	PRESSURE PORTS	STD	Enclosure breathing device (venting valve)	None	10 kPa	10 kPa
	VL0		LD			None	10 kPa

# 3. Time response graphs

## NEW "LD" FLAME ARRESTORS

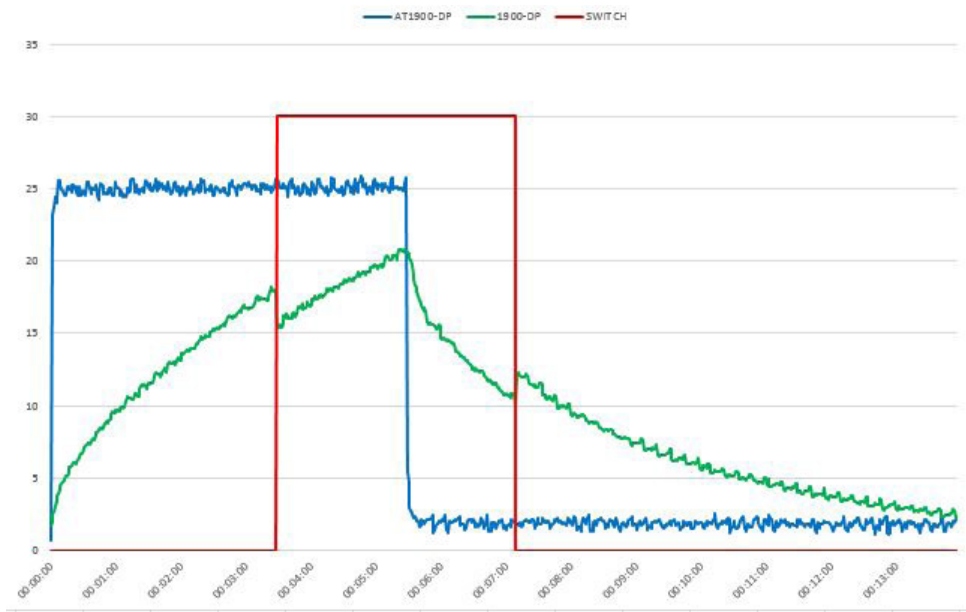
The use of flame arrestors introduce some time delay in switching of the relay especially for low range pressure switches. (1910-00 to 1910-5)

Comhas have developed a new Low pressure drop flame arrestor (LD series) that is suggested always on 1910-00-/ 1910-0 / 1910-1 / 1910-5 in place of STD series as this allow to have much faster response time of the switch

Following are some graphs with difference in response time between LD and STD series.

- upstream pressure ports
- downstream pressure ports

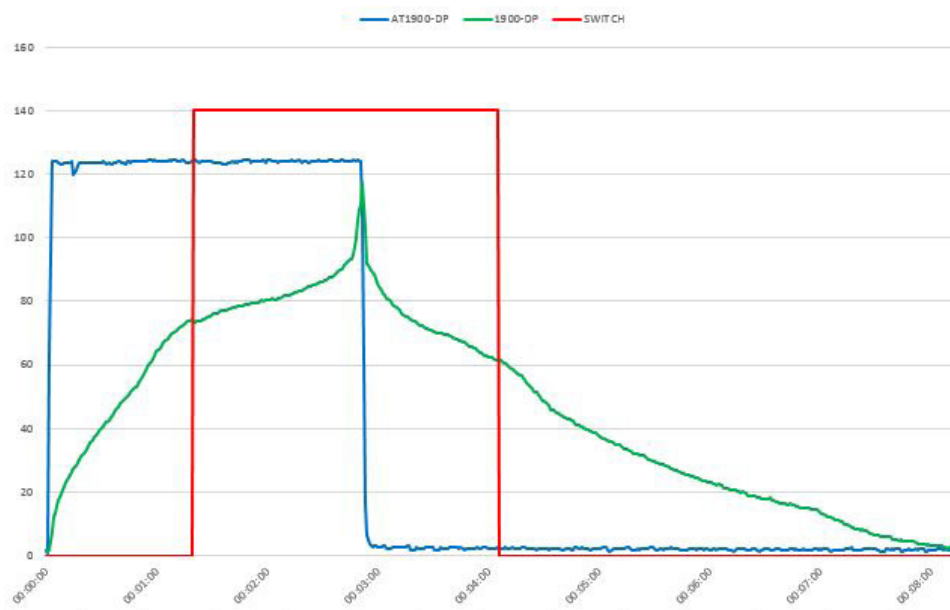
### 1910-00-STD



### 1910-00-LD



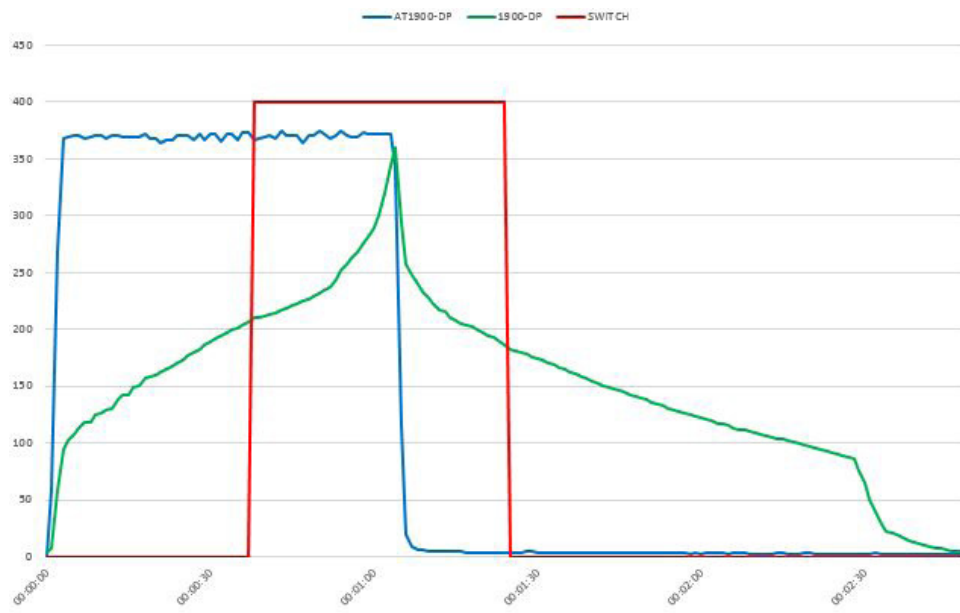
## 1910-0-STD



## 1910-0-LD



## 1910-1-STD



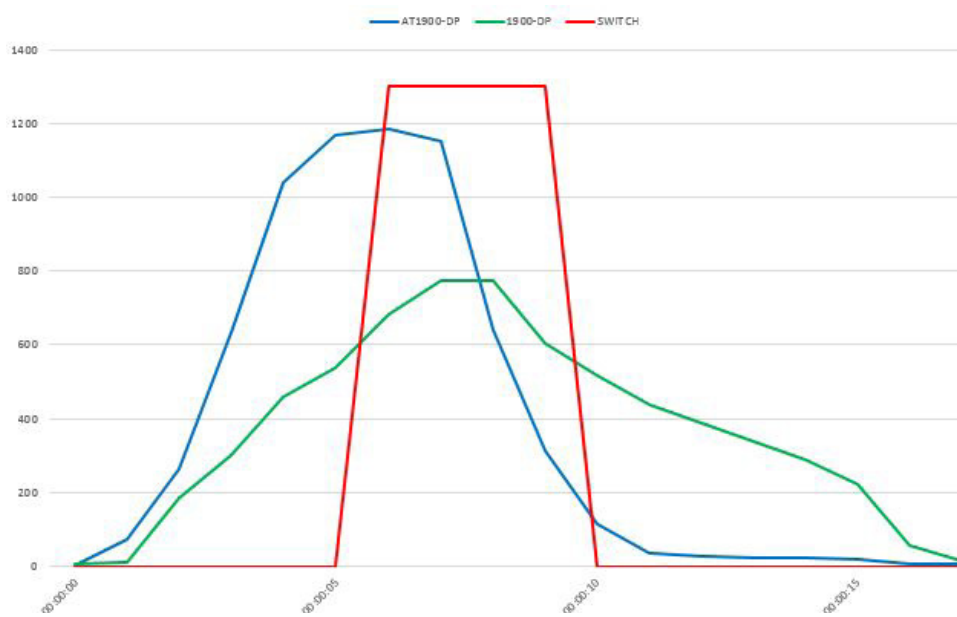
## 1910-1-LD



## 1910-5-STD



## 1910-5-LD

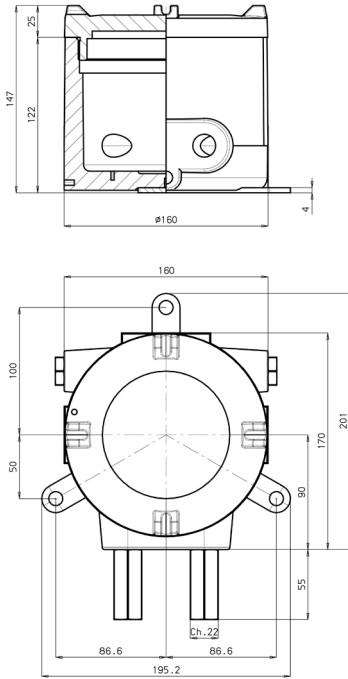


# Dimension

## Aluminum case

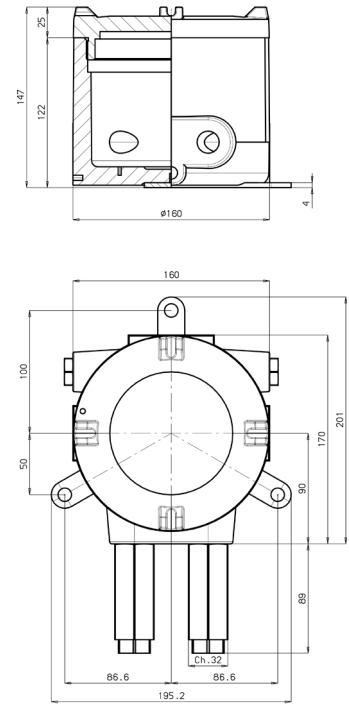
VS0

STD pressure port/no venting valve



VLO

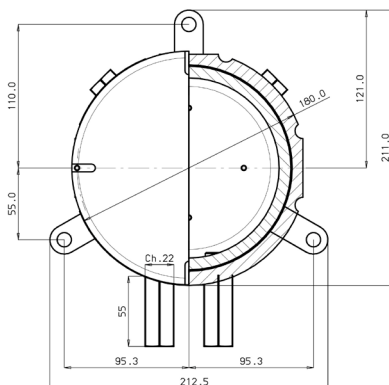
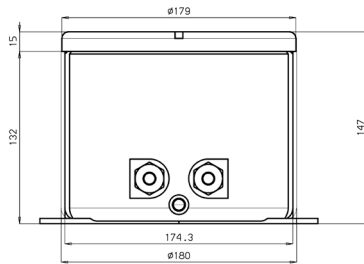
LD pressure port/no venting valve



## Stainless steel case

VS0

STD pressure port/no venting valve



VLO

LD pressure port/no venting valve

