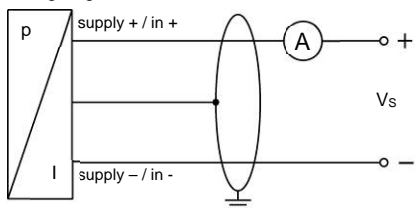


Wiring diagram:



! For devices with cable gland as well as cable socket, you have to make sure that the external diameter of the used cable is within the allowed clamping range. Moreover you have to ensure that it lies in the cable gland firmly and cleflessly!

! For the installation of a device with cable outlet following bending radiuses have to be complied with:

cable without ventilation tube:

static installation : 5-fold cable diameter

dynamic application: 10-fold cable diameter

cable with ventilation tube:

static installation : 10-fold cable diameter

dynamic application: 20-fold cable diameter

! Please note for devices with ISO 4400 plug and cable socket, that the socket has to be mounted properly to ensure the ingress protection mentioned in the data sheet. Please check if the delivered seal is placed between plug and cable socket. After connecting the cable fasten the cable socket on the device by using the screw.

! On devices with field housings, the terminal clamps are situated under the metal cap. To install the device electrically, the cap must be screwed off. Before the cover is screwed on again, the o-ring and the sealing surface on the housing have to be checked for damages and if necessary to be changed! Afterwards screw the metal cap on by hand and make sure that the field housing is firmly locked again.

! Prevent the damage or removal of the PTFE filter which is fixed over the end of the air tube on devices with cable outlet and integrated air tube.

! For a clear identification, the intrinsically safe cables are marked with light blue shrink tubing (over the cable insulation). If the cable has to be modified (e. g. shortened) and the marking at the cable end has been lost in the process, it must be restored (for example, by marking it again with light blue shrink tubing or an appropriate identification sign).

! For the electrical connection a shielded and twisted multicore cable has to be used.

! Devices with TPE-cable
 - Application in water with a temperature >70°C destroys the cable
 - Applications at media temperatures >70°C have to be clarified with BD SENSORS in advance

6. Initial start-up

! WARNING! Before start-up, the user has to check for proper installation and for any visible defects.

! WARNING! The device can be started and operated by authorized personnel only, who have read and understood the operating manual!

! WARNING! The device has to be used within the technical specifications, only! (compare the data in the data sheet and the EC type-examination certificate)

7. Placing out of service

! WARNING! Disassemble the device only in current and pressure less condition! Check before disassembly, if it is necessary to drained off the media before dismantling!

! WARNING! Depending on the medium, it may cause danger for the user. Comply therefore with adequate precautions for purification.

8. Maintenance

! The operator is obligated to observe the information concerning operation and maintenance work on the warning signs possibly affixed to the device.

In principle, this device is maintenance-free. If desired, the housing of the device can be cleaned when switched of using a damp cloth and non-aggressive cleaning solutions.

With certain media, however, the diaphragm may be polluted or coated with deposit. It is recommended to define corresponding service intervals for control. After placing the device out of service correctly, the diaphragm can usually be cleaned carefully with a non-aggressive cleaning solution and a soft brush or sponge. If the diaphragm is calcified, it is recommended to send the device to BD SENSORS for decalcification. Please read therefore the chapter "Service/Repair" below.

! An incorrect cleaning can cause irreparable damages on diaphragm. Never use spiky objects or pressured air for cleaning the diaphragm.

9. Service / Repair

9.1 Recalibration

During the life-time of a transmitter, the value of offset and span may shift. As a consequence, a deviating signal value in reference to the nominal pressure range starting point or end point may be transmitted. If one of these two phenomena occurs after prolonged use, a recalibration is recommended to ensure furthermore high accuracy.

9.2 Return

Before every return of your device, whether for recalibration, decalcification, modifications or repair, it has to be cleaned carefully and packed shatter-proofed. You have to enclose a notice of return with detailed defect description when sending the device. If your device came in contact with harmful substances, a declaration of decontamination is additionally required. Appropriate forms can be downloaded from our homepage www.bdsensors.com. Should you dispatch a device without a declaration of decontamination and if there are any doubts in our service department regarding the used medium, repair will not be started until an acceptable declaration is sent.

! If the device came in contact with hazardous substances, certain precautions have to be complied with for purification!

10. Disposal

The device has to be disposed of according to the European Directives 2002/96/EC and 2003/108/EC (on waste electrical and electronic equipment). It is prohibited to place electrical and electronic equipment in domestic refuse!



! WARNING! Depending on the measuring medium, deposit on the device may cause danger for the user and the environment. Comply with adequate precautions for purification and dispose of it properly.

11. Warranty conditions

The warranty conditions are subject to the legal warranty period of 24 months from the date of delivery. In case of improper use, modifications of or damages to the device, we do not accept warranty claims. Damaged diaphragms will also not be accepted. Furthermore, defects due to normal wear are not subject to warranty services.

12. Declaration of conformity / CE

The delivered device fulfils all legal requirements. The applied directives, harmonised standards and documents are listed in the EC declaration of conformity, which is available online at: <http://www.bdsensors.com>.

Additionally, the operational safety is confirmed by the CE sign on the manufacturing label.

13. Explanation for the certificate

To item [12] of the EC type-examination "The marking of the equipment mentioned in [4] must include one of the following details:"

Ex					
Equipment group					
Explosion protection	II				
Equipment category					
Zone 0 – Gas, vapor, mist	1G				
Zone 1 – Gas, vapor, mist	2G				
Zone 20 - Dust	1D				
Zone 21 - Dust	2D				
Designation according to EN and ignition protection type					
Intrinsically safe design	Ex ia				
Explosion group ¹					
II B		IIB			
II C		IIC			
III C		IIIC			
Temperature class					
max. environmental temperature 85 °C (1G, 2G)			T4		
max. environmental temperature 135 °C (1G, 2G)			T6		
max. surface temperature 85 °C (1D, 2D)			T 85°C		
ignition protection standard					
Ga				Ga	
Da				Da	
Gb				Gb	
Db				Db	

¹ Exact specifications regarding limiting gap width and minimum ignition current ratio can be taken from the corresponding standard or the VDE publication.

14. Error handling

Malfunction	Possible cause	Error detection / corrective
no output signal	wrong connected	inspect the connection
	line break	inspect all line connections necessary to supply the device (including the connector plugs)
	defective amperemeter (signal input)	inspect the amperemeter (fine-wire fuse) or the analogue input of the PLC
analogue output signal too low	load resistance too high	verify the value of the load resistance
	supply voltage too low	verify the output voltage of the power supply
	defective energy supply	inspect the power supply and the applied supply voltage at the device
small shift of output signal	diaphragm is highly contaminated	careful cleaning with non-aggressive cleaning solution and a soft brush or sponge; incorrect cleaning can cause irreparable damages on diaphragm or seals
	diaphragm is calcified or coated with deposit	if possible it is recommended to send the device to BD SENSORS for decalcification or cleaning
large shift of output signal	diaphragm is damaged (caused by overpressure or manually)	check the diaphragm; if it is damaged, please send the device to BD SENSORS for repair
wrong or no output signal	manually, thermal or chemically damaged cable	check the cable; a possible consequence of a damaged cable is pitting corrosion on the stainless steel housing; if you determine this please return the device to BD SENSORS for repair

If you detect an error, please try to eliminate it by using this table or send the device to our service address for repair.

! DANGER! Working on supplied (active) parts, except for intrinsically safe circuits, is principally prohibited during an explosion hazard. Additionally, the operator is obligated to observe the information concerning operation and maintenance work on the warning signs possibly affixed to the device.

! Improper action and opening can damage the device. Therefore repairs on the device may only be executed by the manufacturer!