

Operating Manual

Pressure Transmitter for Shipbuilding and Offshore Applications for IS-Areas

DX14A-DMK 456, DX14A-DMK 458, DX19-DMK 457, DX19-DMP 457



READ THOROUGHLY BEFORE USING THE DEVICE KEEP FOR FUTURE REFERENCE

ID: BA DMU Schiff Ex E | Version: 04.2023.0

1. General and safety-related information on this operating manual

This operating manual enables safe and proper handling of the product, and forms part of the device. It should be kept in close proximity to the place of use, accessible for staff members at any time.

All persons entrusted with the mounting, installation, putting into service, operation, maintenance, removal from service, and disposal of the device must have read and understood the operating manual and in particular the safety-related information

The following documents are an important part of the

operating manual:

Data sheet

- Type-examination certificate For specific data on the individual device, please refer to the

respective data sheet. Download these by accessing www.bdsensors.de or request

them: info@bdsensors.de | phone.: +49 (0) 92 35 / 98 11 0 The IS versions of our products are variants of the standard products.

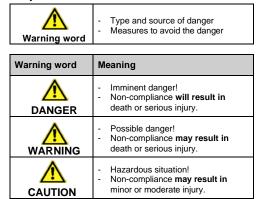
Example:

Standard: DMK 456 → Ex-Version: DX14A-DMK 456 In addition, the applicable accident prevention regulations, safety requirements, and country-specific installation standards as well as the accepted engineering standards must be observed.

For the installation, maintenance and cleaning of the device, the relevant regulations and provisions on explosion protection (VDE 0160, VDE 0165 and/or EN 60079-14) as well as the accident prevention regulations must absolutely be observed The device was designed by applying the following standards:

DX14A:	EN 60079-0:2012+A11:2013 EN 60079-11:2012				
DX19:	EN IEC 60079-0:2018				
	EN 60079-11:2012				
IECEx IBE 12.0027X:					
	IEC 60079-0: 2011 Edition 6				
	IEC 60079-11: 2011 Edition 6				

1.1 Symbols used



NOTE - draws attention to a possibly hazardous situation that may result in property damage in case of non-compliance.

Precondition of an action

1.2 Staff gualification

Qualified persons are persons that are familiar with the mounting, installation, putting into service, operation, maintenance, removal from service, and disposal of the product and have the appropriate qualification for their activity.

This includes persons that meet at least one of the following

APPLIED MEASUREMENTS LTD.

Transducer Specialists...

Preferred areas of usage for DMP 457 are diesel engines. gears, compressors, pumps, boilers, hydraulic and pneumatic controls as well as elevators. The pressure transmitters DMK 456, DMK 457, DMK 458 and DMP 457 are certificated by Det Norske Veritas (DNV) as standard. The certificates are available for download on our homepage: www.bdsensors.de

This operating manual applies to devices with explosion Protection approval and is intended for the use in IS-areas A device has an explosion-protection approval if this was specified in the purchase order and confirmed in our order acknowledgement. In addition, the manufacturing label includes a 🖾 sign.

The user must check whether the device is suited for the selected use. In case of doubt, please contact our sales department: info@bdsensors.de | phone: +49 (0) 92 35 98 11 0 BD|SENSORS assumes no liability for any wrong selection and the consequences thereof!

Permissible media are gases or liquids, which are compatible with the media wetted parts described in the data sheet. The technical data listed in the current data sheet are engaging

and must absolutely be complied with. If the data sheet is no available, please order or download it from our homepage: http://www.bdsensors.de

> Danger through incorrect use In order to avoid accidents, use the device only in accordance with its intended use

1.4 Limitation of liability and warranty

Failure to observe the instructions or technical regulations, improper use and use not as intended, and alteration of or damage to the device will result in the forfeiture of warranty and liability claims

1.5 Safe handling

<u>/</u>?

WARNING

02023

 $\ensuremath{\textbf{NOTE}}$ - Do not use any force when installing the device to prevent damage of the device and the plant!

NOTE - Treat the device with care both in the packed and unpacked condition!

- NOTE The device must not be altered or modified in any way.
- NOTE Do not throw or drop the device! NOTE - Excessive dust accumulation (over 5 mm) and
- complete coverage with dust must be preven

NOTE - The device is state-of-the-art and is operationally reliable. Residual hazards may originate from the device if it is used or operated improperly.

1.6 Safety-related maximum values

supply and signal circuit:

- DX14A-DMK 456; DX14A-DMK 458 with field housing: U_i = 28 V; I_i = 93 mA; P_i = 660 mW; C_i = 52.3 nF; $L_i = 0 \ \mu H; \ C_i = 90.2 \ nF$
- DX14A-DMK 458 with ISO 4400, M12x1, cable outlet: $\begin{array}{l} U_i = 28 \; V; \; I_i = 93 \; mA; \; P_i = 660 \; mW; \; C_i = 105 \; nF; \\ L_i = 0 \; \mu H; \; C_i = 140 \; nF; \end{array}$
- plus cable inductivities 1 μ H/m and cable capacities 160 pF/m (for cable by factory)
- DX19-DMK 457 DX19-DMP 457 $U_i = 28 \text{ V}$. $I_i = 93 \text{ mA}$, $P_i = 660 \text{ mW}$, $L_i \approx 0 \mu \text{H}$ with field housing: (i = 105 nF, C_{IGND} = 140 nF with cable outlet: C_i = 84.7 nF, C_{IGND} = 90 nF with ISO 4400: C_i = 62.2 nF, C_{IGND} = 90 nF;

plus cable inductivities 1 µH/m and

cable capacities 160 pF/m (for cable by factory) permissible temperatures for environment:

DX14A-DMK 456: -20 ... 60 °C

DX14A-DMK 458: in zone 0 (patm 0.8 up to 1.1 bar): -20 ... 60 °C

- in zone 1 or higher: -25 ... 70 °C DX19-DMK 457, DX19-DMP 457: in zone 0 (p_{atm} 0.8 up to 1.1 bar): $\ -20 \ ... \ 60 \ ^\circ C$
- -40/-20 ... 70 °C in zone 1 or higher:

1.7 Scope of delivery

Check that all parts listed in the scope of delivery are included free of damage, and have been delivered according to your purchase order:

pressure transmitter

- for mechanical pressure ports DIN 3852: O-ring (pre-mounted) - this operating manual

2. Product identification

The device can be identified by means of the manufacturing label with order code. The most important data can be gathered therefrom.

Type design	ation Order	ing coo	de Ser	ial nui	mber
BD S		9519	Sensors-Str. 1 99 Thierstein, 0 bdsensors.de	Sermany	2012
DX19-DMP 457	600-1602-E-3-G01-300-1-	000		SN: 10	866334
Input: 016 bar gas Output: 420 mA/2-v Supply: 1028 VDC		Connecto Vs+: 1 Vs -: 2	<u>r Pinout:</u> Shield: च	ŀ	0637
	668 X IECEx IBE 12.0027X Ga II 1D Ex ia IIIC T135°C Da		C; li: 93 mA; Pi: 0 F; Li: 0 µH; Cgno		2020
	T.		Ţ		
	nination certificate osion marking	no.,	Safety t maximu		

appmeas.co.uk | info@appmeas.co.uk | +44 (0) 118 981 7339 $\ensuremath{\textbf{NOTE}}$ - When installing the device, avoid high mechanical

stresses on the pressure port! This will result in a shift of the characteristic curve or to damage, in particular in case of very small pressure ranges

NOTE - In hydraulic systems, position the device in such a way that the pressure port points upward (ventilation).

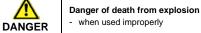
NOTE - Do not remove the packaging or protective caps of the device until shortly before the mounting procedure, in order to exclude any damage to the diaphragm and the threads! Protective caps must be kept! Dispose of the packaging properly!

NOTE - The permissible tightening torque depends on the conditions on site (material and geometry of the mounting point). The specified tightening torques for the pressure transmitte must not be exceeded!

NOTES - for mounting outdoors or in a moist environment:

- Please note that your application does not show a dew point, which causes condensation and can damage the pressure transmitter. There are specially protected pressure transmitters for these operating conditions. Please contact us in such case.
- Connect the device electrically straightaway after mounting or prevent moisture penetration, e.g. by a suitable protective cap. (The ingress protection specified in the data sheet applies to the connected device.)
- Select the mounting position such that splashed and condensed water can drain off. Stationary liquid on sealing surfaces must be excluded!
- If the device has a cable outlet, the outgoing cable must be routed downwards. If the cable needs to be routed upwards, this must be done in an initially downward curve.
- Mount the device such that it is protected from direct solar radiation. In the most unfavourable case, direct solar radiation leads to the exceeding of the permissible operating temperature. This must be excluded if the device is used in any explosion-hazardous area!
- For devices with gauge reference in the housing (small hole next to the electrical connection), install the device in such a way, that the gauge reference is protected from dirt and moisture. Should the device be exposed to fluid admission, the functionality will be blocked by the gauge reference. An exact measurement in this condition is not possible Furthermore, this can lead to damages on the device

3.2 Conditions for oxygen applications



Make sure that your device was ordered for oxygen applications and delivered accordingly. (see manufacturing label - ordering code ends with the numbers "007")

Unpack the device directly prior to the installation. Skin contact during unpacking and installation must be avoided to prevent fatty residues remaining on the device.

Wear safety gloves! The entire system must meet the requirements of BAM (DIN 19247)

For oxygen applications > 25 bar, devices without seals are recommended.

Transmitters with o-rings of FKM (Vi 567):

nissible maximum values: 25 bar / 150° C (BAM approval)

3.3 Mounting steps for connections according to DIN 3852

NOTE - Do not use any additional sealing material such as yarn, hemp or Teflon tape!

- The O-ring is undamaged and seated in the designated groove.
- The sealing face of the mating component has a flawless surface. (Rz 3.2)
- Screw the device into the corresponding thread by hand.
- Then tighten it using an open-end wrench. Permissible 2
- tightening torques for pressure transmitter: G1/2": approx. 10 Nm G1/4": approx. 5 Nm G3/4": approx. 15 Nm G1 1/2": approx. 25 Nm G1": approx. 20 Nm

3.4 Mounting steps for connections according to EN 837

- A suitable seal for the medium and the pressure to be measured is available. (e.g. a copper seal)
- The sealing face of the mating component has a flawless surface. (Rz 6.3)
- Screw the device into the corresponding thread by hand. Then tighten it using an open-end wrench. Permissible 2 tightening torques for pressure transmitter
- G1/4": approx. 20 Nm G1/2": approx. 50 Nm **NOTE** – note the permitted pressure according to EN 837.

3.5 Mounting steps for NPT connections

3.6 Mounting steps for flange connections

1/4" NPT: approx. 30 Nm

- Suitable fluid-compatible sealing material, e.g. PTFE tape, is available.
- Screw the device into the corresponding thread by hand
- 2 Then tighten it using an open-end wrench. Permissible tightening torques for pressure transmitte 1/2" NPT: approx 70 Nm

three requirem

- They know the safety concepts of metrology and automation technology and are familiar therewith as project staff.
- They are operating staff of the measuring and automation systems and have been instructed in the handling of the systems. They are familiar with the operation of the devices and technologies described in this documentation.
- They are commissioning specialists or are employed in the service department and have completed training that qualifies them for the repair of the system. In addition, they are authorized to put into operation, to ground, and to mark circuits and devices according to the safety engineering standards.

All work with this product must be carried out by gualified persons!

1.3 Intended use

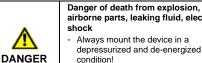
The devices are used to convert the physical parameter of pressure into an electric signal.

Pressure transmitters DMK 456 DMK 457 DMK 458 and DMP 457 have been designed for typical applications in shipbuilding and offshore constructions. They are suitable for measuring tasks with fluids and gases. Typical applications of DMK 456 and DMK 458 are pressure monitoring for loading and discharge processes as well as level measurement for ballast and product storage tanks. Preferred areas of usage for DMK 457 are gears, compressors, boilers, pneumatic controls, elevators, oxygen applications and e.g. level measurement into ballast tanks, etc. With mechanical versions G1/2" open port or G1/2" flush DIN 3852 the DMK 457 is especially suited for viscous, pasty or contaminated media due to the easily reachable ceramic diaphragm.

Fig. 1: Example of manufacturing label

3. Mounting

3.1 Mounting and safety instructions



airborne parts, leaking fluid, electric

 Always mount the device in a depressurized and de-energized condition!

Do not install the device while there is a risk of explosion

NOTE - The technical data listed in the EU-type examination certificate are binding. Download this by accessing www.bdsensors.de or request it by e-mail or phone: info@bdsensors.de | phone: +49 (0) 92 35 98 11 0

NOTE - Make sure that the entire interconnection of intrinsically safe components remains intrinsically safe. The owner-operator is responsible for the intrinsic safety of the overall system (entire circuitry).

NOTE - If there is increased risk of damage to the device by lightning strike or overvoltage, increased lightning protection must additionally be provided!

NOTE - Treat any unprotected diaphragm with utmost care; this can be damaged very easily.

NOTE - Provide a cooling line when using the device in steam piping

(e.g. a fiber seal)

1

- Put the seal between connecting flange and counter flange.
- Install the device with 4 resp. 8 screws (depending on 2 flange version) on the counter flange

A suitable fluid-compatible sealing is available

4. Electrical connection

DANGER

4.1 Connection and safety instructions

Danger of death from electric shock or explosion

- Explosion hazard if the operating voltage is too high (max. 28 V_{DC}) or by opening the field housing while an explosion hazard exists.
- Always mount the device in a depressurized and de-energized condition!
- Do not install the device while there is a risk of explosion.
- Operate the device only within the specification! (data sheet)
- The limit values listed in the EU-type examination certificate are observed. (Capacity and inductance of the connection cable are not included in the values.)
- The supply corresponds to protection class III (protective insulation

NOTE - Use a shielded and twisted multicore cable for the ctrical connection

The minimum supply voltage V_{S min} of the transmitter must not fall short since a correct function of the device can otherwise not be guaranteed. The minimum supply voltage has been defined in the respective product-specific data sheet under "Output signal / supply'

NOTE - for devices with plug ISO 4400 or field housing:

cable is within the permissible clamping range:

field housing

using the screw.

It must be ensured that the external diameter of the used

cable socket ISO 4400 - code G00: Ø 10 ... 14 mm

Ensure that the cable lies in the cable gland firmly and cleftlessly!

NOTE - On devices with field housing, the terminal clamps

electrically, the cap must be screwed off. Before the cap 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

NOTE - When devices with ISO 4400 connector are used, the

protection specified in the data sheet is ensured! Ensure that the

When routing the cable, as bending radiuses has to be

Route the end of the cable into an area or suitable

In case of devices with cable outlet and integrated ventilation tube, the PTFE filter located at the cable end on

the ventilation tube must neither be damaged nor removed!

connection box which is as dry as possible and free from aggressive gases, in order to prevent any damage.

For a clear identification, the intrinsically safe cables are

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).

Danger generated by electrostatic charging

marked with light blue shrink tubing (over the cable insulation). If the cable has to be modified (e. g. shortened)

Danger of death from explosion

of plastic components.

example

If the pressure transmitter is used as electrical equipment of

category 1 G, then a suitable overvoltage protection device must be connected in series (attend the valid regulations for operating

The operation of an intrinsically safe transmitter in intrinsic safe

barrier or transmitter repeater devices to allow the utilization of

the device's properties to the full extent. The following diagram

transmitter $_{+V_S}$ Zener barrier $_{+V_S}$

shows a typical arrangement of power supply, Zener barrier and

shielded cable

NOTE - Observe item (17) of the type-examination certificate

which specifies special conditions for intrinsically safe operation.

The supply voltage of e.g. 24 $V_{\rm DC}$ provided by the power supply is led across the Zener barrier. The Zener barrier contains series

resistances and breakdown diodes as protective components. Subsequently, the operating voltage is applied to the transmitter

power supply.

Functional selection criteria for Zener barriers and

Danger of death from explosion

Operation of intrinsically safe devices

as zone-0 equipment only with ungrounded and galvanically isolated

and, depending on the pressure, a particular signal current

amplifier

areas requires special care when selecting the necessary Zener

Explosion hazard due to spark formation from electrostatic charging

For devices with cable, the cable must

applicable, the connection cable, in a

power supply

24 V DC

_ **⊢** 230 VA

supply

-Vs

secure area

be installed tightly. Generally, a

shielded cable must be used.

Do not clean the device and if

dry state! Use a moist cloth, for

delivered seal is placed between plug and cable socket. After

connecting the cable, fasten the cable socket on the device by

cable socket must be properly mounted so that the ingress

are situated under the metal cap. To install the device

sure that the field housing is firmly locked again.

NOTE - for devices with cable outlet:

4.2 Conditions for the IS-area

∕!∖

DANGER

Overvoltage protection

safety as well as EN60079-14).

1

IS-area

transmitter

Exemplary circuit description

Fig. 2 circuit diagrams

DANGER

galvanic power supply

flows

4...20m

Schematic circuit

transmitter

complied the 10-fold cable diameter.

code G01: Ø 4.5 ... 11 mm code G10: Ø 4 ... 6 mm

code 880: Ø 5 ... 14 mm

When using a galvanically insulated amplifier with linear bonding, note that the terminal voltage of the transmitter will decrease like it does with a Zener barrier. Furthermore, you have to note that the supply will additionally decrease with an optionally used signal amplifier.

Test criteria for the selection of the Zener barrier

In order not to fall below $V_{S \min}$, it is important to verify which minimum supply voltage is available at full level control of the transmitter. The full level control, i.e. a maximum or nominal output signal (20 mA), can be reached by applying the maximum physical input signal (pressure).

The technical data of the barrier will usually provide the information needed for the selection of the Zener barrier However, the value can also be calculated. If a maximum signal current of 0.02 A is assumed, then – according to Ohm's law – a particular voltage drop will result from the series resistance of the Zener barrier

This voltage drop is subtracted by the voltage of the power supply and as a result, the terminal voltage is obtained which is applied on the transmitter at full level control. If this voltage is smaller than the minimum supply voltage, another barrier or a higher supply voltage should be chosen.

 $\ensuremath{\textbf{NOTE}}$ - When selecting the ballasts, the maximum operating conditions according to the EU-type examination certificate must be observed. When assessing these, refer to their current data sheets to ensure that the entire interconnection of intrinsically safe components remains intrinsically safe.

Calculation example for the selection of the Zener barrier

The nominal voltage of the power supply in front of the Zener barrier is 24 $V_{\rm DC}$ ± 5 %. This results in:

maximum supply voltage:

 $V_{Sup max} = 24 \text{ V} * 1.05 = 25.2 \text{ V}$

- minimum supply voltage

 $V_{Sup min} = 24 V * 0.95 = 22.8 V$

The series resistance of the Zener barrier is listed with 295 ohm. The following values must still be calculated:

- voltage drop at the barrier (with full conduction): $V_{ab \text{ barrier}} = 295 \ \Omega * 0.02 \ A = 5.9 \ V$

- terminal voltage at the transmitter with Zener barrier. V_{KI} = V_{S up min} - V_{ab Barriere} = 22.8 V - 5.9 V = 16.9 V

- minimum supply voltage of the transmitter (according to data sheet):

 $V_{KI min} = 12 V_{DC}$ (corresponding to $V_{S min}$) Condition:

 $V_{Kl} \ge V_{Kl \min}$

Result:

The terminal voltage of the transmitter with Zener barrier lies at 16.9 V and is therefore higher than the minimum supply voltage of the transmitter which lies at 12 V_{DC}. This means, the Zener barrier has been selected correctly regarding the supply voltage.

NOTE - Note that no line resistances have been listed in this calculation. However, these will lead to an additional voltage drop that must be considered.

4.3 Electrical installation

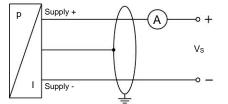
Establish the electrical connection of the device according to the technical data shown on the manufacturing label, the following table and the wiring diagram.

Pin configuration:

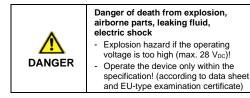
Electrical connection	ISO 4400		M12x1 (4-wire)	
Supply + Supply –	1 2		1 2	
Shield	ground contact	Ð	4	

Electrical connection	field housing	cable colours (IEC 60757)
Supply + Supply –	VS + VS -	WH (white) BN (brown)
Shield	GND	GNYE (vellow-green)

Wiring diagram



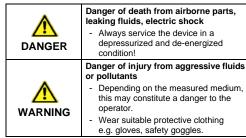
5. Commissioning



The device has been installed properly

The device does not have any visible defect.

6. Maintenance



If necessary, clean the housing of the device using a moist cloth and a non-aggressive cleaning solution.

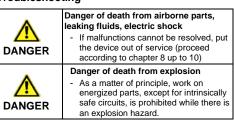
The cleaning medium for the media wetted parts (pressure port/ diaphragm/seal) may be gases or liquids which are compatible with the selected materials. Also observe the permissible temperature range according to the data sheet

Deposits or contamination may occur on the diaphragm/ pressure port in case of certain media. Depending on the quality of the process, suitable maintenance intervals must be specified by the operator. As part of this, regular checks must be carried out regarding corrosion, damage to the diaphragm and signal

If the diaphragm is calcified, it is recommended to send the device to BD SENSORS for decalcification. Please note the chapter "Service/Repair" below.

NOTE - Wrong cleaning or improper touch may cause an

7. Troubleshooting



In case of malfunction, it must be checked whether the device has been correctly installed mechanically and electrically. Use the following table to analyse the cause and resolve the malfunction, if possible.

Fault: no output sig	nal	-		
Possible cause		Fault detection / remedy		
Connected incorrectly		Checking of connections		
Conductor/wire breakage		Checking of all line		
		connections.		
Defective measuring	g device	Checking of ammeter		
(signal input)		(miniature fuse) or of analogue		
		input of your signal processing		
		unit		
Fault: analogue out	put signal to	wol oc		
Possible cause		Fault detection / remedy		
Load resistance too	high	Checking of load resistance		
<u>-</u>		(value)		
Supply voltage too I	ow	Checking of power supply		
		output voltage		
Defective energy su	pply	Checking of the power supply		
		and the supply voltage being		
		applied to the device		
Fault: slight shift of	the output s	signal		
Possible cause		Fault detection / remedy		
Diaphragm of senor	is	Checking of diaphragm; if		
severely contaminated,		necessary, contact		
calcified or crusted		BDISENSORS		
Fault: large shift of	the output s	ignal		
Possible cause		Fault detection / remedy		
Diaphragm of sense	or is	Checking of diaphragm; when		
damaged (caused by		damaged, contact		
overpressure or me		BDISENSORS		
Fault: wrong or no o Possible cause	Julput signa	Fault detection / remedy		
Cable damaged me	chanically			
thermally or chemic		Checking of cable; pitting corrosion on the housing as a		
mennally of cheffild	any	result of damage on cable;		
		when damaged, contact		
		BDISENSORS		
IRDÍSENSOKS				
8. Removal fror	n service			
Danger of death from airborne parts,				
	•	uids, electric shock		
<u>~-</u>		emble the device in a		
DANGER depressurized and de-energized				
	conditio	on!		
	Danger of	f injury from aggressive		
modio or pollutorito				

- Depending on the measured medium, this may constitute a danger to the operator. WARNING Wear suitable protective clothing e.g. gloves, goggles

media or pollutants

NOTE - After dismounting, mechanical connections must be fitted with protective caps

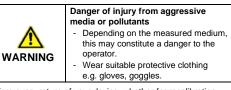
9. Service / repair

Information on service / repair:

- www.bdsensors.de
- info@bdsensors.de Service phone: +49 (0) 92 35 98 11 0
- 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. Download these by accessing www.bdsensors.de or request

info@bdsensors.de | phone: +49 (0) 92 35 / 98 11 0

In case of doubt regarding the fluid used, devices without a declaration of decontamination will only be examined after receipt of an appropriate declaration!

11. Warranty terms

The warranty terms are subject to the legal warranty period of 24 months, valid from the date of delivery. If the device is used improperly, modified or damaged, we will rule out any warranty claim. A damaged diaphragm will not be accepted as a warranty case. Likewise, there shall be no entitlement to services or parts provided under warranty if the defects have arisen due to normal wear and tear.

12. EU 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.de.

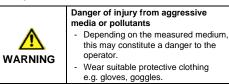
Additionally, the operational safety is confirmed by the CE sign on the manufacturing label.

DX14A-DMK 456; DX14A-DMK 458:



pointed objects or pressured air for cleaning the diaphragm.





The device must be disposed of according to the European Directive 2012/19/EU (waste electrical and electronic equipment). Waste equipment must not be disposed of in household waste!



NOTE - Dispose of the device properly!

In Erfüllung der Druckgeräterichtlinie 2014/68/EU und als Ergebnis des darin geforderten Konformitätsbewertungsverfahren

wird folgendes Modul gewählt: In conformance to the Pressure Equipment Directive **2014/68/EU** and as result of therein demanded conformity assessm following module has been chosen:

Für Geräte mit maximal zulässigem Überdruck > 200 bar: for devices with maximum permissible overpressure > 200 bar:

Bewertungsverfahren Modul A assessment procedure Module

rstein, 2020-07-03

D. Sanvenero

Leiter Konstruktion/ Mechanical Design Manage

Marti

Leiter Elektronikentwicklung Electronics Design Manage

APPLIED MEASUREMENTS LTD. Transducer Specialists...

appmeas.co.uk | info@appmeas.co.uk | +44 (0) 118 981 7339