IDA Series
Pressure transducers for industrial applications

ISO 9001
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1. **General**

1.1 **Important information**

This manual applies to the IDA series only. It must be kept near the equipment in a readily and immediately accessible location at all times.

The content of this manual must be read, understood and followed in all points by all relevant people. This applies in particular to the notes on safety. Following the safety instructions will help to prevent accidents, defects and malfunctions.

**DYNISCO** will not be held liable for any injury, loss or damage resulting from failure to follow the instructions in this manual.

If malfunctions occur in spite of having followed the operating instructions, please contact the **DYNISCO** customer service department (see chapter 8, Maintenance).

This applies in particular during the warranty period.

1.2 **Copyright**

Copyright law requires that this manual be used for in-house purposes only.

All reproduction, even partially and for in-house purposes, requires the approval of **DYNISCO**. This manual may not be forwarded to third parties.
1.3 Explanation of icons

The manual uses icons to indicate information pertaining to safety:

- **ATTENTION** Risk of destruction or damage to equipment, machines or installations
- ! General danger to life or limb

The safety instructions are provided again in the individual chapters of the manual.

1.4 Abbreviations

The following abbreviations are used:

- **OM** operating manual
- **PT** pressure transducer
- **f.s.** of full scale

1.5 Correct use

The purpose of the IDA pressure transducer is to measure pressure in industrial applications as part of a larger overall system.

Type specific installation of the PT with:

- Internal thread ISO 228/1 - G¼ (IDA 33x)
- Screw-in trunnion with external thread DIN 3852-A G¼A (IDA 35x)
- Thread M18 x 1.5 (IDA 37x)

The safety and accident prevention regulations specific to the application must be followed.

**When using the PT as a safety component in accordance with the EC Machine Directive, Annex IIc, the equipment manufacturer must take any necessary precautions to ensure that malfunctions of the PT cannot cause damage or injury.**

1.6 User’s obligations

The operator or owner of the larger overall system, e.g. a machine, is responsible for following the safety and accident prevention regulations that apply to the specific application.
2. Notes on safety

The operator or owner of the larger overall system is responsible for following the safety and accident prevention regulations that apply to the specific application.

When planning machinery and using the PT, follow the safety and accident prevention regulations that apply to your application, e.g.:

- EN 60204, Electrical equipment in machines.
- EN 292, Machine safety, general design guidelines.
- DIN 57 100 Part 410, Protection against electric shock.

Mounting and electrical connection of the PT must be done by authorised specialists with EMC training only, following all applicable regulations, and in pressure-less, voltage-free condition with the machine switched off.

The machine must be secured against being switched back on!
3. Technical Data

3.1 Ordering guide

IDA 3xx - xx - Option

Pressure range
Output signal
Pressure port

The exact meanings of the letter/digit combinations are given in the corresponding sections of chapter 3.

3.2 Ordering example

IDA 354 - 5C - 5V

Industrial pressure transducer
Press. port: 5 = External thread DIN 3852-A G 1/4A
Output signal:
4 = 4-wire Volt
Press. range: 0 - 500 bar with 3-/4-wire specify output voltage
3.3 Performance characteristics (IDA3xx-xx)

3.3.1 Accuracy
(Linearity and hysteresis at T = constant)
IDA33x / IDA35x ±0.3% typ., ±0.5% of full scale
IDA37x ±0.75% typ., ±1% of full scale

3.3.2 Repeatability
± 0.1 % of full scale pressure

3.3.3 Resolution
infinite

3.4 Pressure side connection (IDA3XX-xx)
IDA33x Internal thread ISO228/1-G¼
IDA33x Screw-in trunnion with external thread DIN 3852-A G¼A
IDA37x Screw-in trunnion with external thread M18 x 1.5
flush diaphragm

3.5 Pressure ranges (IDA3xx-XX)

3.5.1 Pressure ranges in bar

<table>
<thead>
<tr>
<th>Model number</th>
<th>Permitted pressure range bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDA3xx-20</td>
<td>0 - 20 series 37x only</td>
</tr>
<tr>
<td>IDA3xx-35</td>
<td>0 - 35 series 37x only</td>
</tr>
<tr>
<td>IDA3xx-50</td>
<td>0 - 50</td>
</tr>
<tr>
<td>IDA3xx-1C</td>
<td>0 - 100</td>
</tr>
<tr>
<td>IDA3xx-1,5C</td>
<td>0 - 150</td>
</tr>
<tr>
<td>IDA3xx-2C</td>
<td>0 - 200</td>
</tr>
<tr>
<td>IDA3xx-3,5C</td>
<td>0 - 350</td>
</tr>
<tr>
<td>IDA3xx-5C</td>
<td>0 - 500</td>
</tr>
<tr>
<td>IDA3xx-7C</td>
<td>0 - 700</td>
</tr>
<tr>
<td>IDA3xx-1M</td>
<td>0 - 1000</td>
</tr>
</tbody>
</table>

Other pressure ranges on request

3.5.2 Max. Overload (without influencing operating data)

2 x full scale pressure up to 700 bar
Max. 1500 bar for the 1000 bar range
3.5.3 Burst pressure

- 4 x full scale pressure
- 3 x full scale pressure for the 20 bar and 1000 bar range

3.5.4 Limit frequency (not IDA3x0)

<table>
<thead>
<tr>
<th>Model</th>
<th>Limit Frequency [-3dB]</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDA3x2 / IDA3x4</td>
<td>1.5 kHz</td>
</tr>
<tr>
<td>IDA3x3</td>
<td>0.8 kHz</td>
</tr>
</tbody>
</table>

3.5.5 Rise time (only IDA3x0)

<table>
<thead>
<tr>
<th>Model</th>
<th>Rise Time [µs max.]</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDA330 / IDA350</td>
<td>300 µs max.</td>
</tr>
<tr>
<td>IDA370</td>
<td>30 µs max.</td>
</tr>
</tbody>
</table>

3.6 Electrical data (IDA3xX-xx)

**Configuration**

- 4-arm Wheatstone bridge strain gauge

**Bridge resistance**

- IDA33x/IDA35x, 350 Ω ±1 %
- IDA37x, 350 Ω ±10 %

**Output signal**

<table>
<thead>
<tr>
<th>Model</th>
<th>Signal Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDA3x0</td>
<td>4-arm Wheatstone bridge strain gauge without amplifier at 20 bar &gt;2.2 mV/V from 35 bar &gt;2.9 mV/V (EMC: connecting cables defined as data lines)</td>
</tr>
<tr>
<td>IDA3x2</td>
<td>2-wire mA with amplifier (R&lt;sub&gt;L&lt;/sub&gt; &lt; (38.2 x U&lt;sub&gt;8&lt;/sub&gt; - 380) Ω) if R&lt;sub&gt;L&lt;/sub&gt; &lt; 536.8 Ω then U&lt;sub&gt;8&lt;/sub&gt; = 24 V (EMC: connecting cables defined as data lines)</td>
</tr>
<tr>
<td>IDA3x3</td>
<td>3-wire Volt with amplifier (R&lt;sub&gt;L&lt;/sub&gt; &gt;5 kΩ) if 0 - 5 VDC (R&lt;sub&gt;L&lt;/sub&gt; &gt;10 kΩ) or 0 - 10 VDC (R&lt;sub&gt;L&lt;/sub&gt; &gt;10 kΩ) or 1 - 6 VDC (R&lt;sub&gt;L&lt;/sub&gt; &gt;10 kΩ) or 1 - 11 VDC (R&lt;sub&gt;L&lt;/sub&gt; &gt;10 kΩ)</td>
</tr>
<tr>
<td>IDA3x4</td>
<td>4-wire Volt with amplifier (R&lt;sub&gt;L&lt;/sub&gt; &gt;5 kΩ) if 0 - 5 VDC (R&lt;sub&gt;L&lt;/sub&gt; &gt;10 kΩ) or 0 - 10 VDC (R&lt;sub&gt;L&lt;/sub&gt; &gt;10 kΩ)</td>
</tr>
</tbody>
</table>

**Supply voltage**

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDA3x0</td>
<td>10 VDC (recommended)</td>
</tr>
<tr>
<td></td>
<td>min. 6 VDC, max. 12 VDC</td>
</tr>
<tr>
<td>IDA3x2</td>
<td>10 - 36 VDC</td>
</tr>
<tr>
<td>IDA3x3</td>
<td>15 - 32 VDC (U&lt;sub&gt;A&lt;/sub&gt; 0 - 10 V)</td>
</tr>
<tr>
<td></td>
<td>10 - 32 VDC (U&lt;sub&gt;A&lt;/sub&gt; 0 - 5 V)</td>
</tr>
</tbody>
</table>
IDA3x4
4 - wire Volt (unipolar) 19 - 32 VDC
4 - wire Volt (bipolar) ±13 to ±16 VDC (U_a 0 - 10 V)
±10 to ±16 VDC (U_a 0 - 5 V)
Calibration function 80 % ± 0.5 % of full scale
(room temperature) output by externally connecting contacts 5 and 6
Zero point (only IDA3x0)
IDA330 / IDA350 ± 1 %
IDA370 ± 2 %
Zero balance (not IDA3x0)
± 5 %, min. - 2 % / + 5 % of full scale with 2-wire
Range balance (not IDA3x0)
± 5 % of full scale
Leakage resistance > 1000 MΩ at 50 V

3.7 Temperature influence

Storage temperature
IDA3x2 / IDA3x3 / IDA3x4 - 45°C to + 120°C
IDA3x0 - 55°C to +120°C
(medium temperature)

Operating temperature
IDA3x2 / IDA3x3 / IDA3x4 - 25°C to + 85°C
IDA3x0 - 40°C to +120°C
(medium temperature)

Compensated temperature range
IDA3x2 / IDA3x3 / IDA3x4 0°C to + 70°C
IDA3x0 - 40°C to +120°C
(medium temperature)

Zero shift due to temperature change
IDA33x / IDA35x ± 0.1 % f.s. / 10 °C typ.
IDA37x ± 0.4 % f.s. / 10 °C typ.

Sensitivity shift due to temperature change
IDA33x / IDA35x ± 0.2 % f.s. / 10 °C typ.
IDA37x ± 0.4 % f.s. / 10 °C typ.
3.8 **EMC requirements**

Conforming to CE in accordance with EMC directive.

- **Emitted interference**
  - DIN EN 50081-1 (residential area)
- **Immunity**
  - DIN EN 50082-2 (industrial area)

3.9 **Materials**

- **In contact with medium**: 15-5PH Mat.No. 1.4545

3.10 **Max. Mounting torque**

- 22 Nm

3.11 **Environmental protection to IEC 529**

- **Pressure transducer**
  - IP54 (without connector)
- **Standard female cable connector DIN**
  - IP40
- **Female cable connector option D06**
  - IP65
- **Cable connection option D05**
  - IP67

3.12 **Weight**

- 0.25 kg

3.13 **Seal**

- **Data of the standard seal:**
  - **Appropriate media**: Mineral oil, water, air, oil-water-emulsions
  - **Temperature range**: -35°C to +120°C according to elastomer quality
  - **Operating pressure**: When fitted in a recess up to 1000 bar. Without recess and outside Ø of seal < 40 mm up to 400 bar
3.14 Dimensions

Fig. 01: IDA330

Fig. 02: IDA350

Fig. 03: IDA370

<table>
<thead>
<tr>
<th></th>
<th>20 bar</th>
<th>35 bar</th>
<th>50 bar</th>
<th>100 bar</th>
<th>150 bar</th>
<th>200 bar</th>
<th>350 bar</th>
<th>500 bar</th>
<th>700 bar</th>
<th>1000 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>12.55±0.305</td>
<td>12.61±0.305</td>
<td>12.78±0.305</td>
<td>12.95±0.313</td>
<td>13.12±0.313</td>
<td>13.225±0.313</td>
<td>13.515±0.313</td>
<td>13.75±0.313</td>
<td>13.95±0.313</td>
<td>14.29±0.313</td>
</tr>
</tbody>
</table>
Fig. 04: IDA332 / IDA333 / IDA334

Fig. 05: IDA352 / IDA353 / IDA354

Fig. 06: IDA372 / IDA373 / IDA374

<table>
<thead>
<tr>
<th>Pressure</th>
<th>20 bar</th>
<th>35 bar</th>
<th>50 bar</th>
<th>100 bar</th>
<th>150 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>12.55 ±0.305</td>
<td>12.61 ±0.305</td>
<td>12.78 ±0.305</td>
<td>12.95 ±0.313</td>
<td>13.12 ±0.313</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pressure</th>
<th>200 bar</th>
<th>350 bar</th>
<th>500 bar</th>
<th>700 bar</th>
<th>1000 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>13.225 ±0.313</td>
<td>13.515 ±0.313</td>
<td>13.75 ±0.313</td>
<td>13.95 ±0.313</td>
<td>14.29 ±0.313</td>
</tr>
</tbody>
</table>
4. **Function**

4.1 Construction

The PTs of series IDA are industry standard.

The most important advantages are:

- manufactured under ISO 9001
- thermal stability
- insensitivity to pressure peaks
- insensitivity to electromagnetic radiation (EMC)
- fully welded housing
- potted electronics
- maximum pressure 1000 bar

4.2 Description of functions

Through a diaphragm, the PT furnishes an electrical signal that is proportional to the pressure of the medium.

The pressure applied by the medium is forwarded to the measuring diaphragm. The deflection of the measuring diaphragm changes the resistance of the strain gauge bonded to the measuring diaphragm. The strain gauge is a Wheatstone bridge.

Dependent on the PT model, an electric signal proportional to the pressure is generated via the supply voltage or the amplifier.
Fig. 07: Functioning principle of the PT of the IDA series
5. **Transport / delivery**

5.1 **Transport / packing / transport damage**
- Do not let the PT be damaged by other items during transit.
- Use only the original packaging.
- Report transport damage to DYNISCO immediately in writing.

5.2 **Storage**
- Store the PT in original packaging only.
- Protect against dust and moisture.

5.3 **Scope of delivery**
- PT with diaphragm protection cap
- Seal
- Cable socket
- Calibration sheet
- Operating manual

**ATTENTION** ESD sensitive component. Electrostatic discharge may damage the PT. Take ESD precautions.
6. Installation

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**ATTENTION** Ambient temperature for the housing max. +85°C. Higher temperatures can result in damage and malfunctions. Mount the PT only in locations where these temperatures are not exceeded.

6.1 Screw-in trunnion / Mounting hole

- Make screw-in trunnion / mounting hole as shown in figure 08 / 09 and 10.

Fig. 08: Screw-in trunnion for PT IDA33x with internal thread according to ISO 228/1 - G¼
Fig. 09: Mounting hole form X for PT IDA 35x with screw-in trunnion according to DIN 3852-A G¼A

1) The recess is not necessary when no seal is used and the contact area is plain and rectangular to the axis of the thread.
2) Thread counterbored to outside diameter.

Fig. 10: Mounting hole for PT IDA 37x with screw-in trunnion M18 x 1.5

1) The recess is not necessary when no seal is used and the contact area is plain and rectangular to the axis of the thread.
2) Thread counterbored to outside diameter.
When reworking the screw-in trunnion / mounting hole, pay particular attention to the centricity of:
- the hole,
- the thread and
- the sealing surface.

Pressure sealing with the standard seal takes place on the sealing surface and on the front cylindrical section of the PT (see figures 07).

The sealing surface must be:
- correctly machined
- free from marks and rough edges

6.2 Mounting the Pressure Transducer

Mounting and electrical connection of the PT must be done by authorised specialists with EMC training only, following all applicable regulations, and in pressureless, voltage-free condition with the machine switched off.

The machine must be secured against being switched back on!

**ATTENTION** ESD sensitive component. Electrostatic discharge may damage the PT. Take ESD precautions.

**ATTENTION** Before mounting the PT, check the screw-in trunnion / mounting hole carefully. The PT must only be mounted when the screw-in trunnion / mounting hole satisfy the requirements stipulated in chapter 6.1. Screw-in trunnion / mounting hole that does not satisfy these requirements can damage the PT.

**ATTENTION** For pressure sealing use always the seal that is delivered with the PT!

**ATTENTION** To prevent the PT from sticking permanently at the screw-in trunnion / mounting hole, coat the thread section of the transducer with high temperature resistant grease or a suitable parting agent.

**ATTENTION** Always use a spanner applied to the designated hexagon collar when screwing the PT in and out. Do not apply the tool to the housing!
**ATTENTION** Maximum mounting torque **22 Nm**. If the mounting torque is too high, the PT may be damaged or its zero point may shift.

- put the seal between PT and screw-in trunnion / mounting hole. The seal have to fit plain to the surface and must not be damaged.
- screw the PT to the screw-in trunnion / mounting hole and tighten.

### 6.3 Electrical connection

Mounting and electrical connection of the PT must be done by authorised specialists with EMC training only, following all applicable regulations, and in **pressureless, voltage-free** condition with the **machine switched off**.

The machine must be secured against being switched back on!

**ATTENTION** ESD sensitive component. Electrostatic discharge may damage the PT. Take ESD precautions.

**ATTENTION** Avoid laying the power cable in the direct vicinity of cables carrying higher voltages or switching inductive or capacitive loads.

**ATTENTION** An EMC compliant power supply must be used. The electrical connection must comply with EMC requirements.

**ATTENTION** If the electrical connection is not made as described in chapter 6.3.1, or if cables / cable connectors / cable glands other than those stipulated by **DYNISCO** are used, **DYNISCO** cannot guarantee that EMC requirements will be satisfied.
6.3.1 EMC / CE compliant connection

- Earth the machine section with the screw-in trunnion / mounting hole for the PT in accordance with regulations. The PT must be connected to earth via the screw-in trunnion / mounting hole.

- Connect the shield of the connecting cable on both sides, making sure it conducts with full and continuous contact.

- When introducing the connecting cable into an EMC compliant switch cabinet, for example, connect the shield correctly (cable gland, conducting, full contact, continuous) to the conductive housing or route it via built-in cable connector that is also connected to the conductive housing.

- Connect unused cable cores or free cable ends correctly to the cable shield on both sides.

For order numbers of EMC compliant cable connectors required for connecting the PT, see chapter 9, accessories.

6.4 Connection assignments

**Standard models IDA:**

Equipment connector: 7-pin male connector, DIN
Female connector: DIN

Fig. 11: 7-pin female connector

<table>
<thead>
<tr>
<th>PIN</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>supply voltage (+)</td>
</tr>
<tr>
<td>2</td>
<td>supply voltage (-)</td>
</tr>
<tr>
<td>3</td>
<td>signal (+)</td>
</tr>
<tr>
<td>4</td>
<td>signal (-)</td>
</tr>
<tr>
<td>5</td>
<td>calibration</td>
</tr>
<tr>
<td>6</td>
<td>calibration</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Example for IDA3x4

The connector housing is connected conductively to the housing of the PT.
Models IDA with cable connection, option D05

<table>
<thead>
<tr>
<th>Colour of core</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>WH (white)</td>
<td>supply voltage (+)</td>
</tr>
<tr>
<td>GN (green)</td>
<td>supply voltage (-)</td>
</tr>
<tr>
<td>YE (yellow)</td>
<td>signal (+)</td>
</tr>
<tr>
<td>GY (grey)</td>
<td>signal (-)</td>
</tr>
<tr>
<td>PK (pink)</td>
<td>calibration</td>
</tr>
<tr>
<td>BN (brown)</td>
<td>calibration</td>
</tr>
<tr>
<td>transparent</td>
<td>shield (connected conductively to the housing of the PT)</td>
</tr>
</tbody>
</table>

Example for IDA3x4

**ATTENTION** To fulfil the EMC / CE requirements at the installation of the models with cable connections (option D05) the cable shield have to be connected according to chapter 6.3.1, EMC / CE compliant connection. A connection via the transparent cable core is not sufficient for an EMC / CE compliant connection!

Models IDA3x0 with option D21:
Equipment connector: 6-pin male connector, Bendix PT02A-10-6P
Female connector: PT06A-10-6S(SR)

Fig. 12: 6-pin female connector

<table>
<thead>
<tr>
<th>PIN</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>signal (+)</td>
</tr>
<tr>
<td>B</td>
<td>signal (-)</td>
</tr>
<tr>
<td>C</td>
<td>supply voltage (+)</td>
</tr>
<tr>
<td>D</td>
<td>supply voltage (-)</td>
</tr>
<tr>
<td>E</td>
<td>calibration</td>
</tr>
<tr>
<td>F</td>
<td>calibration</td>
</tr>
</tbody>
</table>

Top view solder side

The connector housing is connected conductively to the housing of the PT.
6.5 Wiring

Fig. 13: Wiring proposal 4-wire DMS

Fig. 14a: Wiring proposal 2-wire mA, floating mA indication with internal resistor \( R_i < 38.2 \times U_s - 380 \)

Fig. 14b: Wiring proposal 2-wire mA, mA indication with internal resistor \( R_i < 38.2 \times U_s - 380 \)

Fig. 15: Wiring proposal 3-wire Volts
Fig. 16a: Wiring proposal 4-wire Volts (unipolar)

Fig. 16b: Wiring proposal 4-wire Volts (bipolar)
7. Commissioning

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**ATTENTION** Before putting the PT into operation, make sure the PT is securely mounted and sealed.

7.1 Supply voltage

**ATTENTION** Using a supply voltage which is different from that stated in the technical specifications or has reversed polarity can damage the PT or cause it to malfunction.

**DYNISCO** recommends operating the pressure transducer IDA3x0 (without amplifier) with a supply voltage of 10 VDC. Supply voltages from 6 to 12 VDC are permitted.

7.2 Calibration and zero balance

PTs of series IDA 3xx have an internal calibration signal. Connecting terminals 5 and 6 switches the calibration signal to the signal output. It is 80% of the full scale pressure of the transducer.

**ATTENTION** Calibrate in pressureless state and at room temperature. Other ambient temperatures will corrupt the signal.

**ATTENTION** Do not change the installed position of the PT after calibration. If the position is changed you must re-calibrate the PT.

7.2.1 Pressure transducer IDA3x0 (without amplifier)

- Connect a meter or suitable display unit to the signal output.
- Set the display unit or external amplifier to pressureless state (zero point).
- Connect terminals 5 and 6.
  - The calibration signal is connected to the output.
- Set the calibration value (80% of nominal pressure) on the display unit or external amplifier.
- Check the zero point setting on the display unit once again.

Readjust the zero point at operating temperature!
- Wait until a steady operating temperature is reached at the pressure sensor.
- Set the zero point on the display unit or external amplifier.

7.2.2 Pressure transducer IDA3x2/3x3/3x4

The adjustment is made at two potentiometer screws in the cover section of the electronic housing.
- Remove the cap screws from the potentiometers.

Potentiometer adjusting screw “N” for zero adjustment.

Potentiometer adjusting screw “B” for range adjustment.

Fig. 17: Housing cover
- Connect a meter or suitable instrument to the signal output to verify the settings.
- Adjust zero at potentiometer adjusting screw “N” and verify on the meter.
- Connect terminals 5 and 6.
  ↪ The calibration signal is connected to the output.
- Adjust calibration value (80% of full scale pressure) at potentiometer adjusting screw “B” and verify on the meter.
- Check the zero setting again.
- Repeat the zero adjustment and calibration value as necessary.
Readjust the zero point at operating temperature!

- Wait until a steady operating temperature is reached at the pressure sensor.
- Adjust zero at potentiometer adjusting screw “N” and verify on the meter.
- Replace the cover screws on the potentiometers.

7.3 Operation

**ATTENTION** Operating temperature at the PT diaphragm max. +85°C (IDA 3x0 max. +120°C).
Higher temperatures will damage the PT.

**ATTENTION** Ambient temperature for the housing max. +85°C. Higher temperatures can result in damage or malfunctions.
Mount the PT only in locations where this temperature is not exceeded.
8. Maintenance

8.1 Maintenance

Mounting and electrical connection of the PT must be done by authorised specialists with EMC training only, following all applicable regulations, and in pressureless, voltage-free condition with the machine switched off.

The machine must be secured against being switched back on!

ESD sensitive component. Electrostatic discharge may damage the PT.
Take ESD precautions.

Do not clean PT with hard objects.
This will damage the PT!

Always use a spanner applied to the designated hexagon collar when screwing the PT in and out.
Do not apply the tool to the housing!

The PT is almost maintenance free.
- Clean the PT with soft and dry cloth during the machine maintenance.

8.2 Repair/disposal

Please send defective PTs to your DYNISCO representative.

For addresses, see the back cover of the operating manual.
9. Accessories

- Pressure sensor simulator
- Pressure sensor calibrating device

<table>
<thead>
<tr>
<th>Cable connector, cable gland, cable</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Designation</td>
<td>Order no.</td>
</tr>
<tr>
<td>Cable connector DIN 7-pin</td>
<td>E311 0035</td>
</tr>
<tr>
<td>Cable connector Bendix</td>
<td>E311 0029</td>
</tr>
<tr>
<td>Cable gland PG 7 CE</td>
<td>E447 0037</td>
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<tr>
<td>Connection cable VT 460 - 6 Meter</td>
<td>9VT0 0017</td>
</tr>
<tr>
<td>Connection cable VT 460 - 10 Meter</td>
<td>9VT0 0018</td>
</tr>
</tbody>
</table>
# 10. Troubleshooting

## 10.1 Troubleshooting

<table>
<thead>
<tr>
<th>Fault</th>
<th>Possible cause</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No signal</td>
<td>Cable breakage or poor contact</td>
<td>Check cable and contact, or replace</td>
</tr>
<tr>
<td></td>
<td>No supply voltage</td>
<td>Check supply voltage</td>
</tr>
<tr>
<td>Strong zero shift when screwing in</td>
<td>Mounting hole incorrectly produced (alignment error)</td>
<td>Check hole, rework if necessary (see chapter 6.1, 6.2)</td>
</tr>
<tr>
<td></td>
<td>Mounting torque too high</td>
<td>Adjust to max. 22 Nm mounting torque</td>
</tr>
<tr>
<td>No signal change despite pressure rise</td>
<td>Diaphragm damaged</td>
<td>Send pressure transducer to DYNISCO for repair</td>
</tr>
</tbody>
</table>
11. Declaration of conformity

Konformitätserklärung

Dichiarazione di conformità

Verklaring van overeenstemming

Konformitetserklæring

Hiermit erklären wir, daß unser Produkt, Typ:

Drucktransmitter / Druckaufnehmer
Pressure Transmitter / Pressure Transducer
Serie MDT, EMT, EIT, MDA, IDA, TDA, LDA, PT, Dyna4

folgenden einschlägigen Bestimmungen entspricht:

EN 50081-1 / EN 50082-2

EMV-Richtlinie (89/336/EWG, 93/68/EWG, 93/44 EEWG)
EMC guidelines (89/336/EEC, 93/68/EEC, 93/44/EEC)
Reglamento de compatibilidad electromagnética (89/336/MCE, 93/68/MCE, 93/44/MCE)
Diretriz relativa à compatibilidade electromagnética (89/336/MCE, 93/68/MCE, 93/44/MCE)
Direktiva sulla compatibilità elettromagnetica (89/336/CEE, 93/68/CEE, 93/44/CEE)
Direktiva om elektromagnetisk forbigelighed (89/336/EF, 93/68/EF, 93/44/EF)

Angewendete harmonisierte Normen, insbesondere:

Applied harmonized standards, in particular:
Normes harmonisée utilisées, notamment:
Normas armonizadas utilizadas particularmente:
Norme armonizzate applicate in particolare:
Gebrauchte geharmonisierte normen, in het bijzonder:

Angewendete harmonisierte Normen, insbesondere:

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