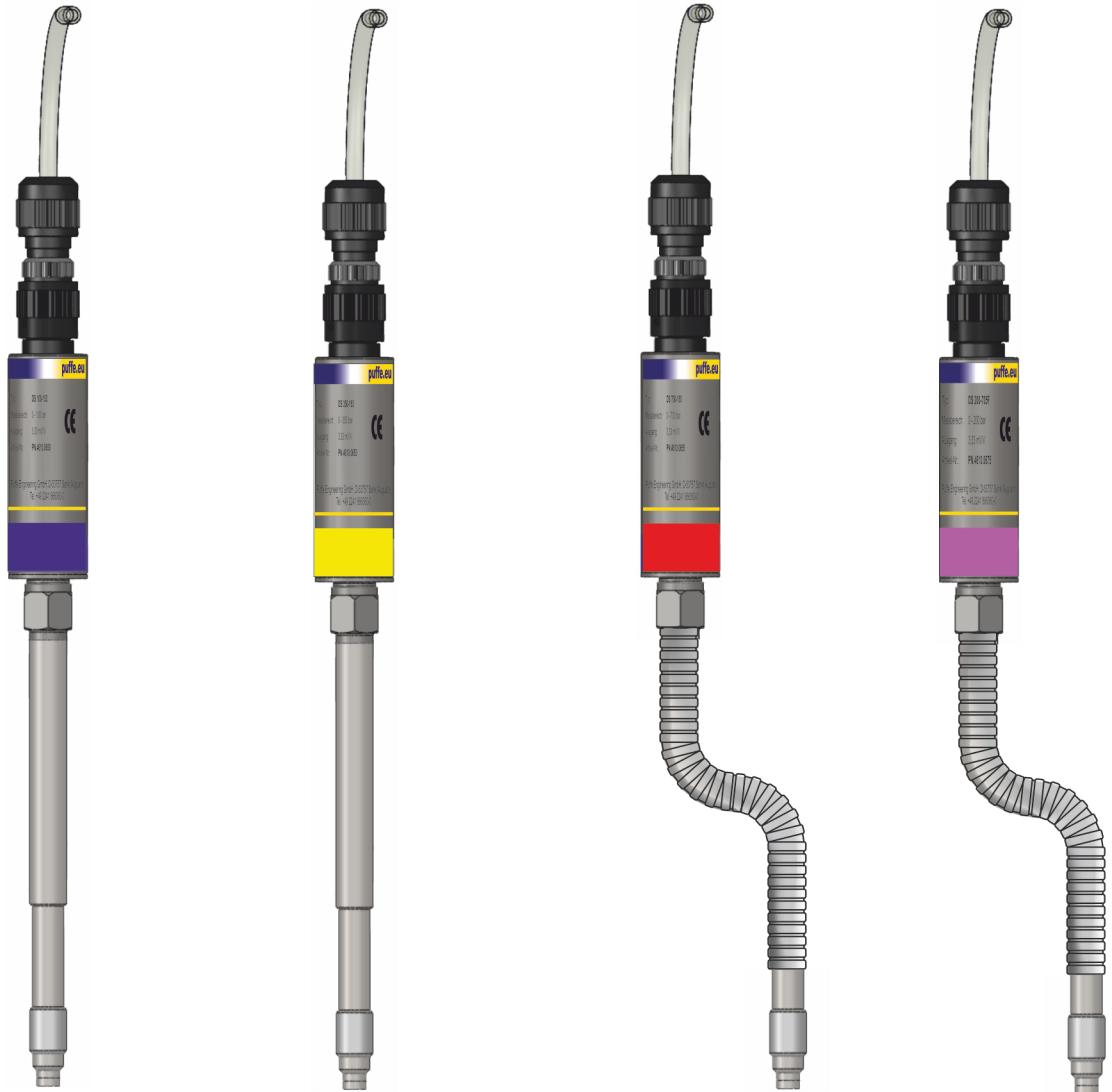


Pressure Sensor

mV/V output



Melt pressure sensor Series M3

enabling pressure measurement of the mass at temperatures of up to 400 ° C.

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Version Juni 2016

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Safety precautions

The listing of **safety precautions** (danger warnings) shall serve to protect persons and other living beings as well as things in the environment from injury and damage.

A safety labelling is the guarantee that those who work with the machine remain free from danger, as far as this is possible.

SAFE stands for the four basic principles:

- **S**chwere der Gefahr (degree of danger indicated by a signal word)
- **A**rt und Quelle der Gefahr (nature and source of the danger)
- **F**olgen bei Missachtung der Gefahr (consequences when the danger is disregarded)
- **E**scape – measures for warding off the danger

The signal words indicate the degree of danger.

Injury to persons

- **DANGER!** Indicates an immediately impending danger. Failure to avoid it will result in death or injuries of the severest kind.
- **WARNING!** Indicates the possibility of an impending danger. Failure to avoid it can result in death or severe injury.
- **CAUTION!** Indicates the possibility of a danger. Failure to avoid it can result in light or superficial injuries.

Damages to product, machine and system:

- **ATTENTION!** Indicates the possibility of a situation where damage occurs. If it is not avoided, the system or something in its surroundings could be damaged.

These safety warnings are recommendations resulting from practical experience. They do not replace obligatory security procedures, but only supplement them.

A part of these security warnings are marked by standardized symbols for danger.

In order to warn of danger and to call attention to important information, the following symbols and signal words will be used in this documentation:

Examples of safety warnings:

- Where chemicals are involved, warnings are given with respect to poisonousness, flammability, radioactivity.
- Where a machine is involved, warnings state possible dangers to those who work with the machine or to those present in its immediate vicinity (this, for example, could be the danger of an electric shock or of noise which could damage hearing).



Danger to persons arising from high electric tension: Warning of an immediately impending danger which will result in death or severe injury if appropriate measures are not taken.



Danger to persons arising from other general sources or danger: Warning of an immediately impending danger which will result in death or severe injury if appropriate measures are not taken.



Danger to objects: Warning of a possible danger which could lead to the damage of objects if appropriate measures are not taken.

In the vicinity of hot machine parts, use heat-resistant gloves, safety goggles and protective clothing.



Danger of being pulled in by rotating parts (danger of being squashed in).



System and material under pressure: Relieve the system of pressure. Non-observance can lead to severe burnings.



- Use only suitable means of transportation which have a sufficient loading capacity.
- Avoid knocks and agitation.
- Loads should not be carried over people.



Danger to objects: Warning of a possible danger which could result in damage to objects if the appropriate measures are not taken.

Safety technology

Laws regarding safety technology serve, above all, the purpose of maintaining safety at the place of work. That is, the aim to ensure safety and the protection of health during working hours, and to protect the environment.

The machine was constructed according to the most current state of technology. It was carefully produced, and prior to its delivery, it was conscientiously examined.

During the construction, everything was done to ensure that the machine could be operated safely.

Safety constructions

Safety constructions are built-in devices which ward off a possible danger and prevent the machine from being handled in a way which could be dangerous.

This could be:

- constructions which separate machine parts (coatings, cover plates)
- constructions which connect machine parts (operation with both hands, push buttons)
- constructions which prevent the machine from being handled in a certain way (which prevent machine parts from being grasped or touched).
- constructions which cause the machine to react when it is approached (light barriers, sensors).

Despite all safety constructions, certain dangers may still remain:

- when the machine is brought into operation by persons who have not been properly trained or instructed.
- and/or the machine is used in a way not in keeping with its intended purpose.

This situation can:

- endanger the life and the health of the user and endanger others nearby.
- damage the machine and impair the efficiency of its work.
- damage other objects of importance to the user.

It is recommended that the company which uses this machine prepare additional lists of instructions for distribution among the employees whereby the professional qualifications of the employees are taken into consideration. The company should make sure that these instructions have been received.

Safety awareness during work

The machine may be operated only by trained and authorized persons. The responsibility for the various activities which require the use of the machine must be clearly stated so that under the aspect of safety no uncertainties can arise with respect to competencies.

This is valid in particular for work on the electric and pneumatic equipment which may be performed only by specially qualified persons.

With all tasks involving the setting-up, the starting, the equipping, the operation, the inspection and repair of the machine as well as those tasks involving changes in its use or its mode of operation, the necessary switching-off procedures must be carried out as stated in the operation manual.

- Any method of work which is detrimental to safety at the machine is to be prohibited.
- The user must make sure that only authorized persons work at the machine.
- The user is obligated to examine the machine for any visible signs of danger or insufficiencies which could endanger safety and to report these immediately.
- The user must make sure that the machine is used only in a faultless condition.
- The user must require all persons who work at the machine to wear protective clothing as far as this is necessary.
- Under no circumstances may any safety devices be removed or set out of commission. If, in the course of equipping, repairing or inspecting the machine, certain safety devices have to be removed, then, upon completion of such work, they must be immediately reinstalled.

Repair and inspection tasks may be performed only by certified electricians, and the work may only be done when the system is switched off (i.e. the system must be in a condition free of electric tension)

A certified electrician is anyone who, on the basis of his training, knowledge and experience in electricity as well as his knowledge of all relevant legal regulations, is in a position to judge the tasks assigned to him and to recognize the possible dangers in connection with these.

Moments of danger which can occur during installation, inspection or repair are treated separately in the corresponding chapters.

No extraneous parts may be used at the machine, since otherwise the maintenance of the required safety cannot be guaranteed.

Introduction

The M3 series of, are pressure transducers for using in High temperature environment.

The main characteristic of this series is the capability to read temperature of the media up to 400°C.

The constructive principle is based on the hydraulic transmission of the pressure.

The fluid-filled system assures the temperature stability. The physical measure is transformed in a electrical measure by means the strain-gauge technology.

Main Features

- **Pressure ranges from:**
0-35 to 0-2000 bar / 0-500 to 0-30000 psi
- **Accuracy:**
<±0.25% FSO (H); <±0.5% FSO (M)
- Fluid-filled system for temperature stability
- **Mercury filling volume:**
M30 (30mm³), M31-M32-M33 (40mm³)
- 1/2-20UNF, M18x1.5 standard threads; other types available on request
- Standard diaphragm is 15-5 PH stainless steel with GTP coating
- 17-7 PH corrugated diaphragm with GTP coating for ranges below 100bar-1500psi

GTP (advanced protection)

- *Coating with high resistance against corrosion, abrasion*
- *and high temperature*



According to the European Directive 97/23/CE (PED), for range above 500 bar the series M3.../M2... declare the CE mark.

Technical specifications

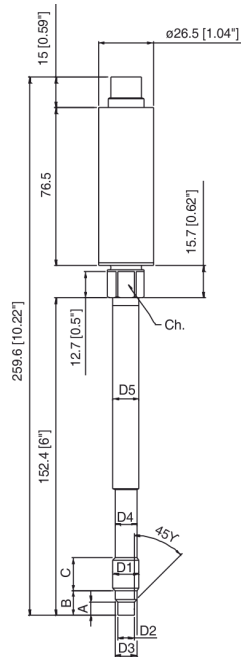
Accuracy (1)	H <±0.25%v.E. (100...2000 bar) M <±0.5%v.E. (35...2000 bar)
Resolution	Infinite
Measure range	0..35 bis 0..2000bar 0..500 bis 0..30000psi
Maximum overpressure	2 x FS 1.5 x FS above 1000bar / 15000psi
Measure principle	Strain gage Wheatstone
Supply voltage	6..12Vdc (10Vdc typical)
Strain gage bridge resistance	350 Ohm (550 Ohm below 100bar - 1500psi)
Isolation resistance (at 50Vdc)	>1000 MOhm
Full Scale Output (FSO) (toll. ±0.5% FSO)	2.5 mV/V (Option 2) 3.33 mV/V (Option 3)
Zero balance	±0.5% FSO
Calibration signal	80% FSO
Compensated temperature range	0...+100°C 32...212°F
Maximum temperature range	-30...+120°C -22...250°F
Thermal drift in compensated range (Zero, Calibr., Sens)	< 0.02% FSO./°C < 0.01% FSO./°F
Diaphragm maximum temperature	400°C 750°F
Zero drift to change in process temperature	0.02 bar/°C 15 psi/100°F
Standard material in contact with process medium	Diaphragm: • 15-5PH with GTP coating • 17-7 PH corrugated diaphragm with GTP coating for ranges < 100 bar (1500 psi) Stem: • 17-4PH
Thermocouple (model M32)	STD : Type "J" (isolated junction)
Protection degree 8with 6-pin mating connector)	IP65
Electrical connections	6-pin conn. VPT07RA10-6PT (PT02A-10-6P) 8-pin conn. PC02E-12-8P

FSO = Full Scale Output

(1) BFSL: method (Best Fit Straight Line): includes combined effects of Non-Linearity, Hysteresis and Repeatability

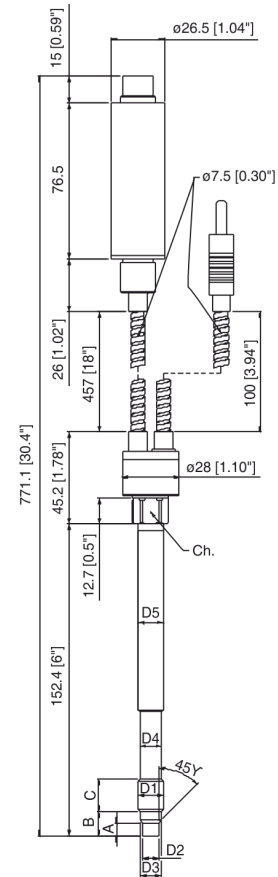
Mechanical Dimensions

M30



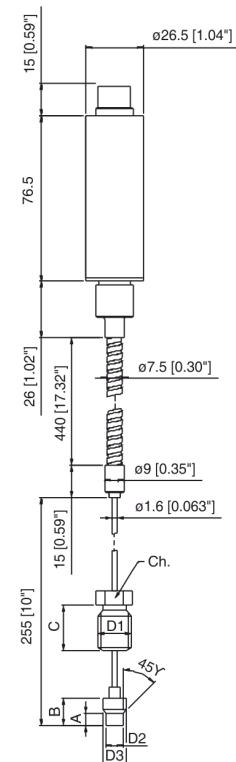
D1	M18x1.5
D2	$\phi 10$ -0.05 [$\phi 0.394$ " -0.002]
D3	$\phi 16$ -0.08 [$\phi 0.63$ " -0.003]
D4	$\phi 16$ -0.4 [$\phi 0.63$ " -0.016]
D5	$\phi 18$ [$\phi 0.71$ "]
A	6 -0.26 [0.24" -0.01]
B	14.8 -0.4 [0.58" -0.016]
C	19 [0.75"]
Ch [Hex]	19 [3/4"]

M32



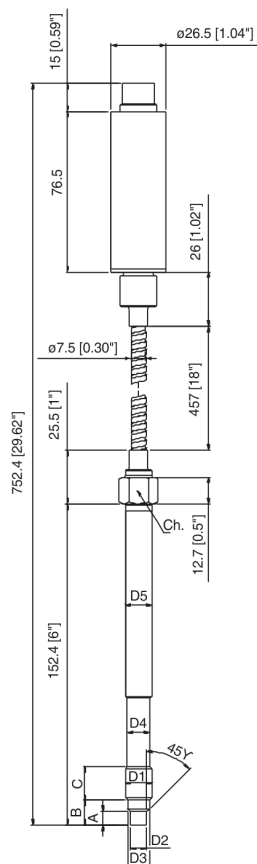
D1	1/2 - 20UNF
D2	$\phi 7.8$ -0.05 [$\phi 0.31$ " -0.002]
D3	$\phi 10.5$ -0.025 [$\phi 0.41$ " -0.001]
D4	$\phi 10.67$ [$\phi 0.42$ "]
D5	$\phi 12.7$ [$\phi 0.5$ "]
A	5.56 -0.26 [0.22" -0.01]
B	11.2 [0.44"]
C	15.74 [0.62"]
Ch [Hex]	16 [5/8"]

M33



Exposed capillary	
D1	1/2-20UNF
D2	.307/.305" [7.80/7.75mm]
D3	.414/.412" [10.52/10.46mm]
A	.125/.120" [3.18/3.05mm]
B	.318/.312" [8.08/7.92mm]
C	.81" [20.6mm]

M31

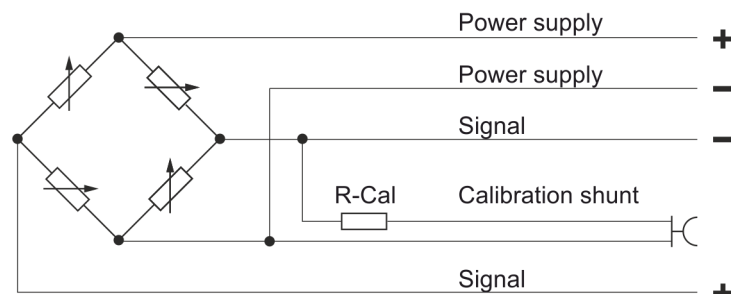


NOTE: Dimensions refer to rigid stem length option "4" (153mm - 6")

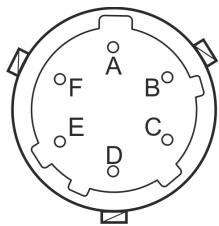
WARNING: For installation use a maximum tightening torque of 56 Nm (500 in-lb)

Electrical connections

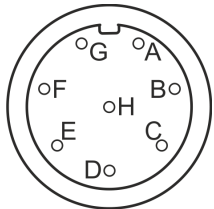
mV / V Output



6-polig	8-polig
C	A
D	C
B	D
E - F	E - F
A	B
n.v.	G - H



6-pin connector
VPT07RA10-6PT2
(PT02A-10-6P)



8-pin connector
PC02E-12-8P
Bendix

Connect the cable sheathing to the instrument.

Cable assignment	
Conn.	Kabel
A	white
B	brown
C	green
D	yellow
E	grey
F	pink
G	n.v.
H	n.v.

Accessory

Connector

6-pin mating plug (Safety class IP65)

8-pin mating plug CON307

CON300

Connecting cable

6-pin mating plug with 8m (25ft) cable

6-pin mating plug with 15m (50ft) cable

6-pin mating plug with 25m (75ft) cable

6-pin mating plug with 30m (100ft) cable

other lengths

C08W

C15W

C25W

C30W

to request

More accessories

Fixing bracket

Lock bolt for 1/2-20 UNF

Lock bolt for M18x1,5

Tool kit for 1/2 -20 UNF

Tool kit for M18 x 1,5

Cleaning tool kit for 1/2-20 UNF

Cleaning tool kit for M18x1,5

SF18

SC12

SC18

KF12

KF18

CT12

CT18

Thermocouple for Type M32

Type "J" (153mm - 6" stem)

TTER601

Colour coding



puffe.eu	
Typ:	DS 100-153 / 258
Messbereich:	0 - 100 bar
Ausgang:	3,33 mV/V
Artikel-Nr.:	PN.4610.0650 CE
Puffe Engineering GmbH, D-53757 Sankt Augustin Tel. +49 2241 866060-0	



puffe.eu	
Typ:	DS 350-153 / 258
Messbereich:	0 - 350 bar
Ausgang:	3,33 mV/V
Artikel-Nr.:	PN.4610.0653 CE
Puffe Engineering GmbH, D-53757 Sankt Augustin Tel. +49 2241 866060-0	



puffe.eu	
Typ:	DS 700-153 / 258
Messbereich:	0 - 700 bar
Ausgang:	3,33 mV/V
Artikel-Nr.:	PN.4610.0655 CE
Puffe Engineering GmbH, D-53757 Sankt Augustin Tel. +49 2241 866060-0	



puffe.eu	
Typ:	DS 200-40 / 810 Flex
Messbereich:	0 - 200 bar
Ausgang:	3,33 mV/V
Artikel-Nr.:	PN.4610.0675 CE
Puffe Engineering GmbH, D-53757 Sankt Augustin Tel. +49 2241 866060-0	

Safety

Indications on work safety

- The pressure sensor has been built in accordance with the latest technology and allows for safe operation.
- The pressure sensor has been designed exclusively for the sensing of pressures of the media mentioned in the chapter “3.2”. Any other use of the sensor beyond this is considered to be out of designation. The manufacturer won't be liable for any damages resulting from such unauthorised use and the risk has to be borne solely by the user.
- The definition of the use of the sensor in accordance with its designation also includes the observance of the chapters of these Operating Instructions considered imperative by the manufacturer: mounting and dismounting as well as the conditions for first operation and operation. In addition, the sensor itself must be handled with the required care.

General

- The pressure sensor must only be used and employed by authorised and correspondingly instructed persons strictly observing all information, data and indications in these Operating Instructions.
- Any operation impairing the safety of the pressure sensor must be avoided.
- The operator has to take care that only authorised persons work on the machine equipped with the pressure sensor.
- The operator is obliged to inform the supervisory personnel immediately about any changes on the pressure sensor which may impair safety and to take all measures to fight any dangers arising from this.
- It's not allowed to execute any unauthorised changes and modifications which may impair the safety of the pressure sensor.
- In accordance with the corresponding rules and regulations, the user must make sure the operating personnel is provided with the required personal safety equipment and makes use of it.
- In the first place, this refers to the wearing of protective gloves with all work activities on the melt pressure sensor when it has reached its operating temperature. With mounting and dismounting of the sensor, it's imperative to wear protective gloves to avoid burning. In the course of operation, there is permanent danger of burning due to heating-up of the sensor by the machine heating.

Dangerous spots

There is danger of burning in the whole area of the heated pressure sensor.

Defective mounting, or dismounting of the pressure sensor with the system being under pressure may cause the hot media to be sprayed out under high pressure.

When the sensor is not screwed in completely over it's whole thread, there is the danger of the high pressure catapulting the sensor out of it's seat.

Check the functionality of the melt pressure sensor in regular intervals to avoid any danger during operation of the sensor caused by excessive rise of pressure.

Information on environmental protection

Manufacturing of the sensors is effected without using any substances damaging the ozone layer like e.g. **CFC, CKW**, etc. With the help of modern production methods, the use of energy, material and auxiliary substances is reduced to a minimum. There aren't toxic or ground - water polluting residues left after the production process. Being a part of our company philosophy, orderly waste disposal is taken special care of in accordance with the valid laws and regulations.

Operation



ATTENTION: Before starting the machine, wait until the melt medium at the diaphragm of the Sensor has reached its operating processing temperature. If the machine is started before the medium reaches its operating temperature, the Diaphragm will be damaged. If it is hard to tell when the operating temperature has been reached, use a combined Sensor with thermocouple.



ATTENTION: Operating temperature at the Diaphragm
max. 400°C (750°F).

Higher temperatures will damage the Sensor



ATTENTION: Ambient temperature for the housing
max. +120°C.

Higher temperatures can result in damage or malfunctions.

Mount the Pressure sensor only in locations where this temperature is not exceeded.

Operation



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

Supply voltage

We recommends operating the pressure transducer with a supply voltage of 10 VDC. Supply voltages from 6 to 12 VDC are permitted.



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.


Calibration

Pressure sensors of this series have an internal calibration signal.

Connecting terminals E and F switches the calibration signal to the signal output. It is 80% of the full scale pressure of the transducer.

ATTENTION: Calibrate in pressure less 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 Sensor.

- Connect a meter or suitable display unit to the signal output.
- Set the display unit or external amplifier to pressure less state (zero point).
- Connect terminals E and F.
-  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.

Zero adjustment

For PTs of series DYNA 4, adjust zero 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.

Pressure indicator

Functions and operating modes of the displays, the indicator lights and the buttons that make up the operator interface controllers.

It is therefore an essential requirement for programming and configuring the controllers correctly.

Operator Interface



Item.	Symbol	Function
1		Shows the process variable, the menu identification, the parameters identification and the error codes
2	 	Increases/Decreases the value of the parameter displayed until the max/min. value is reached. Held down: progressively increases the speed of increasing/decreasing the value displayed.
3	 	Used to move between the various menus and parameters of the instrument. Confirms the value of the current parameter (or parameter edited using) and selects the next parameter.
4	OUT 1 OUT 2 OUT 3 OUT 4	Output status indicators
5	bar	Position where to apply the label with united ingegneristica

Errors while working

process variable < min. scale limit (param. L.S in the menu IN)

process variable > max. scale limit (param. H.S in the menu IN)

broken probe or input values higher than maximum limits

input values lower than minimum limits

Probe power supply failure (function enabled via parameters ((.I. on IN menu)

To solve the problem, see manufacturer's manual on the included CD: *Troubleshooting Guide in Section 6 Maintenance*



























Pressure sensor calibration


After a pressure sensor has been changed, the initial calibration must be carried out. If the pressure sensor has been exchanged with a sensor of the same type, then the entered calibration is sufficient.

However, if a sensor with another pressure range has been built in, then the initial calibration must be adjusted accordingly.











The initial calibration can be found in Menu 

The following parameters must be set as following:

- | | | | |
|---|---|---|---|
|  | → |  | Press the F - key, and keep pressed until „In“ appears in the display. |
|  | → |  | Press the F - key, it appears „t2“ using arrow keys to set value to 2 |
|  | → |  | Press the F - key, it appears „C.I.“ using arrow keys to set value to 0 |
|  | → |  | Press the F - key, it appears „Ft“ using arrow keys to set value to 2 |
|  | → |  | Press the F - key, it appears „Fd“ using arrow keys to set value to 0,5 |
|  | → |  | Press the F - key, it appears „d.P.“ using arrow keys to set value to 0 |
|  | → |  | Press the F - key, it appears „LS“ using arrow keys to set value to 0 |
|  | → |  | Press the F - key, it appears „HS“ using arrow keys to set value to 100 |
|  | → |  | Press the F - key, it appears „oF.“ using arrow keys to set value to 1 |
|  | → |  | Press the F - key, it appears „d.I“ using arrow keys to set value to 0 |
|  | → |  | Press the F - key, it appears „t.u.“ using arrow keys to set value to 0 |
|  | → |  | Press the F - key, it appears „t.d.“ using arrow keys to set value to 0 |
|  | → |  | Press the F - key, it appears „L.L“ using arrow keys to set value to 0 |

The output calibration can be found in the menu 

There, the following parameters must be set:

- | | | | |
|---|---|---|---|
|  | → |  | Press the F - key, and keep pressed until „Ou“ appears in the display. |
|  | → |  | Press the F - key, it appears „O.n“ using arrow keys to set value to 3 |
|  | → |  | Press the F - key, it appears „I.t“ using arrow keys to set value to 1 |
|  | → |  | Press the F - key, it appears „2.t“ using arrow keys to set value to 1 |
|  | → |  | Press the F - key, it appears „3.t“ using arrow keys to set value to 64 |

Now the following steps are necessary for calibration:

F → **PA** Press the **F**- key, and keep pressed until „PA“ appears in the display using arrow keys to set value to **99**

F → **UC** Press the **F**- key, and keep pressed until „UC.“ appears in the display using arrow keys to set value to **3** (UC. = 3)

F **F.1** Press the **F**- key, it seems „F.1“

F **F.2** After 2 seconds repeatedly **F**- key, it appears „F.2“

F **F.3** After 2 seconds repeatedly **F**- key, it appears „F.3“

F **UC** Press the **F**- key, it appears „UC.“ = **0**

Again, press the **F**- key. Display is ready for operation.

Setting of the alarm-switch point



OUT 1

Alarm-switch point 1 „**OUT 1**“ in an unswitched condition lights up in red. The relay contact is closed and has passageway (break-contact).



F → **o.1** Durch When the **F**-key has been pressed just once, „**o.1**“ appears on the display.

By means of the cursor keys, the desired alarm-switch point may now be set up. When the designated alarm pressure has been reached, the relay contact opens at clamp 16 + 17.

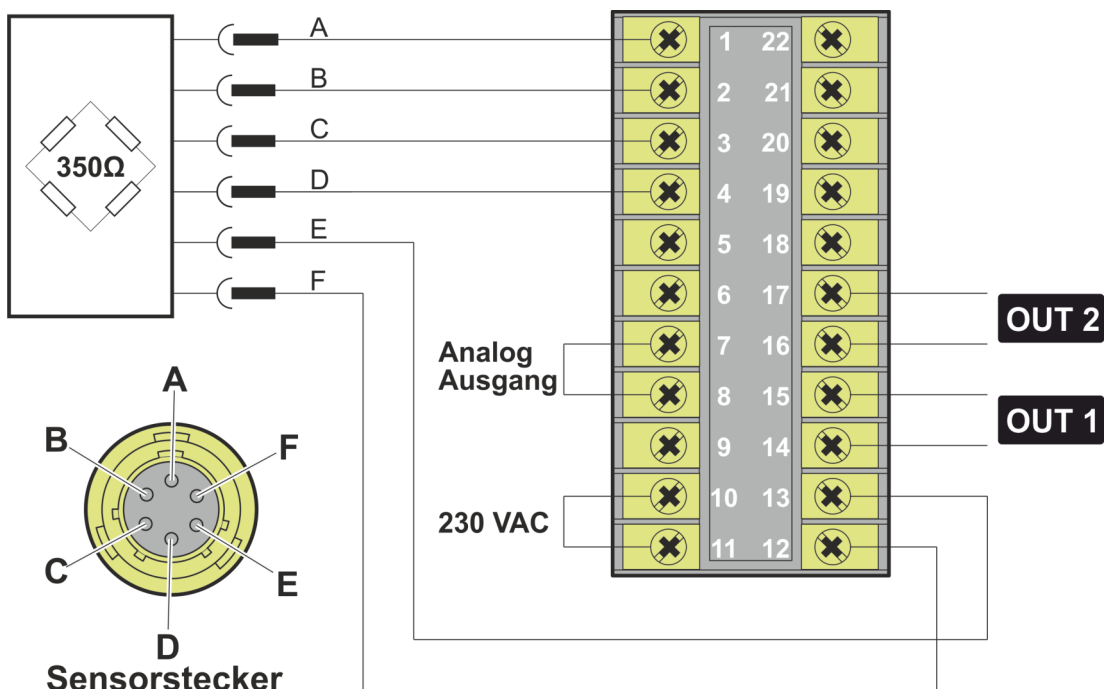
The relay passageway is interrupted. (Break-contact)

The red light signal for „**OUT 1**“ goes out.



OUT 2

The alarm-switch point 2 „**OUT 2**“ at clamp 14 + 15 works in the same manner as



Switch-over of the analog output

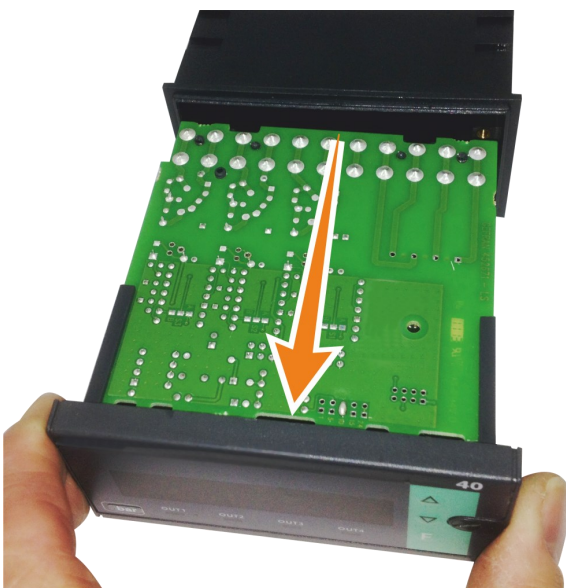
At clamp 7 + 8, from current output to tension output.

For this purpose, the display with the electric circuit board must be removed from the display housing.

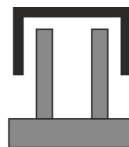
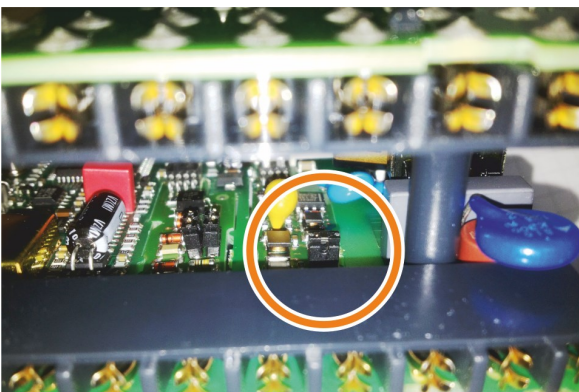


These tasks must be carried out in the

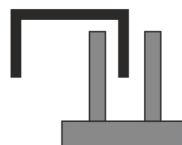
- Loosen the slotted screw in the display panel.



- Remove the display panel with the circuit board from the housing.



- Plug in the link plug on the lower circuit board for current output or for tension output.



Open bolts = current output

2 Introduction

Display	Default	CONF	Acronym	Description										
Level 1														
<i>a.1</i>	40		Output 1	Setting of alarm setpoint (Scale points)										
<i>a.2</i>	50		Output 2	Setting of alarm setpoint (Scale points)										
<i>a.3</i>	60		Output 3	Setting of alarm setpoint (Scale points)										
<i>a.4</i>	70		Output 4	Setting of alarm setpoint (Scale points)										
Menu <i>IF</i>														
<i>Ud</i>	3.20		UPdate	Software version identification										
<i>Co</i>	1		Code	Instrument code identification										
<i>.Hd</i>			Conf Hardware 1	Hardware outputs configuration										
<i>.H2</i>			Conf Hardware 2	Hardware inputs configuration										
Menu <i>CF</i>														
<i>H.1</i>	-1		HYsteresis 1	Hysteresis for setpoint 1										
<i>H.2</i>	-1		HYsteresis 2	Hysteresis for setpoint 2										
<i>H.3</i>	-1		HYsteresis 3	Hysteresis for setpoint 3										
<i>H.4</i>	-1		HYsteresis 4	Hysteresis for setpoint 4										
Menu <i>SR</i>														
<i>Co</i>	1		Instrument Code	Instrument identification code										
<i>S.P</i>	1		Serial Protocol	Serial interface protocol										
<i>b.R</i>	4		bAudrate	Baudrate selection										
<i>Pt</i>	0		PARity	Parity selection										
<i>S.i</i>	0		S. Input	Virtual instrument inputs										
<i>S.o</i>	0		S. Output	Virtual instrument outputs										
<i>S.U</i>	0		S. User Interface	Virtual instrument user interface										
Menu <i>IN</i>														
<i>tP</i>	0		type of Probe	Probe type, signal, enable linearization, etc.										
<i>tI</i>	0		Sample time	Select sampling time										
<i>tF</i>	0.1		FILter time	Digital filter on input										
<i>tD</i>	0.5		FILter display	Digital filter on display										
<i>dP.</i>	0		Decimal point	Decimal point position for input scale										
<i>L.S</i>	0		Low Scale	Minimum limit input scale										
<i>H.S</i>	1000		High Scale	Maximum limit input scale										
<i>oF</i>	0		oFfSet	Offset correction of main input										
<i>d.I</i>	0		Digital input	Digital input function										
<i>tU</i>	0		UP key	Raise key function										
<i>t.d</i>	0		DOWN key	Lower key function										
<i>L.L</i>	0		Low Limit	Lower limit for setting SP and absolute alarms										
<i>H.L</i>	1000		High Limit	Upper limit for setting SP and absolute alarms										
Menu <i>OU</i>														
<i>On</i>	0		Output number	Number of trip point outputs										
<i>1t</i>	0		Output type 1	Trip point type for Out 1										
<i>2t</i>	0		Output type 2	Trip point type for Out 2										
<i>3t</i>	0		Output type 3	Trip point type for Out 3										
<i>4t</i>	0		Output type 4	Trip point type for Out 4										
<i>FO</i>	0		Output filter	Filter mode on trip points										
<i>rR</i>	0		Output delay	Trip point delay										
<i>tT</i>	0		Minimum type	Minimum output trip point time										
<i>rE</i>	0		Fault action	Definition of output states with broken sensor										
Menu <i>Ln</i> - Input linearization 00 – 32														
N°	Default	CONF	N°	Default	CONF	N°	Default	CONF	N°	Default	CONF	N°	Default	CONF
.00	0		.07	219		.14	437		.21	656		.28	875	
.01	31		.08	250		.15	469		.22	687		.29	906	
.02	62		.09	281		.16	500		.23	719		.30	937	
.03	94		.10	312		.17	531		.24	750		.31	969	
.04	125		.11	344		.18	562		.25	781		.32	1000	
.05	156		.12	375		.19	594		.26	812				
.06	187		.13	406		.20	625		.27	844				