



OPERATING PRINCIPLE

The Gneuss Melt Pressure Transducer is used to perform hi-accuracy pressure measurements of molten polymers up to 752°F (400° C) All DA series pressure transducers incorporate a 350-Ohm, bonded foil strain gage Wheatstone bridge sensor. This proven technology provides an output of 0-3.33 mV/V (nominal), proportional to melt pressure (within the specified accuracy range).

Most models include an internal shunt calibration (“R-Cal”) capability that is used to simulate a signal of 80% of full scale. This replaces the requirement for a calibrated pressure supply when scaling the necessary instrumentation.

INSTALLATION

Do not remove protective cap over tip diaphragm until ready to install. Prior to installation, examine and confirm that appropriate preparation of the mounting hole is successful.

Before ever installing a melt pressure transducer, it is always recommended that the mounting hole location is inspected and cleared of materials.

Note: Gneuss offers a “G-Clean” Hole Maintenance Kit to assist this procedure.

To prevent future difficulty of sensor removal, apply a light film of high-temperature anti-seize lubricant material to the transducer threads. An expertly machined sensor mounting hole will properly accommodate installation, with recommended torque applied at 100 inch-lbs to maximum torque at 200 inch-lbs. During the installation, if you apply excessive torque to the pressure transducer, this may cause damage, or the zero point may shift. A calibrated torque wrench is recommended.

The pressure transducer remote electronics housing should be installed securely, using the enclosed mounting bracket, away from ambient temperature that does not exceed 250°F.

WIRING

Installation of connector cables that are manufactured by Gneuss is recommended. Other existing manufacturer cables of equal specifications may also be used, that included necessary conductors and shielding as required.

Note: Gneuss connector cable assemblies are constructed with shield wired to transducer mating connector, do not attach shield to instrument.

Example: DA series Melt Pressure Transducer 2/3 mV/V (6-pin) twist & lock Bendix

A
F **B**
E **C**
D

A: Signal = +
B: Signal = -
C: Supply = +
D: Supply = -
E: no function
F: Calibration 80%

Wire colors of Gneuss connecting cables, if using:

A: yellow
B: white
C: brown
D: green
E: pink
F: gray

Example: DA series Melt Pressure Transducer 2/3 mV/V (8-pin) screw-on collar

G **A**
F **H** **B**
E **C**
D

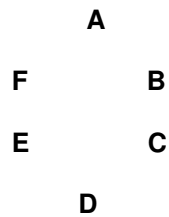
A: Signal = +
B: Signal = -
C: Supply = +
D: Supply = -
E: no function
F: Calibration 80%
G: Not utilized
H: Not utilized

Wire colors of Gneuss connecting cables, if using:

A: yellow
B: white
C: brown
D: green
E: pink
F: gray

A well regulated 10-12 VDC power supply is recommended to provide excitation. (Lower voltages to 6 VDC will also be acceptable).

Example: DAI series Melt Pressure Transmitter 0-10/20, 4-20 mA (6-pin) twist & lock Bendix



A: Signal = +
B: Signal = -
C: NC
D: Auto-zero
E: Shunt calibration
F: Ground

Wire colors of Gneuss connecting cables, if using:

A: yellow
B: white
C: brown
D: green
E: pink
F: gray

Note: To initiate Auto-zero function remotely, apply momentary link to pins D & F.

Note: To initiate Shunt Calibration, apply momentary link to pins E & F.

A well regulated 10-30 V source is recommended for supply voltage.

START-UP

The equipment should be started, then increase temperature to operation range, with no pressure. It is important to allow for a warm-up time to assure material at the tip of the transducer diaphragm is molten before extruder drive is engage.

REMOVAL

The transducer should never be removed unless polymer is hot and liquid. After the transducer is removed from the mounting hole, you should thoroughly wipe tip with a soft cloth immediately. The pressure transducer must also be removed from the location before a barrel or cavity cleaning, using abrasive materials, or wire brushing. Before re-installing the transducer at the location, be sure to clean the mounting hole well using a Gneuss G-Clean Hole Maintenance Kit. (These are available from your Gneuss MT Distributor).

TROUBLESHOOTING

No signal: Cable conductor disconnected or no contact. Check cable assembly.

No supply current: Test power supply voltage.

Noticeable zero shift: Transducer hole incorrectly machined. Check for correct specification, during installation of stem, alignment could be incorrect. Repeat hole preparation.
Too tight of installation creates shift. Re-torque stem installation, confirm torque measurement.
No signal: Remove material formed across sensor diaphragm.
Diaphragm membrane damaged: Send melt pressure sensor to Gneuss, Inc. for replacement.

THERMOCOUPLE

The DTA series incorporate a thermocouple or RTD temperature sensor in the rigid stem assembly. The typical J-type (iron-constantan) T/C junction is located behind the flush diaphragm at the tip of the transducer. In this application, this is where the temperature measurement is performed. For high-accuracy temperature measurement, it is recommended that you use the Gneuss Temperature Sensor separate immersion-type thermocouple such as the MX or CX series.

The Gneuss CX series features the “G-Isolated” advanced technology, incorporating a ceramically- insulated sensor that avoids ambient measurement of the barrel, as typical with other sensors.

The thermocouple assembly can be removed by loosening the point set screw on the side of the stem head assembly, and pulling the T/C probe carefully straight out, without twisting motion. Replacement assemblies are available. When installing the thermocouple probe assembly, align the slot with the pressure capillary tube and press into the channel until tip of probe is flush against the stem collar. Secure in place with the set screw.

TRANSDUCER REPAIR

Damaged transducers should be returned for repair evaluation or replacement to:
Gneuss, Inc.

Attn: RA #
10820-G Independence Pointe Parkway
Matthews, NC 28105

Questions concerning warranty, repair evaluation, replacement estimates, delivery, and requests for RA#, should be directed to Gneuss, Inc. inside sales, technical support, or exclusive local Gneuss distributor. Please contact Gneuss, Inc. at 704-841-7251, or gneuss.usa@gneuss.com.

Please call for a return authorization number (RA#) before returning any product to Gneuss, Inc.

WARRANTY – GENERAL (see Measurement Technology Product Warranty)

The Gneuss Measurement Technology products are warranted for normal operation under terms and conditions as specified in our Warranty Disclosure, for a period of 3 years from date of registration of the unit. A Gneuss Warranty Registration Card is available at time of purchase, upon receiving the product, must be completed by the customer, and returned to Gneuss, Inc.

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