OMEGA®

PX663/665 Series

INSTRUCTION SHEET

M4227-1009

Description:
Congratulations on your purchase of the Omega PX663/665 low differential pressure transmitter. These transmitters utilize a highly reliable variable capacitance sensor. A selection of both uni-directional and bi-directional pressure ranges are offered with accuracy of 0.5% and 1-5Vdc or 4-20mA output signals. The DIN rail-mounting package offers a new and efficient use of mounting space for enclosure mount applications. Features such as the process valve actuator, and front access test sockets provide value when validating a process on line or calibrating the unit.

Media:
The PX663/665 series are designed to measure clean, dry non-corrosive gases. Not for use on liquids.

Mounting:
The unit can mount to three types of Din rail sizes including EN50022, EN50035 & EN50045 (not included). When securing to EN50022 rail first hook the top portion of the rear clip onto the top of the rail and push gently into place. To remove simply place finger behind lower rear lever and pull forward. To remove from the EN50035 rail, grasp the unit, push up and rotate the bottom out. For the EN50045, pull down and rotate the bottom out. Multiple units can be stacked accross the rail. Tag holes are fabricated into the lower rear lever and the housing below the terminal strip for calibration reference tagging and/or ID location. Refer to Drawing 1.

Power requirements:
The PX663/665 is wired (3 wire) (2 wire) for Voltage and Current output respectively. Refer to Drawing 2.

Voltage Output
The PX663/665 will operate on any unregulated supply voltage from 12-36Vdc drawing less than 6mA excitation 12–36 Vdc unregulated.

Current Output
The voltage required for a 4-20mA PX663/665 output is dependent on the loop resistance of the circuit. Refer to Drawing 3 showing the minimum supply voltage (Vmin) required for given Loop Resistance(R_L).

Front Access Test Jacks:
Provides on-line process reference signal or calibration signal without disconnecting power supply wiring. Measurements can be made using a standard multi-meter or data collection instrument. Reference signals through the test jacks are made in series for 4-20mA output and in parallel for voltage output. Gold plated contacts accept standard 0.08˝ microtip test leads, snapping in place for secure measurements.

Process Valve Actuator Features
The rotating process valve actuator in conjunction with the PX663/665 actuator tool provides two types of tests including Calibrate (CAL) and Monitor (MON) through the appropriate Hi and Lo Port of the process valve actuator tool. In the (CAL) mode the PX663/665 is isolated from the process and allows externally generated test pressure input for calibration. In the (MON) mode system pressures can be monitored with another instrument without physically unplugging the process tubes. In this mode an on-line measurement can be captured.

The valve kit includes an actuator tool and 7˝ of silicon tubing. The actuator tool identifies the above positions and tests, including high (HI) and low (LO) differential pressure reference.

From the (OFF) position the actuator tool can be inserted and removed. The following tests can be performed:

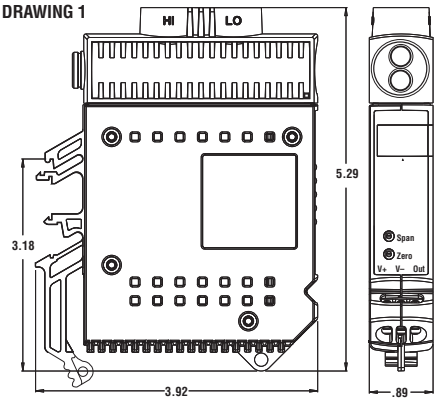
Calibration (CAL):
Both zero and Span adjustment pots are non-interactive and accessible from the front of the unit. *Note:* Due to the sensing technology used rarely are actual zero and span adjustments needed. Zero and span pots are available on the transmitter.

- Insert actuator key.
- A 90-degree clockwise rotation isolates the sensor from the process.
- Apply zero pressure. This can be best produced by shorting the HI and LO ports on the actuator key using the silicon tubing supplied. Verify or make zero adjustment.
- An external pressure generator can be used to produce the required span pressure and verify or make span adjustment, pressure is provided to the instrument using the 2 ports (HI/LO) on the actuator tool.
- Measure record signal via front access test jacks.

Monitor (MON):
Provides on line or uninterrupted measurement point capability when used with the front access test jacks.

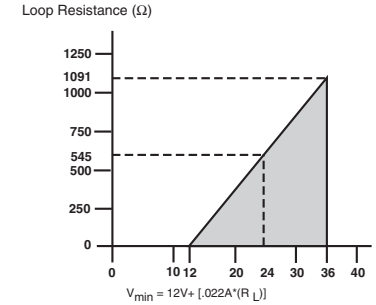
- Insert actuator tool
- A 90-degree counterclockwise rotation tee's the process to both the sensor and out through the key, to provide external measurement or recording capabilities.

DRAWING 1



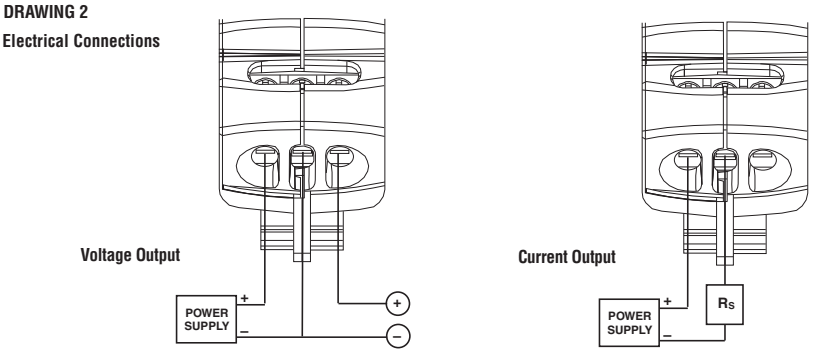
DXLdp dimension with process valve actuator and test sockets

DRAWING 3 **Load Limitations 4-20mA Output**



V_{min} = 12V+ [.022A*(R_L)]
*includes a 10% safety factor
$R_L = R_S + R_W$
R_L = Loop Resistance (ohms)
R_S = Sense Resistance (ohms)
R_W = Wire Resistance (ohms)

DRAWING 2
Electrical Connections



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WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **37 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **three (3) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

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RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

PATENT NOTICE: U. S. Pat. No. 6,074,089; 5,465,838 / Canada 2,228,333; 2,116,055 / UK GB 2,321,712 / Holland 1008153 / Israel 123052 / France 2 762 908 / EPO 0614194. Other patents pending.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:
1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:
1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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