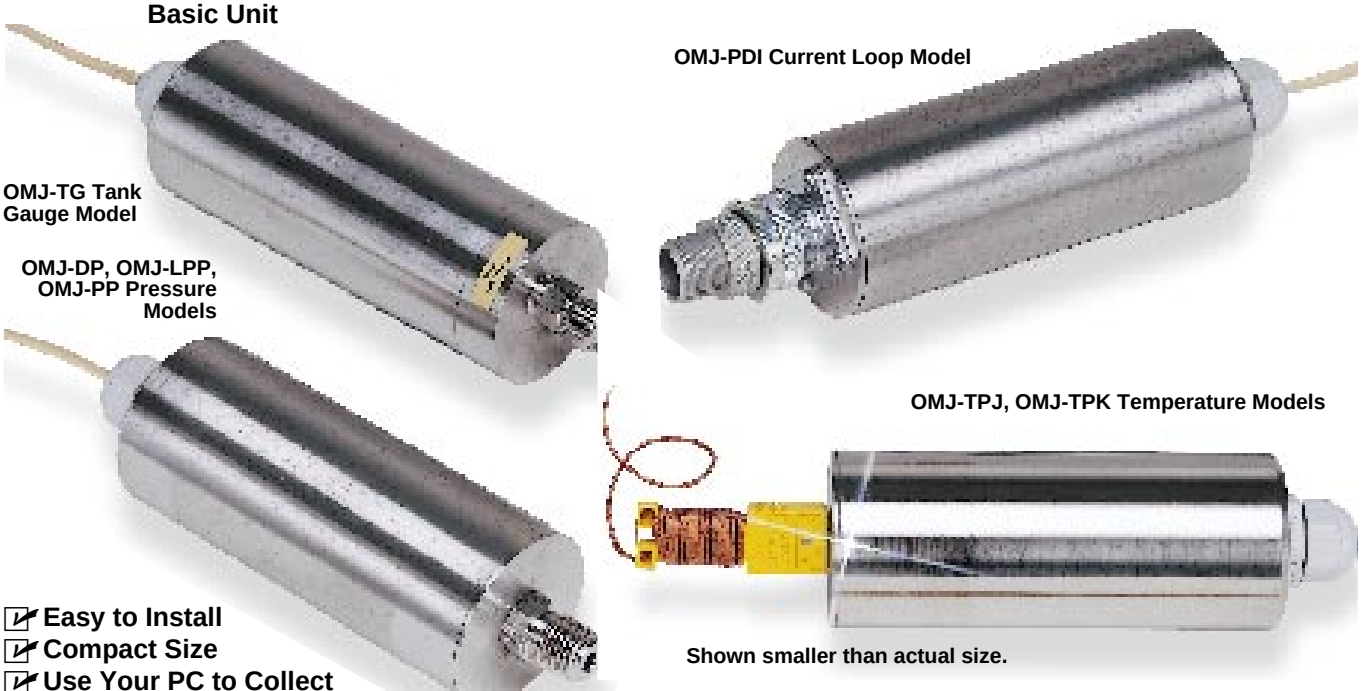
OMEGA®
An OMEGA Technologies Company

OMEGAPHONE® Smart Transducers
for Remote Measurements Via Phone Lines

$495
Basic Unit



Shown smaller than actual size.

- Easy to Install
- Compact Size
- Use Your PC to Collect and Analyze Data
- Conditioned Data is Transmitted Over Phone Lines
- Compatible with Windows Spreadsheets
- Self-Powered Through Phone Line

APPLICATIONS:

- Tank Farms
- Pumping Stations
- Remote Processing Plants
- Electrical Switching Stations
- Pipe Line Gas Stations

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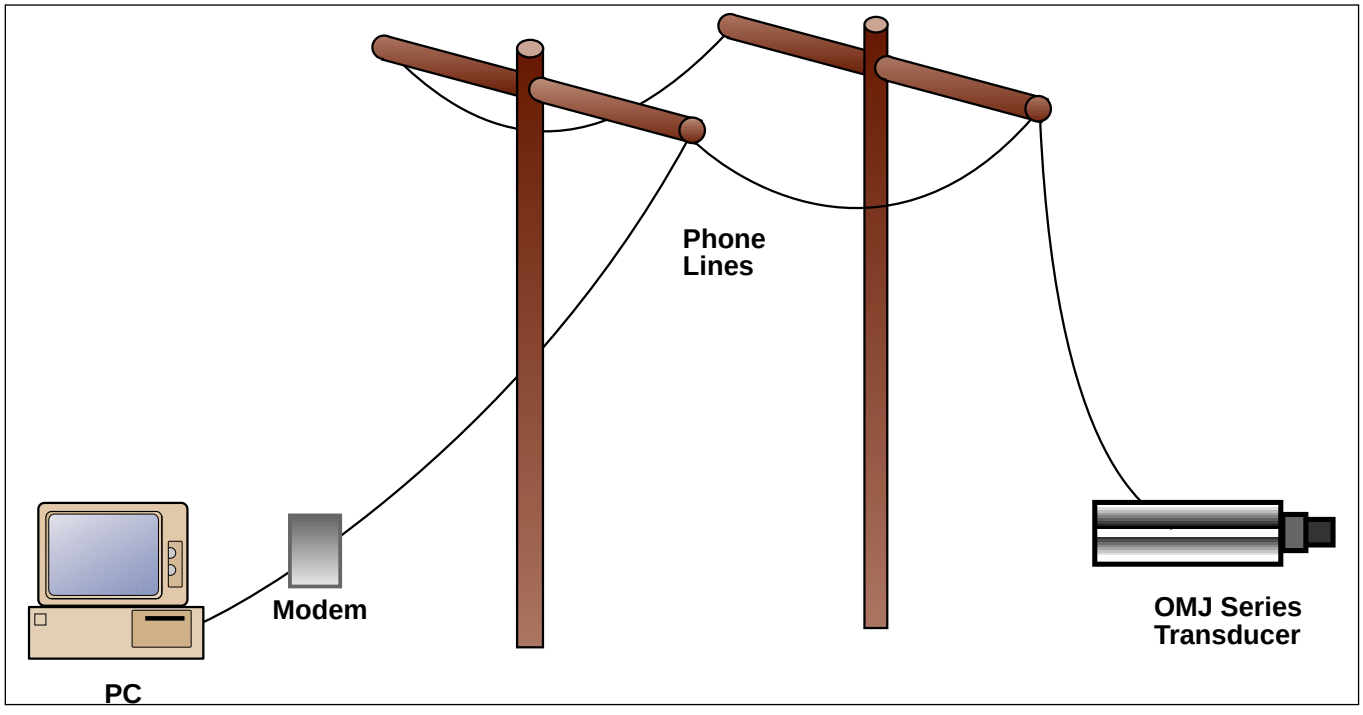
OMEGA ENGINEERING, INC.
One Omega Drive, P.O. Box 4047, Stamford, CT 06907-0047
Telex 996404 Cable OMEGA EASYLINK 62968934
For Sales and Service In U.S.A. and Canada
1-800-82-66342℠
1-800-TC-OMEGA
In Mexico
95-800-82-66342℠
95-800-TC-OMEGA
International Customers Dial
(203) 359-1660
24-Hour FAX (203) 359-7700

The OMJ Series is a family of smart transducers that send formatted data over standard phone lines. Models are available to measure temperature, pressure, 4-20 mA current loops, and also tank level. The transducer converts the raw analog or digital information obtained from its sensor to a modulated data form that is transmitted over telephone lines, via a built-in modem. A personal computer can be programmed to contact multiple OMJ Series transducers in different remote locations. The remote interrogation ability of the OMJ Series allows cost-effective centralized data acquisition for applications ranging from remote locations anywhere in the world. OMJ Series transducers include all of the required electronics as well as the sensing element. No other signal conditioning or data gathering devices are required.

OMJ Series transducers are self-powered by virtue of the phone line. There is no need for expensive power lines, backup systems, or batteries. Simply connect the unit as a normal transducer and plug in a phone line. OMJ Series transducers are FCC approved. Using the optional OMJ-SOFT data acquisition software and a PC with Windows, the information from multiple remote locations can be linked or pasted into a spreadsheet or other user-generated software. Once the information is in the PC, historical records can be generated and process control charts can be monitored. Since OMJ Series transducers communicate using a simple ASCII format, you may also connect to them with any PC running a standard communication or terminal emulation program. With the OMJ Series, it is possible to conduct state-of-the-art data acquisition at a very attractive cost per point.

To use an OMJ Series transducer, simply connect it to the point of measurement in the manner of any typical transducer and plug it into a phone line. The unit is now fully operational. No power line hassles or expensive backup systems are required. In addition to the measurement/conditioning circuitry, each unit contains a 1200 baud auto answer modem connected to an RJ-11 phone jack. Each OMJ Series transducer is temperature profiled and calibrated at the factory.
OMJ Series transducers are sealed in stainless steel and are highly resistant to water and corrosive atmospheres. When an OMJ Series transducer is called by a PC modem, the unit will respond on the first ring and report the current value of the measured parameter. The OMJ Series transducer will continue to issue updated readings every 10 sec until the dialing modem hangs up. The transmitted data is ASCII, 8 bit, no parity.

See Inside for Specifications and Ordering Information.



PRESSURE

For pressure measurement, simply connect the OMJ Series transducer to the process in the same manner as a typical pressure transducer and plug it into a standard phone line. Models are available for differential pressure measurement (OMJ-DP) or gauge pressure (OMJ-LPP, OMJ-PP). When the transducer is called by a computer's modem, the unit will answer on the first ring and report the current pressure reading.

TEMPERATURE USING J OR K THERMOCOUPLE

Temperature is measured by plugging a type J or type K thermocouple terminated with a male subminiature thermocouple connector directly into the mating female subminiature thermocouple input jack built into the transducer. Two models are available: Model OMJ-TPJ460 for type J thermocouple input, and Model OMJ-TPK460 for type K thermocouple input. A beaded wire thermocouple with male subminiature thermocouple connector termination is supplied with each OMJ Series temperature transducer.

4-20 mA

Model OMJ-PDI420 is a self-contained data acquisition device that measures and reports the level of current in an existing 4-20 mA current loop. To use the current loop model, simply connect it to the point of measurement in the manner of a typical current loop monitor and plug it into a phone line. Your transducer is now fully operational!

TANK LEVEL

OMJ Series tank gauge models (OMJ-TG) measure tank level by reporting tank pressure and transducer temperature (for density compensation). The temperature reading reflects ambient temperature of the pressure transducer and is reported in °C. To use the tank gauge model, simply connect it to the point of measurement in the manner of a typical pressure transducer. When the transducer is called by a computer's modem, the unit will answer on the first ring and report the present value of pressure and temperature. The pressure value is reported first and is separated by a comma from the following temperature value.

DATA COLLECTION SOFTWARE

SWD-OMJ software provides an off-the-shelf solution for gathering data from remote OMJ Series transducers. Running under Microsoft Windows 3.1, the software allows multiple OMJ Series transducers to be entered into a telephone directory. This directory is used to call specified OMJ Series transducers at various intervals or on demand. The data returned by the remote OMJ Series transducers can be viewed directly on the screen, stored in a data file that is compatible with all popular database programs, or directly linked into standard spreadsheets such as Lotus or Excel. Linking data into a spreadsheet is accomplished by the SWD-OMJ software serving as a DDE (Dynamic Data Exchange) source within Windows. The data automatically appears within cells of the spreadsheet. This allows the operator to utilize the full computational and graphic power of the spreadsheet program without manually entering any data. Multiple OMJ Series transducers can be called while other Windows applications are running. This eliminates the need for a dedicated PC.

COMMON SPECIFICATIONS

Accuracy: 0.1%FS per ANSI/ISA S51.1-1979 including combined effects of linearity, hysteresis, dead band and repeatability.

Power Requirements: Telephone line only

Telephone Line (POTS Loop Start Line): 1500 Ohms max loop resistance; 1.2 Ringer Equivalent Number Load; USOC RJ-11.

Modem Interface: Bell 212A, 1200 baud, no parity, 8 bits, ASCII terminated with <CR><LF>, auto answer on first ring with answer tone.

Data Rate: Data repeats every 10 sec (approx).

Housing Rating: NEMA 12, 4X

Housing Material: 316SS

Weight: 1 lb (0.45 kg)

OMEGAPHONE® Smart Transducers for Remote Measurements Via Phone Lines

Dimensions: See dimensional drawings

Cable: Attached 6' RJ-11 telephone cable retained by a waterproof gland removable to expose a 3/8" NPT fitting

Agency Ratings: FCC Part 15, FCC Part 68

PRESSURE MODELS: OMJ-DP, OMJ-LPP, OMJ-PP

Calibration: NIST traceable, calibration certificate supplied

Temperature Compensation Range: -40 to 80°C

Proof Pressure: 1.5x rated pressure

Burst Pressure: 3.0x rated pressure

Wetted Parts: Stainless steel (units less than 15 PSI are polymer/silicon)

Process Connection: 1/4" NPT (units less than 15 PSI and differential units are 1/8" NPT)

Reference Port: Gauge

Zero and Span Adjustment: None, factory calibrated

Process Isolation: 1000 Vac telephone line to transducer

TEMPERATURE MODELS: OMJ-TPJ460, OMJ-TPK460

Thermocouple Input Connection: Female subminiature connector, mates with any thermocouple terminated with a male subminiature connector

CURRENT LOOP MODEL, OMJ-PDI420

Calibrated Span: 4-20 mA

Accuracy: ±20 µA

Loop Resistance: 10 Ohms

Voltage Drop at FS: 200 mV

Connector Type: MS 3102A-12S-03P-639

Mating Connector (included): MS 3106A-12S-03S-639

TANK GAUGE MODELS, OMJ-TG

Pressure Transducer:

Calibration: NIST traceable, calibration certificate supplied

Temperature Compensated Range: -40 to 80°C

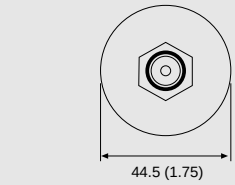
Temperature Resolution: 0.5°C

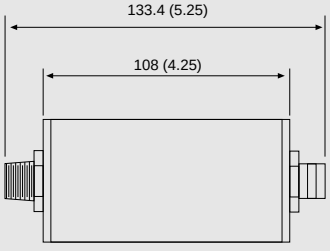
Proof Pressure: 1.5x rated pressure

Burst Pressure: 3.0x rated pressure

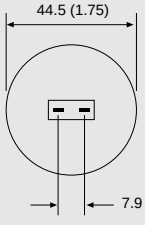
OMJ-TPJ Series Type J Thermocouple Model, $495

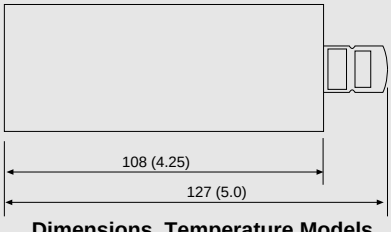
Shown actual size.



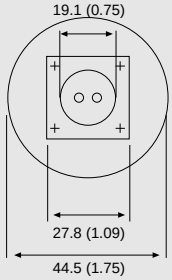


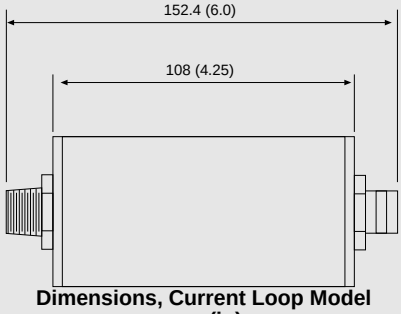
Dimensions, Pressure and Tank Gauge Models, mm (in)





Dimensions, Temperature Models mm (in)





Dimensions, Current Loop Model mm (in)

PRESSURE MODELS

To Order *(Specify Model No.)*				**Prices Shown in U.S. Dollars**
Model No.	**Price**	**Description**	**Range**	**Resolution**
OMJ-DP0040	**$695**	Differential pressure	0-40" H_2OD	0.01
OMJ-DP0015	**695**	Differential pressure	0-1.5 PSID	0.01
OMJ-DP0150	**695**	Differential pressure	0-15 PSID	0.01
OMJ-DP0400	**695**	Differential pressure	0-400" H_2OD	0.1
OMJ-LPP040	**595**	Gauge pressure	0-40" H_2OG	0.01
OMJ-LPP015	**595**	Gauge pressure	0-1.5 PSIG	0.001
OMJ-PP0015	**595**	Gauge pressure	0-15 PSIG	0.01
OMJ-PP0030	**595**	Gauge pressure	0-30 PSIG	0.01
OMJ-PP0150	**595**	Gauge pressure	0-150 PSIG	0.1
OMJ-PP0300	**595**	Gauge pressure	0-300 PSIG	0.1

Supplied with complete operator's manual.

Ordering Example: *Model OMJ-DP0400 differential pressure model, 0-400" H_2OD range ($695) plus SWD-OMJ software ($125), $695 + 125 =* ***$820****.*

TEMPERATURE MODELS

To Order *(Specify Model No.)*				
Model No.	**Price**	**Description**	**Range**	**Resolution**
OMJ-TPJ460	**$495**	Type J thermocouple input	-40 to 460°C (-40 to 860°F)	1°
OMJ-TPK460	**495**	Type K thermocouple input	-40 to 460°C (-40 to 860°F)	1°

Temperature models supplied with beaded wire thermocouple probe terminated with male subminiature thermocouple connector plus complete operator's manual.

Ordering Example: *Model OMJ-TPJ460 type J thermocouple model, -40 to 460°C range ($495) plus SWD-OMJ software ($125), $495 + 125 =* ***$620****.*

CURRENT LOOP MODEL

To Order *(Specify Model No.)*				
Model No.	**Price**	**Description**	**Range**	**Resolution**
OMJ-PDI420	**$495**	Current loop monitor	0-25 mA	0.01

Supplied with complete operator's manual.

Ordering Example: *Model OMJ-PDI420 current loop monitor model, 0-25 mA range ($495) plus SWD-OMJ software ($125), $495 + 125 =* ***$620****.*

TANK GAUGE MODELS

To Order *(Specify Model No.)*				
Model No.	**Price**	**Description**	**Range**	**Resolution**
OMJ-TG0015	**$695**	Gauge pressure	0-15 PSI	0.01
OMJ-TG0030	**695**	Gauge pressure	0-30 PSI	0.01
OMJ-TG0150	**695**	Gauge pressure	0-150 PSI	0.1
OMJ-TG0300	**695**	Gauge pressure	0-300 PSI	0.1

Supplied with complete operator's manual.

Ordering Example: *Model OMJ-TG0015 tank gauge pressure model, 0-15 PSI range ($695) plus SWD-OMJ software ($125), $695 + 125 =* ***$820****.*

ACCESSORIES

Model No.	**Price**	**Description**
SWD-OMJ	**$125**	OMJ Series Windows software