

ME662 - GED Sensor in 89XD Housing

Piezo-resistive pressure sensor

The **ME662 sensor** is a piezo-resistive pressure sensor based upon superbly chemically resistant ceramic technology. The single piece monolith structure is 18mm in diameter which supports an integral pressure sensing diaphragm on which the Thick Film measuring bridge is directly printed, dried and fired at temperatures in excess of 700°C. This results in excellent long term stability, exceptionally low hysteresis, minimal thermal errors and high overload performance. The thermal performance is enhanced further by the unique 'GED' process takes place at the drying stage of manufacturing - see below.

Through a new development the GED (Gas-Enhanced-Drying) process enables ceramic pressure sensors to be produced without the need for laser trimming to guarantee the thermal performance. Before the burn-in process the screen printed layers are treated in a special gaseous atmosphere and dried at a high temperature. The result of this conditioning process is a significant reduction of the variation of the untrimmed thermal zero shift (TZS). As shown in the diagram below, 99.7% of all sensors treated by the GED process are within the tolerance of $\pm 0.04\%FS/K$. Until now this value could only be achieved by the laser trimming process. Other characteristics, like long term stability and noise, are also improved by the GED process. The sensors that are available using the GED process are the ME662 Monolithic pressure sensors from the pressure ranges of 1 bar up to 400 bar.

The **89XD Housing** is used for containing the sensor and also offering a low cost mounting solution. The housing has three clip fixings which can be used to fix the entire housing to a PCB and then using the threaded tube fitting to attach the pressure source. The housing is of rugged construction and can perform under various environments including high temperature applications. The reverse side of the housing, used to locate the sensor, can easily be removed by a simple twist action which makes installation and retrofitting of sensors simple and very quick.



The Technical Detail

Supply Voltage	5...30V	VDC Stabilised
Bridge Resistance	11 \pm 20%	k Ω
Zero Offset	0 \pm 0.2 (0.1 optional)	mV/V
Linearity, hysteresis & repeatability	$\leq \pm 0.1...0.75$	%FS BFSL, dependant upon pressure range
Stability	$\leq \pm 0.3$	%FS/y
Operating Temperature Range	-40...+135	°C
Thermal Zero Shift	$\leq \pm 0.04$	%FS/C
Thermal Span Shift	$\leq - 0.012$	%FS/°C typ.
Material	Ceramic Al ₂ O ₃	
Dimensions	Ø 18.0 x 6.35mm	
Electrical Connection	20mm pins (others on request)	

All data are based on a reference temperature of 25°C. Other pressure and temperature ranges on request.

Visit the website: www.impress-sensors.co.uk

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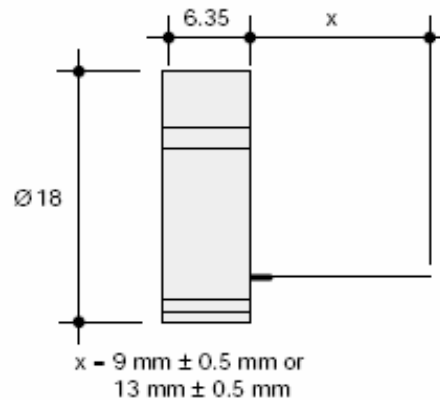
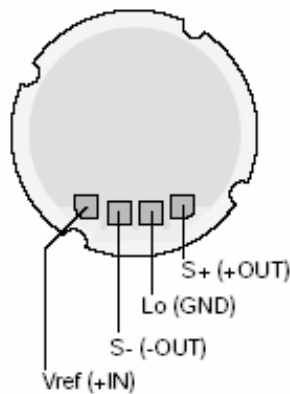
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Pressure - Temperature - Level - Flow - Analytical - Control - Indication - Data logging

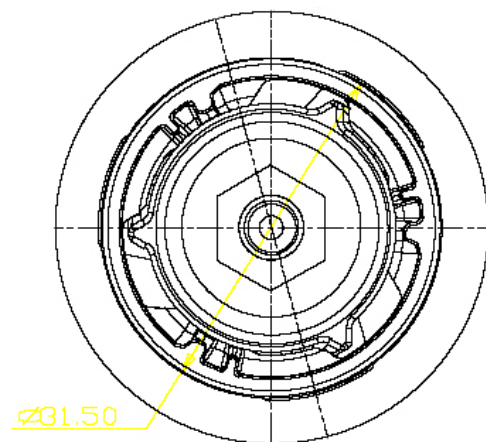
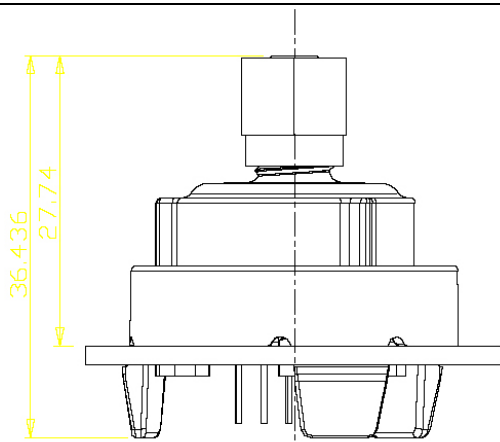
The Pressure ratings	2	5	10	20	50	100	200	400
Range (bar rel.)	7	12	25	50	120	250	400	600
Overpressure (bar)	2.0...3.4	2.0...3.5	2.7...4.0	3.0...4.2	2.7...4.0	2.1...3.1	1.8...3.3	1.4...2.9
Diaphragm Thickness (mm)								
Typical sensitivity (mV/V)								

The dimensional Drawings

Sensor



Housing



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