

INSTRUCTIONS FOR USE – 1xxAyyy, 1xxByyy, and 1xxMyyy Series

Model(s)	1xxAyyy, 1xxByyy, and 1xxMyyy Series
Markings	<p>PCB Depew, NY LCIE 03 ATEX 6279X LCIE 06 ATEX 6103X IECEX LCIE 13.0065X IECEX LCIE 13.0066X Ex ia IIC T4 Ga Ex nA IIC T4 Gc -54°C ≤ Ta ≤ +121°C</p>
Putting Into Service	<p>Powering: All ICP® sensors require constant current excitation for proper operation. For this reason, use only PCB constant-current signal conditioners or other approved constant-current sources. The power supply consists of a current-regulated, 18 to 30 VDC source. This power is regulated by a current-limiting circuit, which provides the constant-current excitation required for proper operation of ICP® sensors.</p> <p>In general, battery-powered devices offer versatility for portable, low-noise measurements, whereas line-powered units provide the capability for continuous monitoring. Consult the Pressure Division’s product catalog for more information about signal conditioners.</p> <p>NOTE: <i>Under no circumstances should a voltage be supplied to an ICP® sensor without a current-regulating diode or equivalent electrical circuit. This may include ohmmeters, multi-meters and continuity testers.</i></p>
Safe Use	<p>After completing the system setup, switch on the signal conditioner and allow 1 to 2 minutes for the system to stabilize. The meter (or LED) on the signal conditioner should be reading “green.” This indicates proper operation and you may begin taking measurements. If a faulty condition is indicated (red or yellow reading), first check all system connections, then check the functionality of the cable and signal conditioner. If the system still does not operate properly, consult a PCB factory representative.</p> <p>NOTE: <i>Always operate the sensor within the limitations listed on the enclosed Specification Sheet. Operating the device outside these parameters can cause temporary or permanent damage to the sensor.</i></p>
Assembling	<p>The 1xxAyyy, 1xxByyy, and 1xxMyyy series have a hermetically sealed housing and do not require any assembly. Only mount to the machine using standard accessories.</p>
Dismantling	<p>Other than removal from the mounting, there is no disassembly of the sensor required to take it out of service.</p>
Maintenance	<p>Routine maintenance, such as the cleaning of electrical connectors, housings, and mounting surfaces with solutions and techniques that will not harm the physical material of construction, is acceptable.</p>

Serviceing	Due to the sophisticated nature of the sensors and associated instrumentation provided by PCB Piezotronics, user servicing or repair is not recommended and, if attempted, may void the factory warranty. However, routine calibration of sensors and associated instrumentation is recommended as this helps build confidence in measurement accuracy and acquired data.
Repair	In the event that equipment becomes damaged or ceases to operate, arrangements should be made to return the equipment to PCB Piezotronics for repair. User servicing or repair is not recommended and, if attempted, may void the factory warranty.
Installation	Overview: Sensor must be mounted in order to be put into service. When choosing a mounting method, consider closely both the advantages and disadvantages of each technique. Characteristics like location, ruggedness, amplitude range, accessibility, temperature, and portability are extremely critical. However, the most important and often overlooked consideration is the effect the mounting technique has on the high-frequency performance of the sensor. Mounting methods include: Recess mount or flush mount. Cabling: Care and attention to cable installation and cable condition is essential as the reliability and accuracy of any measurement system is no better than that of its weakest link. Good installation practice will extend the life of a cable, however, it is highly recommended to keep spare cables on hand to enable continuation of the test in the event of a cable failure.
Adjustment	The sensor is a sealed device and no user adjustments are possible. However, routine calibration of sensors by the manufacturer is recommended as this helps build confidence in measurement accuracy and acquired data.
Danger Areas (for pressure-relief devices)	N/A – not a pressure relief device.
Training Instructions	Industrial sensors must be installed in Hazardous Locations by trained professionals according to EN/IEC 60079-14 requirements.
Details on Safety of Protection Category	Ex ia is “intrinsic safety”, which limits the energy of sparks and surface temperatures to safe levels. Ex nA is “Non-Sparking”, which ensures that there is no risk of arcing and sparking or hot surfaces during normal operation.
Entity Parameters and Limits (Values)	Temperature Range: -54°C to +121°C. U _i = 30V, I _i = 200 mA, P _i = 1W, C _i = 5nF, L _i = 0μH
Special Conditions of Use	Version Ex ia : The apparatus must only be connected to a certified associated intrinsically safe equipment. This combination must be compatible regarding intrinsic safety rules (see electrical parameters). Version Ex nA: The apparatus must only be connected to equipment whose electrical parameters are compatible with the electrical parameters.
Essential Characteristics of tools fitted to the system (if any).	N/A – No tools are fitted to the system.
Drawings and Diagrams	21869, 56617, 56620
Other	For ATEX protection “ia” – EN 60079-0 + A11:2013 and EN 60079-11:2012 For ATEX protection “nA” – EN 60079-0 + A11:2013 and EN 60079-15:2010 For IECEx protection “ia” – IEC 60079-0 Ed. 6 and IEC 60079-11 Ed. 6 For IECEx protection “nA” – IEC 60079-0 Ed. 6 and IEC 60079-15 Ed. 4

Note: Literature (such as the manual or marketing materials) describing the equipment or protective system must not contradict the instructions with regard to safety aspects.

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