

INSTRUCTIONS FOR USE – EX64x Series

Model(s)	EX64xA0y, EXM64xA0y, EX64xB0y, and EXM64xB0y Series EXRV64xA0y, EXRVM64xA0y, EXRV64xB0y, and EXRVM64xB0y Series EXTO64xA3y, EXTOM64xA3y, EXTO64xB3y, and EXTOM64xB3y Series EX64xA1y, EXM64xA1y, EXTO64xA1y, EXRV64xA1y, EXTOM64xA1y, and EXRVM64xA1y Series EX64xB1y, EXM64xB1y, EXTO64xB1y, EXRV64xB1y, EXTOM64xB1y, and EXRVM64xB1y Series EX64xA6y, EXM64xA6y, EXTO64xA6y, EXRV64xA6y, EXTOM64xA6y, and EXRVM64xA6y Series EX64xB6y, EXM64xB6y, EXTO64xB6y, EXRV64xB6y, EXTOM64xB6y, and EXRVM64xB6y Series EX64xB7y, EXTO64xB7y, and EXRV64xB7y Series
Markings	IMI Made in U.S.A. WWW.IMI-SENSORS.COM 1-800-959-4464 LCIE 05 ATEX 6154 X Ex ia IIC T4 Ga, II 1 G LCIE 05 ATEX 6155 X Ex nA IIC T4 Gc, II 3 G IECEEx 16.xxxx ia and nA (TBD)
Putting Into Service	The Model 640/641/645/646 B7 Series uses plug-in type screw terminal connectors for all input and output connections and operate from a standard 2-wire, 4-20mA loop. Attach the positive (+) input from the power supply to Pin 2 and the negative (-) input from the power supply to Pin 3. If using a standard DC power supply, install either an ammeter and/or load resistor in line with the return connection Pin 3.
Safe Use	<p>Warning 1 - <i>The power supply/signal conditioner should not be opened by anyone other than qualified service personnel.</i> This product is intended for use by qualified personnel who recognize shock hazards and are familiar with the safety precautions required to avoid injury.</p> <p>Warning 2 - This equipment is designed with user safety in mind; however, the protection provided by the equipment may be impaired if the equipment is used in a manner not specified by PCB Piezotronics, Inc.</p> <p>Caution 1 - <i>Cables can kill your equipment.</i> High voltage electrostatic discharge (ESD) can damage electrical devices. Similar to a capacitor, a cable can hold a charge caused by triboelectric transfer, such as that which occurs in the following:</p> <ul style="list-style-type: none"> ▪ <i>Laying on and moving across a rug,</i> ▪ <i>Any movement through air,</i> ▪ <i>The action of rolling out a cable, and/or</i> ▪ <i>Contact with a non-grounded person.</i> <p>The PCB solution for product safety:</p> <ul style="list-style-type: none"> ▪ Connect the cables only with the AC power off. <p>Temporarily “short” the end of the cable before attaching it to any signal input or output.</p> <p>Caution 2 - ESD considerations should be made prior to performing any internal adjustments on the equipment. Any piece of electronic equipment is vulnerable to ESD when opened for adjustments. Internal adjustments should therefore be done ONLY at an ESD-safe work area. Many products have ESD protection, but the level of protection may be exceeded by extremely high voltage.</p>

Assembling	The EX64x Series have a sealed stainless steel housing, with a screw terminal, and do not require any assembly. Only mounting to the machine being monitored using standard mounting accessories.
Dismantling	Other than removal from the mounting, there is no disassembly of the sensor required to take it out of service.
Maintenance	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.
Servicing	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	<p>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 accelerometer. Mounting methods include: Stud mount, adhesive mount, magnetic mount, handheld, or probe tip mount.</p> <p>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. Due to the nature of vibration measurements, all sensor cables will ultimately fatigue and fail. 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.</p>
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” no arcs, sparks or hot surfaces (enclosure \geq IP54)
Entity Parameters and Limits (Values)	<p>Temperature Range: -40°C to $+80^{\circ}\text{C}$</p> <p>IS (ia) Parameters – Models EX(M)64xA0y, EX(M)64xB0y: Ui : 30V; Ii : 100 mA; Pi : 1W; Ci: 0nF; Li : 121.1μH</p> <p>Models EX(M)64xA1y, EX(M)64xA6y, EX(M)64xB1y, EX(M)64xB6y: Ui : 30V; Ii : 100 mA; Pi : 1W; Ci: 61nF; Li : 426.1μH</p> <p>Models EX(M)64xA3y, EX(M)64xB3y: Ui : 28V; Ii : 120 mA; Pi : 1W; Ci: 0nF; Li : 122.2μH</p> <p>Models EXTO(M)64xA1y, EXTO(M)64xA6y, EXTO(M)64xB1y, EXTO(M)64xB6y: Ui : 28V; Ii : 120 mA; Pi : 1W; Ci: 61nF; Li : 427.2μH</p>

	<p>Models EXRV(M)64xA0y, EXRV(M)64xB0y: Ui : 28V; Ii : 120 mA; Pi : 1W; Ci : 25nF; Li : 121.1μH</p> <p>Models EXRV(M)64xA1y, EXRV(M)64xA6y, EXRV(M)64xB1y, EXRV(M)64xB6y: Ui : 28V; Ii : 120 mA; Pi : 1W; Ci : 80nF; Li : 426.1μH</p> <p>Model EX(M)64xB7y: Ui : 30V; Ii : 100 mA; Pi : 1W; Ci : 0nF; Li : 121μH</p> <p>Models EXTO(M)64xB7y: Ui : 30V; Ii : 120 mA; Pi : 1W; Ci : 0nF; Li : 122.2μH</p> <p>Model EXRV(M)64xB7y: Ui : 30V; Ii : 120 mA; Pi : 1W; Ci : 25nF; Li : 121.1μH</p> <p>Ex (nA) Parameters –</p> <p>U_{max} = 30V, P_{max} = 1W</p>
Special Conditions of Use	<p>This equipment is an intrinsically safe apparatus; it can be mounted in explosive atmosphere. The apparatus must be only connected to a certified, associated intrinsically safe equipment and this combination must be compatible regarding intrinsic safety rules. Operating ambient temperature: -40°C to +80°C.</p> <p>For final installation, the device shall be connected in compliance with EN 60079-14 requirements, providing and maintaining degree of protection at least IP54.</p>
Essential Characteristics of tools fitted to the system (if any).	N/A – No tools are fitted to the system.
Drawings and Diagrams	27531, 27532, 30537, 64861, 64862, 64863, 64864, 64865, 64866, 32836
Applicable Standards	IEC 60079-0 (2011) Ed. 6 (with Corrigendum 1:2012), IEC 60079-11 (2011) Ed. 6 (with Corrigendum 1:2012), IEC 60079-15 (2010) Ed. 4, EN 60079-0:2012 + A11:2013, EN 60079-11:2012, and EN 60079-15:2010
Other	LCIE 05 ATEX 6155 X and LCIE 05 ATEX 6154 X

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.