

## Dynamix 1443 Series Sensors

### Catalog Numbers 1443-ACC-IS series

Dynamix™ 1443 series sensors are general-purpose sensors that are used to measure vibration on industrial machinery. The family includes a broad selection of sensors with these varied capabilities: low frequency (as low as 0.4 Hz or 24 cpm), high frequency (up to 26 kHz or 1560 kcpm), velocity output (internal integrator), approved for hazardous areas, accelerometer, and temperature output.



**ATTENTION:** Read this document and the documents listed in the Additional Resources section about installation, configuration and operation of this equipment before you install, configure, operate or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

**注意:** 在安装、配置、操作和维护本产品前，请阅读本文档以及“其他资源”部分列出的有关设备安装、配置和操作的相应文档。除了所有适用规范、法律和标准的相关要求之外，用户还必须熟悉安装和接线说明。

安装、调整、投运、使用、组装、拆卸和维护等各项操作必须由经过适当训练的专业人员按照适用的操作规范实施。

如果未按照制造商指定的方式使用该设备，则可能会损害设备提供的保护。

**ATENCIÓN:** Antes de instalar, configurar, poner en funcionamiento o realizar el mantenimiento de este producto, lea este documento y los documentos listados en la sección Recursos adicionales acerca de la instalación, configuración y operación de este equipo. Los usuarios deben familiarizarse con las instrucciones de instalación y cableado y con los requisitos de todos los códigos, leyes y estándares vigentes.

El personal debidamente capacitado debe realizar las actividades relacionadas a la instalación, ajustes, puesta en servicio, uso, ensamblaje, desensamblaje y mantenimiento de conformidad con el código de práctica aplicable.

Si este equipo se usa de una manera no especificada por el fabricante, la protección provista por el equipo puede resultar afectada.

**ATENÇÃO:** Leia este e os demais documentos sobre instalação, configuração e operação do equipamento que estão na seção Recursos adicionais antes de instalar, configurar, operar ou manter este produto. Os usuários devem se familiarizar com as instruções de instalação e fiação além das especificações para todos os códigos, leis e normas aplicáveis.

É necessário que as atividades, incluindo instalação, ajustes, colocação em serviço, utilização, montagem, desmontagem e manutenção sejam realizadas por pessoal qualificado e especializado, de acordo com o código de prática aplicável.

Caso este equipamento seja utilizado de maneira não estabelecida pelo fabricante, a proteção fornecida pelo equipamento pode ficar prejudicada.

**ВНИМАНИЕ:** Перед тем как устанавливать, настраивать, эксплуатировать или обслуживать данное оборудование, прочитайте этот документ и документы, перечисленные в разделе «Дополнительные ресурсы». В этих документах изложены сведения об установке, настройке и эксплуатации данного оборудования. Пользователи обязаны ознакомиться с инструкциями по установке и прокладке соединений, а также с требованиями всех применимых норм, законов и стандартов.

Все действия, включая установку, наладку, ввод в эксплуатацию, использование, сборку, разборку и техническое обслуживание, должны выполняться обученным персоналом в соответствии с применимыми нормами и правилами.

Если оборудование используется не предусмотренным производителем образом, защита оборудования может быть нарушена.

**注意:** 本製品を設置、構成、稼働または保守する前に、本書および本機器の設置、設定、操作についての参考資料の該当箇所に記載されている文書に目を通してください。ユーザは、すべての該当する条例、法律、規格の要件に加えて、設置および配線の手順に習熟している必要があります。

設置調整、運転の開始、使用、組立て、解体、保守を含む諸作業は、該当する実施規則に従って訓練を受けた適切な作業員が実行する必要があります。

本機器が製造メーカーにより指定されていない方法で使用されている場合、機器により提供されている保護が損なわれる恐れがあります。

**ACHTUNG:** Lesen Sie dieses Dokument und die im Abschnitt „Weitere Informationen“ aufgeführten Dokumente, die Informationen zu Installation, Konfiguration und Bedienung dieses Produkts enthalten, bevor Sie dieses Produkt installieren, konfigurieren, bedienen oder warten. Anwender müssen sich neben den Bestimmungen aller anwendbaren Vorschriften, Gesetze und Normen zusätzlich mit den Installations- und Verdrahtungsanweisungen vertraut machen. Arbeiten im Rahmen der Installation, Anpassung, Inbetriebnahme, Verwendung, Montage, Demontage oder Instandhaltung dürfen nur durch ausreichend geschulte Mitarbeiter und in Übereinstimmung mit den anwendbaren Ausführungsanweisungen vorgenommen werden. Wenn das Gerät in einer Weise verwendet wird, die vom Hersteller nicht vorgesehen ist, kann die Schutzfunktion beeinträchtigt sein.

**ATTENTION:** Lisez ce document et les documents listés dans la section Ressources complémentaires relatifs à l'installation, la configuration et le fonctionnement de cet équipement avant d'installer, configurer, utiliser ou entretenir ce produit. Les utilisateurs doivent se familiariser avec les instructions d'installation et de câblage en plus des exigences relatives aux codes, lois et normes en vigueur.

Les activités relatives à l'installation, le réglage, la mise en service, l'utilisation, l'assemblage, le démontage et l'entretien doivent être réalisées par des personnes formées selon le code de pratique en vigueur.

Si cet équipement est utilisé d'une façon qui n'a pas été définie par le fabricant, la protection fournie par l'équipement peut être compromise.

**주의:** 본 제품 설치, 설정, 작동 또는 유지 보수하기 전에 본 문서를 포함하여 설치, 설정 및 작동에 관한 참고 자료 섹션의 문서들을 반드시 읽고 숙지하십시오. 사용자는 모든 관련 규정, 법규 및 표준에서 요구하는 사항에 대해 반드시 설치 및 배선 지침을 숙지해야 합니다.

설치, 조정, 가동, 사용, 조립, 분해, 유지보수 등 모든 작업은 관련 규정에 따라 적절한 교육을 받은 사용자를 통해서만 수행해야 합니다.

본 장비를 제조사가 명시하지 않은 방법으로 사용하면 장비의 보호 기능이 손상될 수 있습니다.

**ATTENZIONE:** Prima di installare, configurare ed utilizzare il prodotto, o effettuare interventi di manutenzione su di esso, leggere il presente documento ed i documenti elencati nella sezione "Altre risorse", riguardanti l'installazione, la configurazione ed il funzionamento dell'apparecchiatura. Gli utenti devono leggere e comprendere le istruzioni di installazione e cablaggio, oltre ai requisiti previsti dalle leggi, codici e standard applicabili.

Le attività come installazione, regolazioni, utilizzo, assemblaggio, disassemblaggio e manutenzione devono essere svolte da personale adeguatamente addestrato, nel rispetto delle procedure previste.

Qualora l'apparecchio venga utilizzato con modalità diverse da quanto previsto dal produttore, la sua funzione di protezione potrebbe venire compromessa.

**DİKKAT:** Bu ürünün kurulumu, yapılandırılması, işletilmesi veya bakımı öncesinde bu dokümanı ve bu ekipmanın kurulumu, yapılandırılması ve işletimi ile ilgili llave Kaynaklar bölümünde yer listelenmiş dokümanları okuyun. Kullanıcılar yürürlükteki tüm yönetmelikler, yasalar ve standartların gereksinimlerine ek olarak kurulum ve kablolama talimatlarını da öğrenmek zorundadır.

Kurulum, ayarlar, hizmete alma, kullanma, parçaları birleştirme, parçaları sökme ve bakım gibi aktiviteler sadece uygun eğitimleri almış kişiler tarafından yürürlükteki uygulama yönetmeliklerine uygun şekilde yapılabilir.

Bu ekipman üretici tarafından belirlenmiş amacın dışında kullanılırsa, ekipman tarafından sağlanan koruma bozulabilir.

**注意事項:** 在安装、設定、操作或維護本產品前，請先閱讀此文件以及列於「其他資源」章節中有關安裝、設定與操作此設備的文件。使用者必須熟悉安裝和配線指示，並符合所有法規、法律和標準要求。

包括安裝、調整、交付使用、使用、組裝、拆卸和維護等動作都必須交由已經過適當訓練的人員進行，以符合適用的實作法規。

如果將設備用於非製造商指定的用途時，可能會造成設備所提供的保護功能受損。

**POZOR:** Než začnete instalovat, konfigurovat či provozovat tento výrobek nebo provádět jeho údržbu, přečtěte si tento dokument a dokumenty uvedené v části Dodatečné zdroje ohledně instalace, konfigurace a provozu tohoto zařízení. Uživatelé se musejí vedle požadavků všech relevantních vyhlášek, zákonů a norem nutně seznámit také s pokyny pro instalaci a elektrické zapojení.

Činnosti zahrnující instalaci, nastavení, uvedení do provozu, užívání, montáž, demontáž a údržbu musí vykonávat vhodně proškolený personál v souladu s příslušnými prováděcími předpisy.

Pokud se toto zařízení používá způsobem neodpovídajícím specifikaci výrobce, může být narušena ochrana, kterou toto zařízení poskytuje.

**UWAGA:** Przed instalacją, konfiguracją, użytkowaniem lub konserwacją tego produktu należy przeczytać niniejszy dokument oraz wszystkie dokumenty wymienione w sekcji Dodatkowe źródła omawiające instalację, konfigurację i procedury użytkowania tego urządzenia. Użytkownicy mają obowiązek zapoznać się z instrukcjami dotyczącymi instalacji oraz oprzewodowania, jak również z obowiązującymi kodeksami, prawem i normami.

Działania obejmujące instalację, regulację, przekazanie do użytkowania, użytkowanie, montaż, demontaż oraz konserwację muszą być wykonywane przez odpowiednio przeszkolony personel zgodnie z obowiązującym kodeksem postępowania.

Jeśli urządzenie jest użytkowane w sposób inny niż określony przez producenta, zabezpieczenie zapewniane przez urządzenie może zostać ograniczone.

**Obs!** Läs detta dokument samt dokumentet, som står listat i avsnittet Övriga resurser, om installation, konfigurering och drift av denna utrustning innan du installerar, konfigurerar eller börjar använda eller utföra underhållsarbete på produkten. Användare måste bekanta sig med instruktioner för installation och kabeldragning, förutom krav enligt gällande koder, lagar och standarder.

Åtgärder som installation, justering, service, användning, montering, demontering och underhållsarbete måste utföras av personal med lämplig utbildning enligt lämpligt bruk.

Om denna utrustning används på ett sätt som inte anges av tillverkaren kan det hända att utrustningens skyddsanordningar försätts ur funktion.






**LET OP:** Lees dit document en de documenten die genoemd worden in de paragraaf Aanvullende informatie over de installatie, configuratie en bediening van deze apparatuur voordat u dit product installeert, configureert, bedient of onderhoudt. Gebruikers moeten zich vertrouwd maken met de installatie en de bedradingsinstructies, naast de vereisten van alle toepasselijke regels, wetten en normen.

Activiteiten zoals het installeren, afstellen, in gebruik stellen, gebruiken, monteren, demonteren en het uitvoeren van onderhoud mogen uitsluitend worden uitgevoerd door hiervoor opgeleid personeel en in overeenstemming met de geldende praktijkregels.


Indien de apparatuur wordt gebruikt op een wijze die niet is gespecificeerd door de fabrikant, dan bestaat het gevaar dat de beveiliging van de apparatuur niet goed werkt.


## Important User Information


Throughout this publication, when necessary, we use notes to make you aware of safety considerations.


	<b>WARNING:</b> Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, that can lead to personal injury or death, property damage, or economic loss.
	<b>ATTENTION:</b> Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.
<b>IMPORTANT</b>	Identifies information that is critical for successful application and understanding of the product.
	<b>SHOCK HAZARD:</b> Labels can be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage can be present.
	<b>BURN HAZARD:</b> Labels can be on or inside the equipment, for example, a drive or motor, to alert people that surfaces can reach dangerous temperatures.
	<b>ARC FLASH HAZARD:</b> Labels can be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash can cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).


## Environment and Enclosure

	<b>ATTENTION:</b> This equipment is intended for use in Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC 60664-1), at altitudes up to 2000 m (6562 ft) without derating. This equipment is not intended for use in residential environments and may not provide adequate protection to radio communication services in such environments. This equipment is supplied as enclosed equipment for outdoor use. It should not require additional system enclosure when used in locations consistent with the equipment Enclosure Type Ratings. Subsequent sections of this publication may contain more information regarding specific enclosure type ratings, beyond what this product provides, that are required to comply with certain product safety certifications. In addition to this publication, see the following: <ul style="list-style-type: none"> <li>Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>, for additional installation requirements</li> <li>NEMA Standard 250 and EN/IEC 60529, as applicable, for explanations of the degrees of protection provided by enclosures</li> <li>Substitution of components can impair intrinsic safety.</li> </ul>
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	<b>ATTENTION:</b> Read this document and the documents that are listed in the Additional Resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.
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	<b>ATTENTION:</b> Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice. In case of malfunction or damage, no attempts at repair should be made. The module should be returned to the manufacturer for repair. Do not dismantle the module.
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	<b>ATTENTION:</b> Use only a soft dry anti-static cloth to wipe down equipment. Do not use any cleaning agents.
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	<b>WARNING:</b> Substitution of components can impair intrinsic safety.
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## North American Hazardous Location Approval

### North American Zones

- UL0913 8th Edition
- CSA C22.2 No. 157-92 (R2012) +UPD1 +UPD2

## IEC Hazardous Location Approval

The following applies to products with IECEx certification:

Are intended for use in areas in which explosive atmospheres caused by gases, vapors, mists, or air/dust mixtures are highly likely to occur and are present continuously, for long periods of time or frequently. Such locations correspond to Zone 0 (G) and/or 20 (D) classification to IEC 60079-10-1 and zone 20 classification to IEC 60079-10-2.

The type of protection is:


- "Ex ia I Ma (-55°C <Ta<+110°C)"
- "Ex ia IIC T4 Ga (-55°C <Ta<+110°C)"
- "Ex ia IIC T6 Ga (-55°C <Ta<+60°C)"
- "Ex ia IIIC T130°C IP65 Da (-55°C <Ta<+110°C)"
- "Ex ia IIIC T80°C IP65 Da (-55°C <Ta<+60°C)" according to EN 60079-11
- Comply to Standards IEC 60079-0 Ed. 6, IEC-60079-11 Ed. 6, reference IECEx certificate numbers IECEx BAS 15.0073X IECEx BAS 15.0072

## European Hazardous Location Approval

The following applies to products marked   :

- Are Equipment Group II, Equipment Category 1 and Equipment Group I, Equipment Category M1, and comply with the Essential Health and Safety Requirements relating to the design and construction of such equipment given in Annex II to Directive 94/9/EC.
- See the EC Declaration of Conformity at <http://www.rockwellautomation.com/products/certification> for details.  
The type of protection according to EN 60079-11 is:
  - "Ex ia I Ma (-55°C <Ta<+110°C)"
  - "Ex ia IIC T4 Ga (-55°C <Ta<+110°C)"
  - "Ex ia IIC T6 Ga (-55°C <Ta<+60°C)"
  - "Ex ia IIIC T130°C IP65 Da (-55°C <Ta<+110°C)"
  - "Ex ia IIIC T80°C IP65 Da (-55°C <Ta<+60°C)"
- Comply to Standards EN 60079-0:2012+A11:2013, EN 60079-11:2012, reference certificate numbers Baseefa15ATEX0101X and Baseefa15ATEX0100
- Are intended for use in areas in which explosive atmospheres caused by gases, vapors, mists, or air/dust mixtures are highly likely to occur and are present continuously, for long periods of time or frequently. Such locations correspond to Zone 0 (G) and/or 20 (D) classification according to ATEX directive 1999/92/EC.

## Special Conditions for Safe Use

	<b>WARNING:</b> <ul style="list-style-type: none"> <li>This equipment shall be used within its specified ratings defined by Rockwell Automation.</li> <li>The instructions in the user manual shall be observed.</li> <li>This equipment must be used only with ATEX/IECEx certified equipment.</li> <li>Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product.</li> <li>Special conditions of safe use for Group II dust. The free end of the cable on the integral cable end version of the apparatus must be terminated in an appropriately certified dust proof enclosure.</li> <li>Terminal Parameters: Ui=28V, Ii=93mA, Pi=0.65W, Ci=1.0nF, Li=zero</li> <li>Modules are Intrinsically safe when connected in accordance with drawings 10001798000, 10001798002, 10001798003, 10001798004, 10001798005, and 10001831383.</li> </ul>
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### Sensor Mounting

Once you choose the correct sensor, you must decide on how to mount the sensor in a way that assures accurate measurements. The Dynamix™ 1443 Series Sensors includes various accessories for mounting.

#### Sensor Mounting Accessories

Catalog Number	Size	UNF Thread
<b>Magnet Mount</b>		
	<b>Diameter</b>	<b>UNF</b>
1443-MAG-075C-14 <sup>(1)</sup>	1.905 cm (0.75 in.)	1/4-28 UNF
1443-MAG-075F-15 <sup>(1)</sup>	1.905 cm (0.75 in.)	1/4-28 UNF
1443-MAG-100C-35 <sup>(1)</sup>	2.54 cm (1.0 in.)	1/4-28 UNF
1443-MAG-100F-35 <sup>(1)</sup>	2.54 cm (1.0 in.)	1/4-28 UNF
1443-MAG-150C-55 <sup>(1)</sup>	3.81 cm (1.5 in.)	1/4-28 UNF
1443-MAG-150F-50 <sup>(1)</sup>	3.81 cm (1.5 in.)	1/4-28 UNF
<b>Stud Mount</b>		
	<b>Length</b>	<b>UNF</b>
1443-STD-0-0	1.27 cm (0.5 in.)	1/4-28 UNF
1443-STD-0-M8	0.09 cm (0.039 in.)	1/4-28 UNF to M8 x 1.25 mm (0.04921 in.)
<b>Mounting Bolt</b>		
	<b>Length</b>	<b>UNF</b>
1443-BLT-125-M6	3.175 cm (1.25 in.)	M6 x 1 mm (0.03937 in.)
1443-BLT-125-0	3.175 cm (1.25 in.)	1/4-28 UNF
<b>Hand Probe Mount</b>		
	<b>Length</b>	<b>UNF</b>
1443-PRB-40	10.16 cm (4 in.)	1/4-28 UNF
1443-PRB-90	22.86 cm (9 in.)	1/4-28 UNF
<b>Mounting Pad</b>		
	<b>Diameter</b>	<b>UNF</b>
1443-PAD-075-0	1.905 cm (0.75 in.)	1/4-28 UNF
<b>Mount Spot-face Tool</b>		
	<b>Diameter</b>	<b>UNF</b>
1443-SFT-125-0	3.175 cm (1.25 in.)	1/4-28 UNF Pilot
1443-SFT-125-M6	3.175 cm (1.25 in.)	M6 Pilot
1443-SFT-125-M8	3.175 cm (1.25 in.)	M8 Pilot

(1) Magnet material: Neodymium-Iron-Boron (NdFeB)

<b>TIP</b>	For 0.9525 cm (0.375 or 3/8 in.) deep holes, make sure 0.635 cm (.25 or 1/4 in.) of the stud engages the base of the sensor. If you screw a 1.27 cm (0.5 or 1/2 in.) stud fully into a 0.9525 cm (0.375 or 3/8 in.) inch deep hole, which leaves only 0.3175 cm (0.125 or 1/8 in.) of stud to hold the sensor, which is not sufficient.
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### Types of Sensor Mounting

The actual frequency range of a sensor depends on how well it is attached to the machine. The following are the mounting types available for the sensors.

- Mount the sensor directly on the case
- Stud mounting
- Screw mounting
- Mount the sensor with adhesive
- Mount the sensor with a bracket
- Mount the sensor with a magnet

#### Mount the Sensors Directly on the Case

All Dynamix™ 1443 Series sensors are designed for mounting directly on the machine case. Each sensor base is drilled and tapped for that purpose. There are two common methods to mount sensor, stud mounting and screw mounting. In both cases, it is crucial to prepare a flat, smooth, and clean area at least as large as the base of the sensor.

An improperly prepared surface or improperly mounted sensor could result in:

- Attenuated measurements that results in lower than actual-vibration amplitudes
- Reduced frequency response that results in an inability to measure high frequency signals
- Possible introduction of erroneous/false signals that could be misinterpreted as actual machine vibration or that could mask actual vibration

**IMPORTANT** We recommend following the API 670 requirements for surface finish and flatness, even for the non-API installations.

### Stud Mounting

Stud mounting is one secure method to attach a sensor to a machine. Follow these steps to mount the sensor.

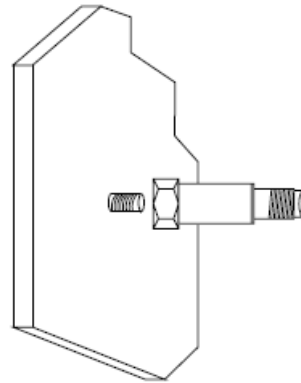
1. Spot-face the surface.
2. Drill and tap a hole in the machine case or bearing housing where you want to install the sensor.
  - The surface finish must be within 0.8 micrometers (0.0008 mm, or 32 microinches) and the flatness must be below 25 micrometers (1 Mil). These requirements are listed in publication, API 670 Appendix C,
3. To remove any rust, dirt, paint, or grease, clean the finished area.
4. To attach the sensor, insert a set screw and leave enough of the screw above the case, typically 0.635 cm (.25 in)

Some sensors come with captive mounting screw and do not need a separate set screw.

5. Apply a thin coating of grease or silicone lubricant to the surface.
6. Attach the sensor by using a torque wrench.

<b>TIP</b>	All 1443 Series sensors are torqued to 8 N-m (6 ft.-lb).
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### Stud Mounting



### Screw Mounting

Screw mounting is another method to secure sensors. The preparation process differs slightly from stud mounting. To use the stud mounting method, follow these steps.

1. Spot-face the surface.
2. Drill the hole in the machine case or bearing housing where you want to install the sensor.
3. To secure the sensor, use a machine screw.

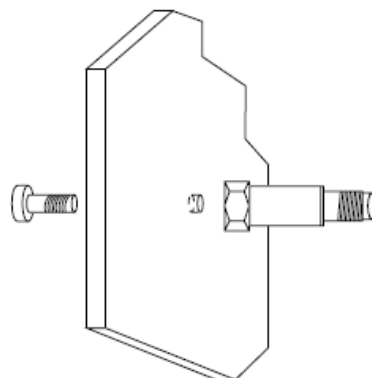
Be sure to follow the sensor guidelines for the dimensions of the hole, the type of machine screw, and the torque for attaching the sensor.

### Mounting Sensors with Adhesive

Stud mounting is recommended, but if a mounting hole cannot be drilled into the machine surface, you can mount the sensor by using adhesive. There are two ways to mount a sensor by using adhesive.

- Mount the sensor directly to the machine.
- Mount a flat plate with a threaded stud, and attach the sensor to the stud.

#### Flat Plate with a Threaded Stud



When you mount the sensor by using adhesive, the adhesive can limit the detection of high frequencies. Suitable adhesives are widely available. When selecting an adhesive, make sure to consider temperature, water resistance, and any other environmental or chemical requirements or restrictions.

To mount a sensor with adhesive, follow these steps.

1. Spot-face the surface on the machine case or bearing housing where you want to install the sensor.

The surface finish must be within 0.8 micrometers (0.032 mil, or 32 μinches) and the flatness must be less than 25 μm (1 mil). These requirements are listed in the publication, API 670 Appendix C.

2. Prepare the surface following standard-adhesive bonding practice.
3. Abrade and then thoroughly clean the spot on the machine with solvent.
4. Mix the adhesive according to its directions.
5. Attach the sensor or plate to the machine.
6. To cure the adhesive, make sure to allow the recommended time.
7. Make sure that the sensor is grounded through the cable shield to a good electrical ground.

**Sensor Stud / Bolt Mounting Guidelines**

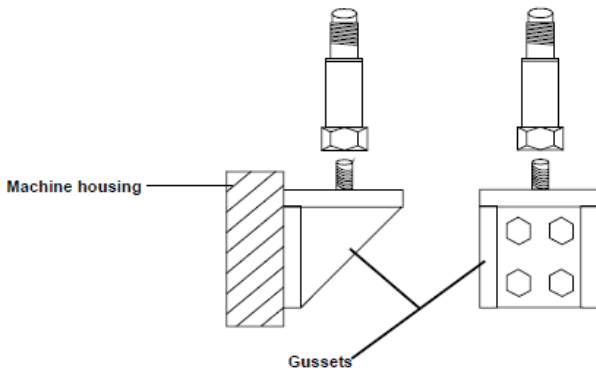
When preparing a hole for mounting a sensor using the provided stud or bolt, use the following table to insure that the threaded hole is of the proper size and depth and that the stud or bolt is firmly secured.

Fastener Type	Thread Type	Hole Diameter	Minimum Depth	Torque
Stud	1/4-28 UNF	Ø5.5mm/0.216"	10.0mm/0.397"	8 N-m / 6 ft-lb
	M8 x 1.25 mm	Ø6.8mm/0.267"		
Bolt	1/4-28 UNF	Ø5.5mm/0.216"		
	M6 x 1.00 mm	Ø5.0mm/0.198"		

**Mount the Sensors with a Bracket**

Sometimes a sensor does not fit at the desired location on or near the bearing housing because of an obstruction or because a suitable flat surface is not available. In these cases, use a bracket that extends from the desired measurement point to an area where the sensor can be mounted properly. Make sure that the bracket itself does not introduce any extraneous vibrations. The bracket must not bend or flex. Even if the bracket bends or flexes a small amount, the reading can be unreliable. Only a stiff bracket is able to transfer the vibration from the machine to the sensor without additional vibration due to the natural resonance frequency of the bracket. As a rule, even the shortest bracket requires fabrication from 1/2-inch steel plate.

**Figure 1 - Mount the Sensor with a Bracket**



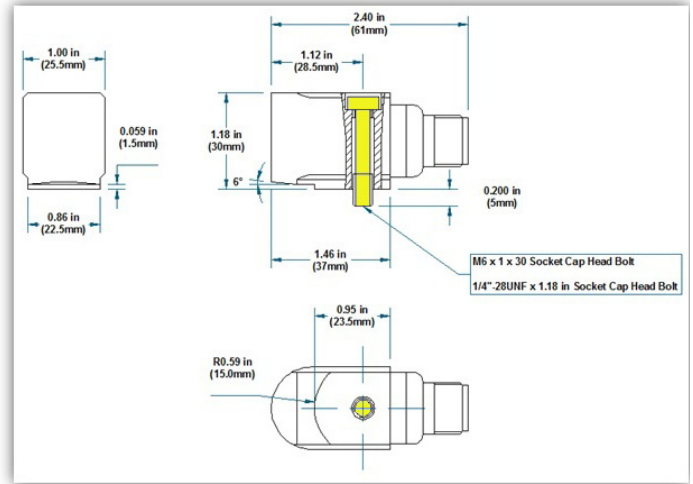
You must test all brackets for resonance in the frequencies that the sensors monitor.

**Mount Side-exit Sensors**

The mounting technique in Figure 1 refers to common top exit sensors that mount using a stud that threads into the base of the sensor. Side-exit sensors mount using a bolt that passes through the sensor and threads into the mounting surface. In general the same techniques that are described above can be applied to a side-exit sensor, except for where the technique requires a stud thread into the sensor. In some cases, such as, face-plate mounting, the provided through-bolt may have to be replaced with a bolt of a more appropriate length. In these cases, make sure that the replacement bolt is identical to the supplied bolt with the only exceptions being the bolts length and thread. Any other dimensional changes could result in the sensor not being securely attached to the surface, which may result in erroneous measurements.

**Mount the Sensors with Magnets**

**IMPORTANT** Do not use a magnet to permanently mount a sensor. Magnet mounts must be used only for attended, immediate measurements such as when you use a portable data collector.



**Specifications**

Complete specifications are listed in the Dynamix 1443 Series Sensors Technical Data, publication [1443-TD001](#).

Attribute	Description
Temperature, ambient, max.	Hazardous Area - North America -55...110 °C (-67...230 °F) Hazardous Area - ATEX -55...110 °C (-67...230 °F) Hazardous Area - IECEx -55...110 °C (-67...230 °F)
Enclosure type rating	IP66 to IP68, depending upon cable assembly used.
Voltage and current ratings	18...28V DC
North American Temp Code	For Class I, II, III Div 1,2 Groups A-G • T4 (-55...+110 °C) (-67...230 °F) • T6 (-55...+80 °C) (-67...140 °F) For Zone 20, Dust Group IIIC • T130 °C (-55...+110 °C) (-67...230 °F) • T80 °C (-55...+80 °C) (-67...140 °F) For Class I Zone 0, Gas Group IIC • T4 (-55...+110 °C) (-67...230 °F)
IECEx/ATEX Temp Code	For Ex ia IIC • T4 (-55...+110 °C) (-67...230 °F) • T6 (-55...+80 °C) (-67...140 °F) For Ex ia IIIC • T130 °C (-55...+110 °C) (-67...230 °F) • T80 °C (-55...+80 °C) (-67...140 °F)
Isolation voltage	Routine tested at 500V AC for 60 s between signal pins and case.
Wiring category <sup>(1)</sup>	2 - on shielded signal ports
Cable assemblies	1443-CBL-MS2IBC 1443-CBL-MS2GBC - push on connection, temperature range: -50...110 °C (-58...230 °F) 1443-CBL-MS2IBC-50A - tighten to 4 N-m, temperature range: -40...100 °C (-40...212 °F) 1443-CBL-MS2IBC - rated IP66 1443-CBL-MS2GBC - rated IP68

(1) Use this conductor category information for planning conductor routing. See Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

**Sensor Certifications and Approvals**

This table lists the sensor certifications for 1443-ACC-IS-S and 1443-ACC-IS-T.

**Table 1 - Sensor Certifications**

Certification <sup>(1)</sup> (when product is marked)	Description
North American Zones	North American Hazardous Location Approval • UL0913 5th Edition • CSA C22 No. 157-92 (R2012) +UPD1 +UPD2
Ex	European Union 94/9/EC ATEX Directive, compliant with: EN 60079-0:2010+A11:2013; General Requirements EN 60079-11:2012 Explosive Atmospheres, Protection 'i' ⊕ I M1 Ex ia I Ma -55 °C <Ta <+110 °C (-67...230 °F) ⊕ II 1 G Ex ia IIC T4 Ga -55 °C <Ta <+110 °C (-67...230 °F) ⊕ II 1 G Ex ia IIC T6 Ga -55 °C <Ta <+60 °C (-67...140 °F) ⊕ II 1 D Ex ia IIIC T130°C IP65 Da -55 °C <Ta <+110 °C (-67...230 °F) ⊕ II 1 D Ex ia IIIC T80°C IP65 Da -55 °C <Ta <+60 °C (-67...140 °F) Baseefa15ATEX0101X Baseefa15ATEX0100

**Table 1 - Sensor Certifications**

IECEx	IECEx System, compliant with: IEC 60079-0:2011 Edition 6; General Requirements IEC 60079-11:2011 Edition 6; Explosive Atmospheres, Protection 'i' Ex ia I Ma -55 °C <Ta <+110 °C (-67...230 °F) Ex ia IIC T4 Ga -55 °C <Ta <+110 °C (-67...230 °F) Ex ia IIC T6 Ga -55 °C <Ta <+60 °C (-67...140 °F) Ex ia IIIC T130°C IP65 Da -55 °C <Ta <+110 °C (-67...230 °F) Ex ia IIIC T80°C IP65 Da -55 °C <Ta <+60 °C (-67...140 °F) IECEx BAS 15.0073X IECEx BAS 15.0072
c-SGS-us	SGS Certified Process Control Equipment for Class I, Zone 0 Hazardous Locations, certified for US and Canada. See SGS File Certificate USTC/15/FAI/01350 AEx, ia, IIC, T4, Ga, -55...110 °C (-67...230 °F)
c-SGS-us	SGS Certified Process Control Equipment for Zone 20 Hazardous Locations, certified for US and Canada. See SGS File Certificate USTC/15/FAI/01350 AEx, ia, IIIC, T130°C, IP65, Da, -55...110 °C (-67...230 °F) AEx, ia, IIIC, T80°C, IP65, Da, -55...60 °C (-67...140 °F)
c-SGS-us	SGS Certified Process Control Equipment for Class I, II, III Division 1, 2 Group A-G Hazardous Locations, certified for US and Canada. See SGS File Certificate USTC/15/FAI/01350 T4, -55...110 °C, IP65 (-67...230 °F) T6, -55...60 °C (-67...140 °F)
Terminal Parameters	Ui=28V, li=93mA. Pi=0.65W, Ci=1.0nF, Li=0 With 10m Cable: Ui=28V, li=93mA. Pi=0.65W, Ci=9.9nF, Li=6uH or Li/Ri=15.4uH/. With 92m Cable: Ui=28V, li=93mA. Pi=0.65W, Ci=83nF, Li/Ri=15.4uH/.

(1) See the Product Certification link at [www.ab.com](http://www.ab.com) for Declarations of Conformity, Certificates, and other certification details.

**Additional Resources**

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Dynamix 1443 Series Sensors Technical Data, publication <a href="#">1443-TD001</a>	Provides selection information and specifications for sensors and related cables.
Dynamix 1443 Series Sensors User Manual, publication <a href="#">1443-UM001</a>	Provides an overview, installation instructions, cable information, and specifications for sensors and related cables.
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, <a href="http://www.rockwellautomation.com/products/certification">http://www.rockwellautomation.com/products/certification</a>	Provides declarations of conformity, certificates, and other certification details.

## Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At <http://www.rockwellautomation.com/support> you can find technical and application notes, sample code, and links to software service packs. You can also visit our Support Center at <https://rockwellautomation.custhelp.com/> for software updates, support chats and forums, technical information, FAQs, and to sign up for product notification updates. In addition, we offer multiple support programs for installation, configuration, and troubleshooting. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://www.rockwellautomation.com/services/online-phone>.

### Installation Assistance

If you experience a problem within the first 24 hours of installation, review the information that is contained in the installation instructions. You can contact Customer Support for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the <a href="#">Worldwide Locator</a> at <a href="http://www.rockwellautomation.com/support/americas/phone_en.html">http://www.rockwellautomation.com/support/americas/phone_en.html</a> , or contact your local Rockwell Automation representative.

### New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

### Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication [RA-DU002](#), available at <http://www.rockwellautomation.com/literature/>.

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

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