

机械 & 电气滤波三轴传感器 Series 3603AXT





主要特点

- 微型、TEDS、IEPE 三轴加速度传感器
- 机械和电气滤波
- 激光焊接，适用于恶劣环境
- 外壳隔离，防止噪声和接地回路
- 安全测量高频、高振幅、宽带振动现象





这个系列传感器能为你做什么？

- 准确测量高频、高振幅、宽带振动现象
- 在存在机械冲击的情况下获得准确的低水平振动测量。这些加速度计承受最初的高冲击事件，并在事件发生后继续测量低水平振动
- 机械和2极电气滤波的结合有效地将感测元件与超高频能量隔离开来，这可能导致信号饱和、已经在宽动态范围应用中经常出现的“零移位”现象
- 独特的组合滤波器设计抑制了加速度计的固有频率，以确保在使用其他方法基本无法测量的测试应用中进行正确的“频带内”振动数据采集



独特的技术

- 感应元件与外壳内部隔离，并由法拉第笼包围，以获得良好的抗噪性
- 包含**3**个悬挂在外壳内的传感元件，带有一组支撑，用于阻止高频传递到元件结构中
- 结构让传感元件在**8kHz**附近与壳体共振
- 滤波技术可防止“零漂移”现象
- 内置电子滤波器可将传感器输出平滑至最高**5kHz**的水平线
- 机械共振衰减加上双极电滤波器在大约**8kHz**后提供有效的**-24dB** / 倍频程信号下降

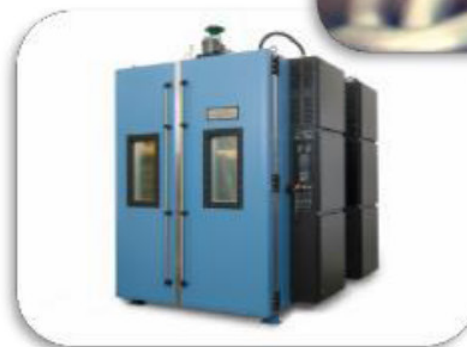
规格概述

- 可选三种灵敏度: 1mV/g, 5mV/G 和 10mV/g
- 0.3 至 5,000 Hz 频率范围(± 3 dB)
- 4 针 $\frac{1}{4}$ -28 径向接头
- 10-32 安装螺柱
- 微型立方设计
- 对地隔离
- TEDS 功能
- 激光焊接
- 重量 30 克

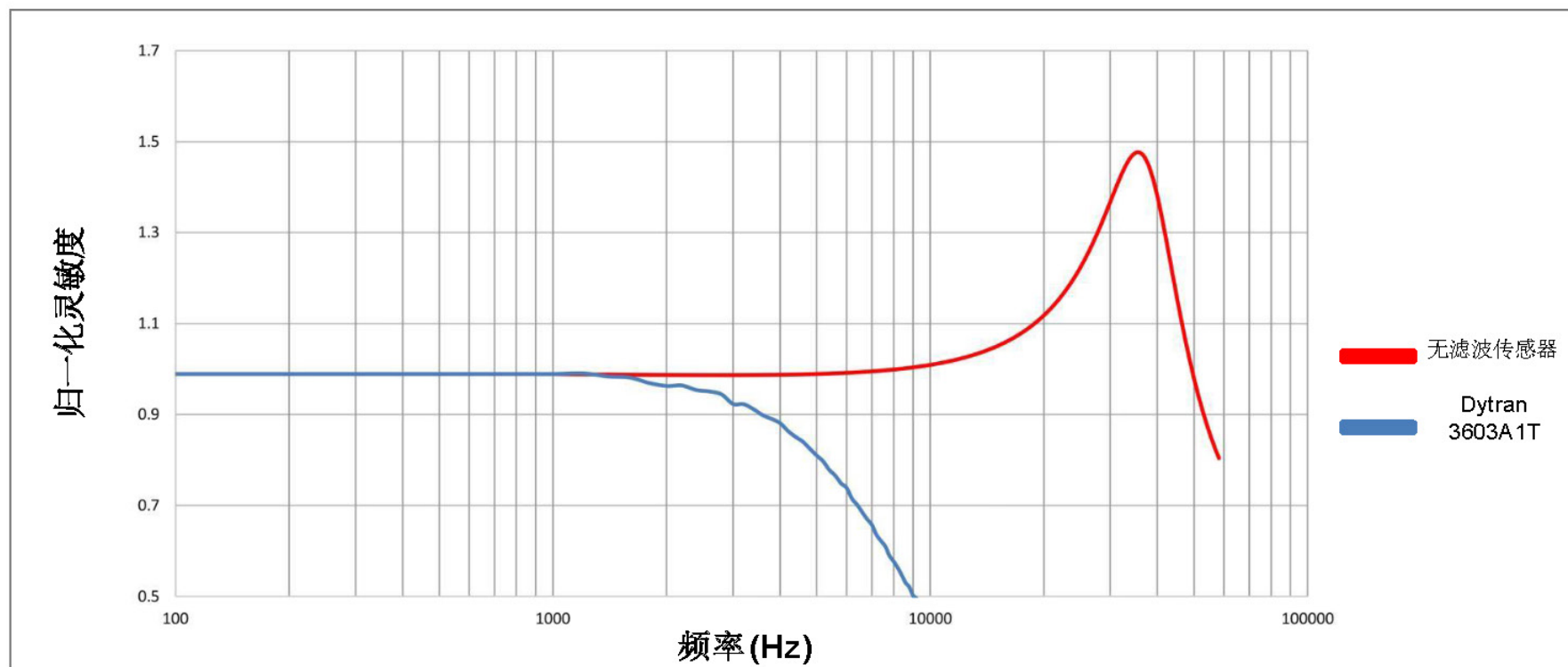
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应用

- 当存在较高的“带外”能量时将会使传感器的内部IEPE放大器饱和
- 当想要在高g值事件之后继续保持测试
- 发动机 NVH – 气缸盖振动测试
- 金属对金属冲击的高频应用
- 模拟远场爆炸冲击
- 包装箱跌落测试
- 环境应力筛选ESS



无滤波压电传感器典型频率响应 vs. 3603AXT 系列



- 该图显示了3603AXT系列与未滤波传感器相比抑制传感器谐振的能力

典型系统连接

3603AXT
加速度传感器
w/10-32
安装螺柱

+

6811AX Dytran 电缆

+

任意 IEPE
供电单元



4

3

2

1

PROPRIETARY AND CONFIDENTIAL

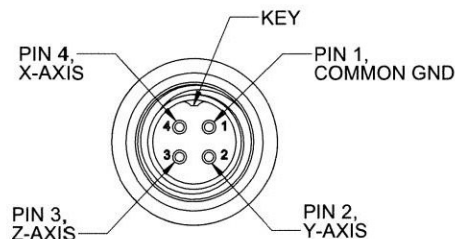
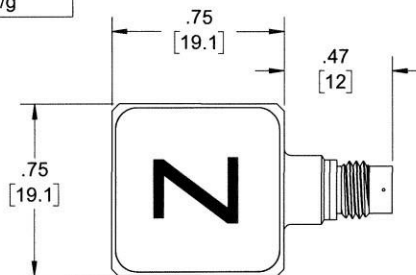
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DWG NO 127-3603A1T SH 1 REV A

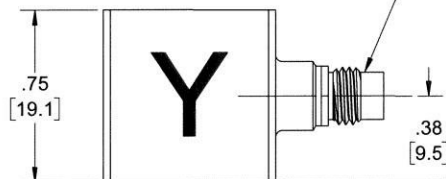
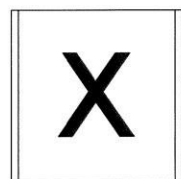
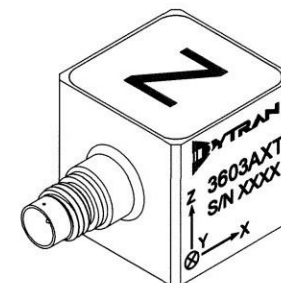
REVISIONS

REV.	ECN	DESCRIPTION	BY/DATE	CHK	APPR
A	12279	INITIAL RELEASE. SAME AS REV X2.	KG 04/16/18	LW	AS

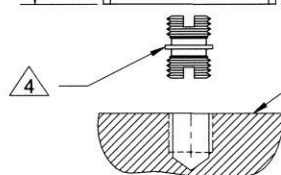
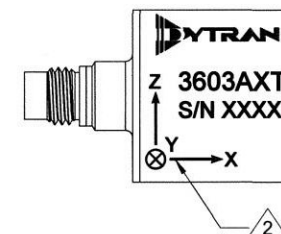
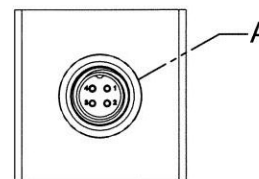
MODEL	SENSITIVITY
3603A1T	1 mV/g
3603A2T	5 mV/g
3603A3T	10 mV/g



**DETAIL A
SCALE 4 : 1**



CONNECTOR,
4-PIN, 1/4-28 UNF-2A



MOUNTING RECOMMENDATION:
PREPARE A .80 [20.3] X .80 [20.3] MIN SURFACE,
FLAT TO .001 TIR.
TAP 10-32 UNF-2B ∇ .15 [3.8] MIN.
MOUNTING TORQUE: 10-12 Lb-in.

4 MOUNTING STUD MODEL 6200 (SUPPLIED)

3. HOUSING/CONNECTOR M 10

2 ARROWS INDICATE DIRE

1. WEIGHT: 30 GRAMS, MAX

NOTES: UNLESS OTHERWISE SPECIFIED

UNLESS OTHERWISE SPECIFIED:
INTERPRET DIM & TOL PER
ASME Y14.5M - 1994.
REMOVE BURRS.
COUNTERSINK INTERNAL THDS
UNT 110.344 UNF-2A

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES.
DIMENSIONS IN BRACKETS [] ARE IN
MILLIMETERS TOLERANCES ARE:

DECIMALS	METRIC	ANGLES
.XX $\pm$.03	X $\pm$ 0.8	ANGLES $\pm$ 1°
.XXX $\pm$.010	XX $\pm$ 0.25	

DYTRAN
INSTRUMENTS, INC.
Chatsworth, CA

1000

10000

ALLIATION DWG,
FILTERED TRIAXIAL
..CCEL, 3603AXT SERIES

APP	AS	4/16/18	SIZE	B	CAGE CODE	DWG NO	REV
DO NOT SCALE DRAWING		THIRD ANGLE PROJECTION			2W033	127-3603A1T	A
SCALE:	2:1						

SHEET 1 OF 1

Model Number
3603A1T

PERFORMANCE SPECIFICATIONS

DOC NO
PS3603A1T

IEPE TRIAXIAL ACCELEROMETER

REV A, ECN 12279, 04/16/13



- MECHANICALLY & ELECTRICALLY FILTERED
- HERMETICALLY SEALED
- GROUND ISOLATED
- TEDS FUNCTION
- EXCELLENT LINEARITY

ENGLISH

SI

1.05	oz
10-32 UNF-2B	
4-pin	
Titanium	
Titanium	
Case Isolated	
Single Crystal	
Planar Shear	

30	grams
10-32 UNF-2B	
4-pin	
Titanium	
Titanium	
Case Isolated	
Single Crystal	
Planar Shear	

PHYSICAL

Weight, Max.	Tapped hole
Mounting Provision	Type
Connector [1]	Material
	Material
Housing	Isolation
Sensing Element	
Element Style	

PERFORMANCE

Sensitivity, $\pm 10\%$ [2]
Range for ± 5 Volts Output
Frequency Response, $\pm 3\text{dB}$
Resonant Frequency
Broad Band Resolution
Linearity [3]
Maximum Transverse Sensitivity
Strain Sensitivity @ 250 μe

1.0	mV/g
$\pm 5,000$	g peak
0.3 to 5000	Hz
> 25	kHz
0.07	g rms
± 1	% F.S.
6	%
0.002	g/ μe

0.10	mV/m/s ²
± 49050	m/s ²
0.3 to 5000	Hz
> 25	kHz
0.69	m/s ² rms
± 1	% F.S.
6	%
0.02	m/s ² / μe

ENVIRONMENTAL

Maximum Vibration
Maximum Shock
Operating Temperature Range
Seal

100	g peak
200	g peak
-60 to 250	°F
Hermetic	

981	m/s ² peak
1962	m/s ² peak
-51 to 121	°C
Hermetic	

ELECTRICAL

Supply Current Range [4]
Compliance Voltage Range
Output Impedance Typ
Bias Voltage
Discharge Time Constant
Electrical Isolation
TEDS Feature [5]

2 to 20	mA
+18 to +30	Volts
100	Ω
+7.0 to +11.5	VDC
0.5 to 2.0	Sec
10	G Ω , min
IEEE 1451.4	

2 to 20	mA
+18 to +30	Volts
100	Ω
+7.0 to +11.5	VDC
0.5 to 2.0	Sec
10	G Ω , min
IEEE 1451.4	

This family also includes:

Model	Sensitivity (mV/g)	Freq Response (Hz), $\pm 3\text{dB}$	Time Constant (Sec)	Operating Temp (°F)
3603A2T	5	0.3 to 5000	0.5 to 2.0	-60 to 250
3603A3T	10	0.3 to 5000	0.5 to 2.0	-60 to 250

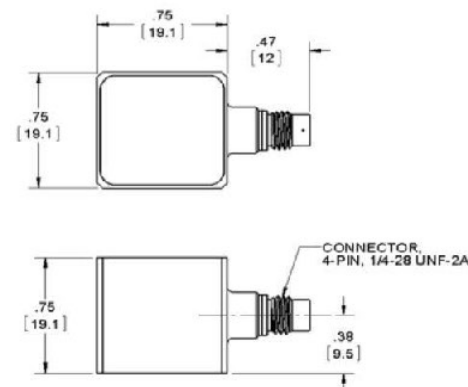
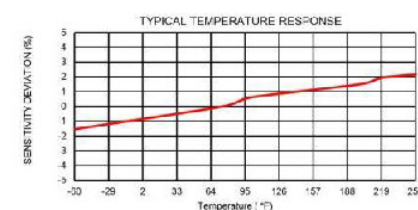
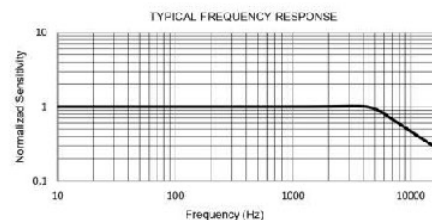
Refer to the performance specifications of the products in this family for detailed description

Supplied Accessories:

- 1) Accredited calibration certificate (ISO 17025)
- 2) Mounting stud model 6200, (10-32 to 10-32).

Notes:

- [1] Glass to metal seal connector. Mates with Dytran cable Model 6811AXX (XX=length in feet).
- [2] Measured at 100Hz, 1 Grms per ISA RP 37.2.
- [3] Measured using zero-based straight line method, % of F.S. or any lesser range.
- [4] Do not apply power to this system without current limiting, 20 mA MAX. To do so will destroy the amplifier.
- [5] TEDS operational temperature: -40° F to +185° F [-40° C to +85° C]
- [6] In the interest of constant product improvement, we reserve the right to change specifications without notice.



Units on the line drawing are in inches. Units in brackets are in millimeters. Refer to 127-3603A1T for more information.



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电缆



配件



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