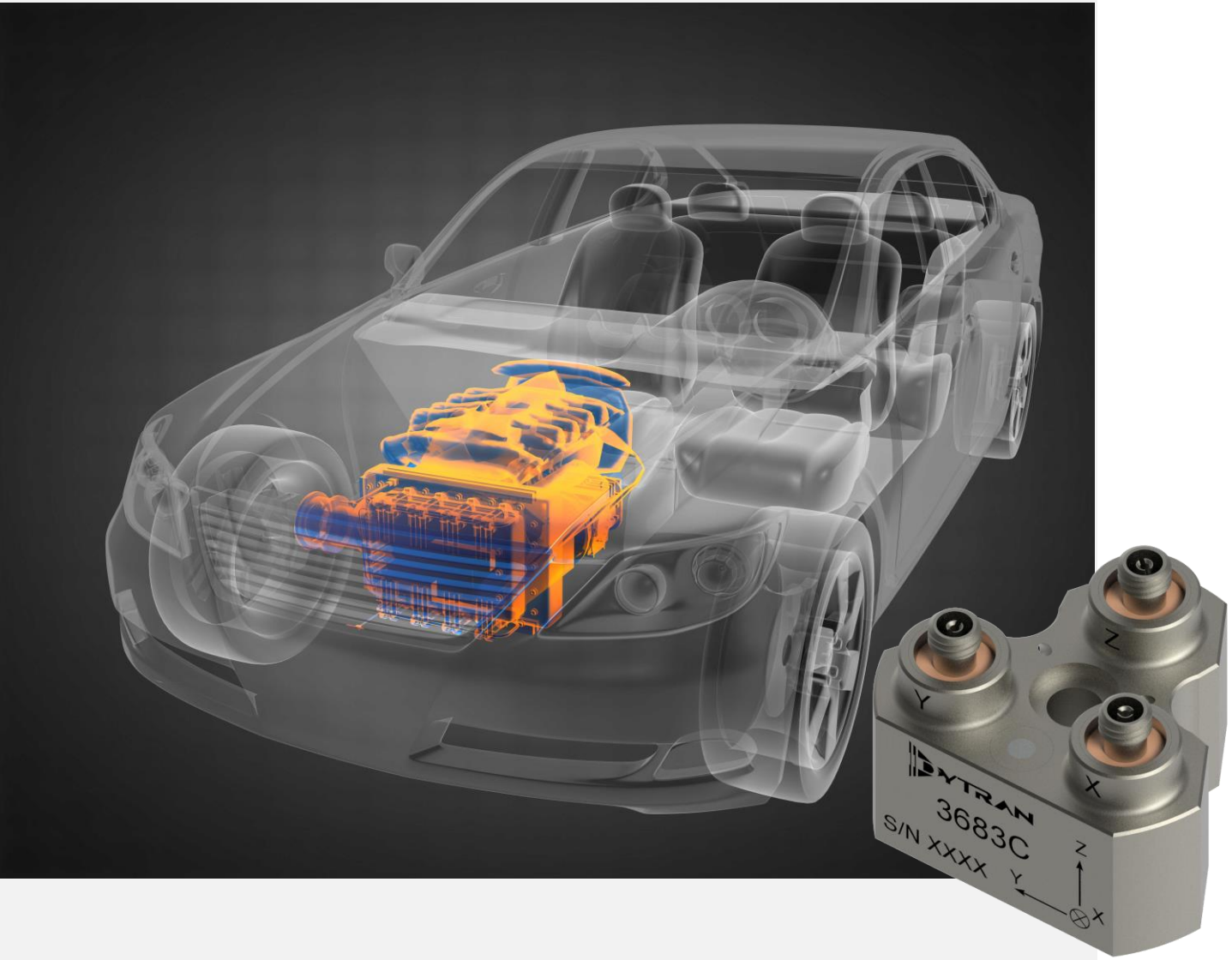


Model 3683C

High Temperature Charge Mode Triaxial Accelerometer (+1000°F)

Key Sensor Features

- Charge mode, triaxial sensor with a temperature rating of 1,000°F (538°C)
- Ground isolated — no need for an additional mounting block
- Hermetically sealed — features our patented Silver Window™ technology
- Center through hole mount for 360° multi-directional cable orientation
- Lightweight (65 grams | 2.28 oz), small mounting footprint
- High frequency response of 3,000 Hz upper frequency range (±3dB)
- Custom hardline cables available

What Can This Sensor Do For You?

- Unique ground isolated triaxial design eliminates the need for using three separate single-axis accelerometers which are typically mounted on a bulky triaxial mounting block. *This reduces the weight affecting the test structure.*
- Thrives in extreme environments and measures vibration at high temperatures of up to 1,000°F (583°C). Can even survive short excursions at temperatures up to 1,100°F (593°C)
- Low weight, coupled with unique internal construction, allows for a 3,000 Hz upper frequency range (±3dB)
- Small size allows the sensor to be used in situations where vertical space is limited
- Hermetically sealed housing and patented Silver Window™ technology ensures *reliable operation at extremely high temperatures*

Silver Window™ Technology

Patented Dytran technology

A "silver window" on the top cover of the sensor’s housing allows diffused oxygen molecules to pass through at high temperatures, replenishing the crystal with oxygen while maintaining the hermetic seal’s integrity. This innovative feature assures continued high temperature operation with very minimal loss of insulation resistance due to oxygen deprivation.

Specification Summary

Physical

- Weight: 2.28 oz [65 grams]
- Nickel alloy 600 housing, hermetically sealed
- 10-32 center through hole mount
  - Model 6543 screw included
- Three 10-32 coaxial connectors
- Case isolated

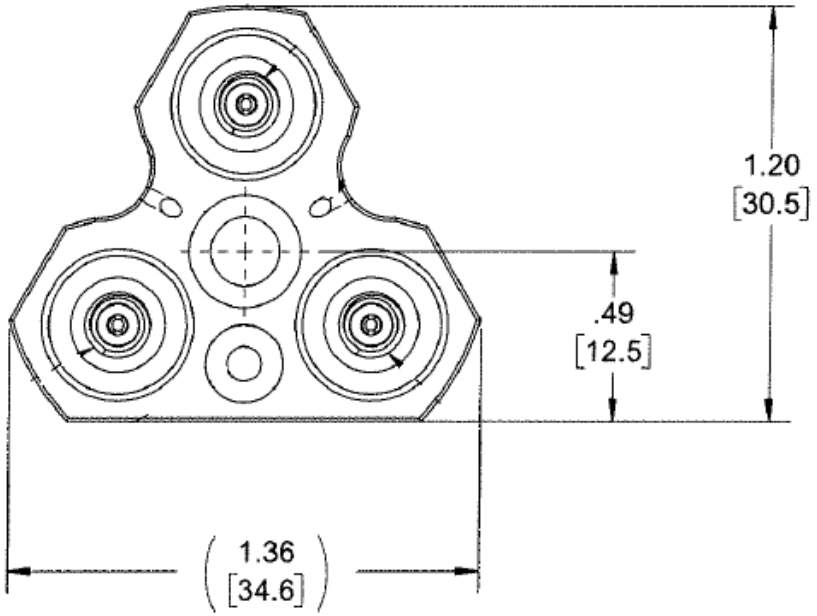
Performance Features

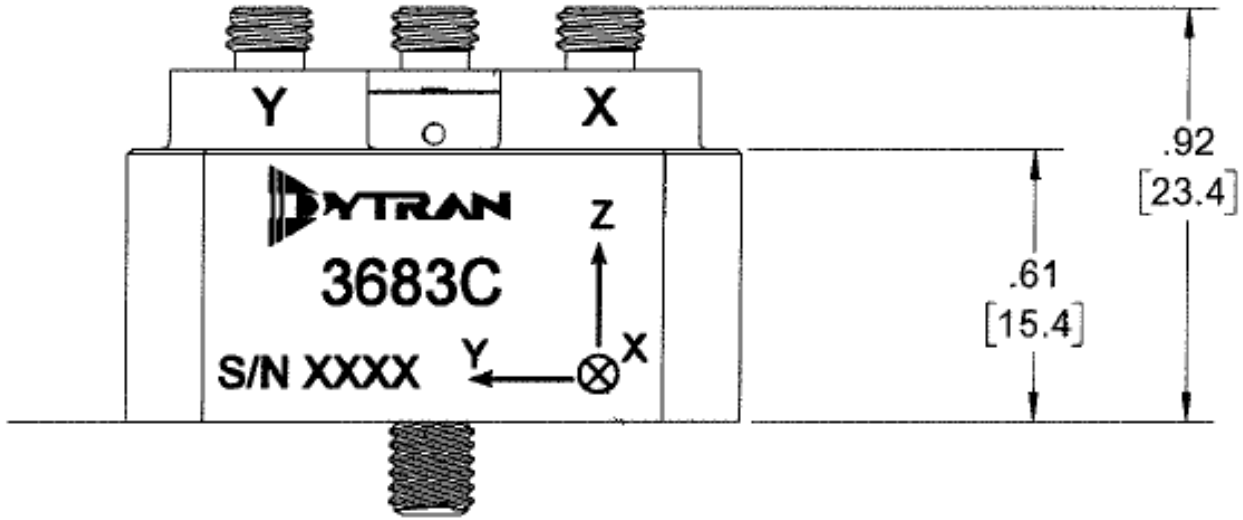
- Sensitivities: 1 to 2 pC/g
- Frequency range: 3,000 Hz (±3dB)
- Max shock: 3,000 g_{peak}
- Operating temperature
  - -67 to +1000°F
  - -55 to +538°C

Specification Summary

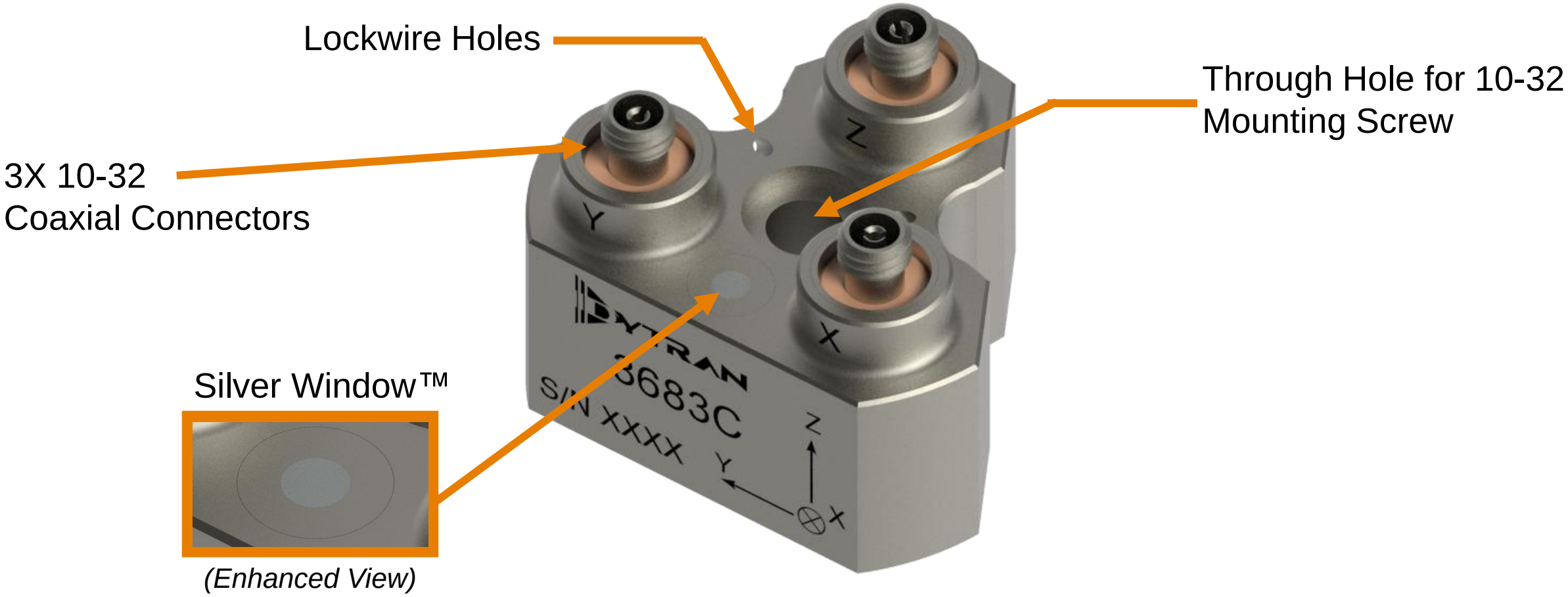
Dimensions

1.2 in [30.5 mm] x 1.36 in [34.6 mm] .92 in [23.4 mm]





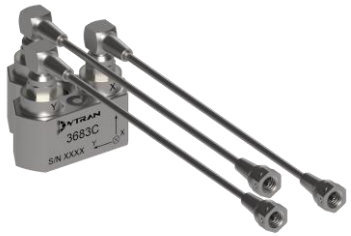
Sensor Housing Features



Compatible Accessories

Hardline Cable Assemblies

Model 60061A – High Temperature Cable
10-32 right angle plug to 10-32 plug, operation to 1100°F, stainless steel, insulated



Model 60016A – Specialty Cable
10-32 plug to 10-32 plug, operation to 1100°F, stainless steel, insulated

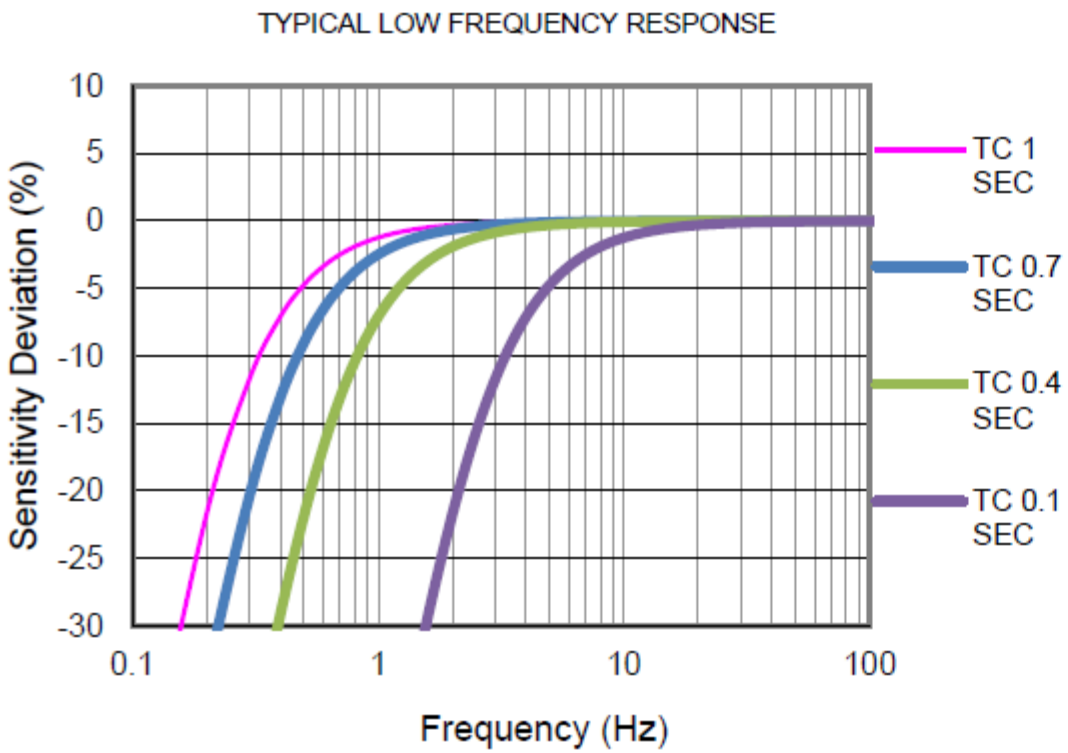
Compatible Accessories

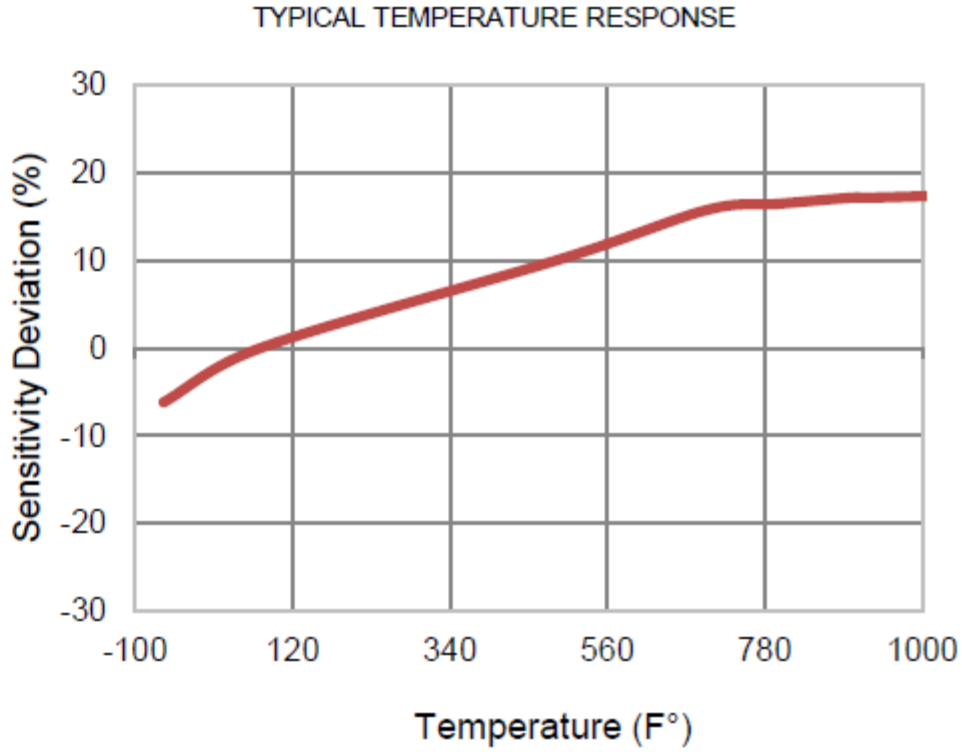
In-Line Charge Amplifier

Model 4753B
Available in three ranges (500pC, 1000pC, 5000pC), 10-32 jack to BNC connector, -40 to 185°F operation, stainless steel, 25 gram

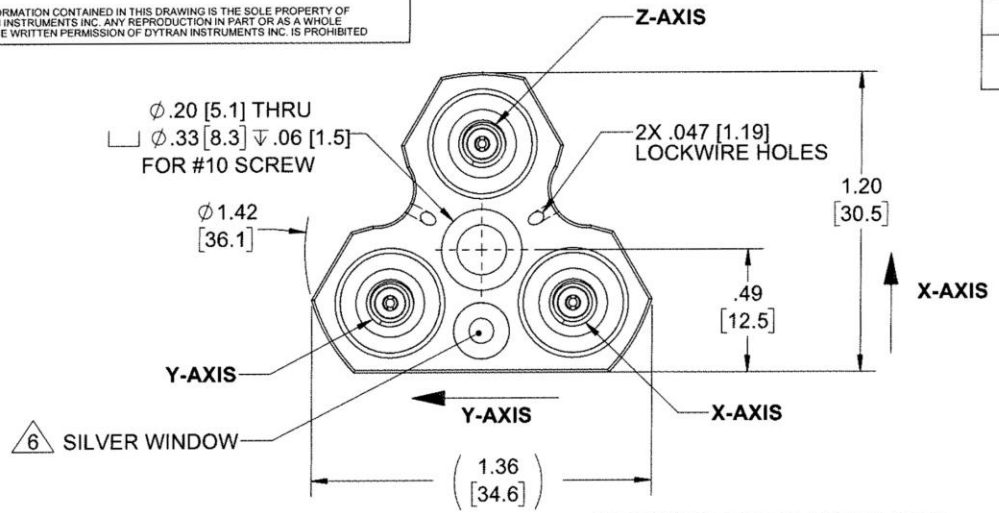
Model 4754B
Available in three ranges (500pC, 5000pC, 5000pC), 10-32 jack to 10-32 jack, -40 to 185°F operation, stainless steel, 17 gram

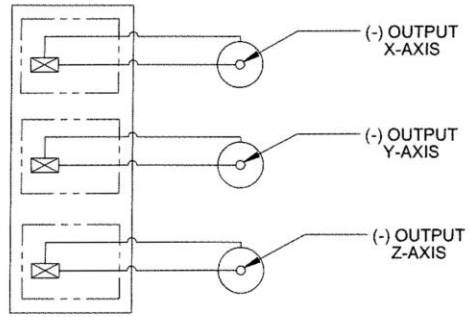
Typical Response Graphs



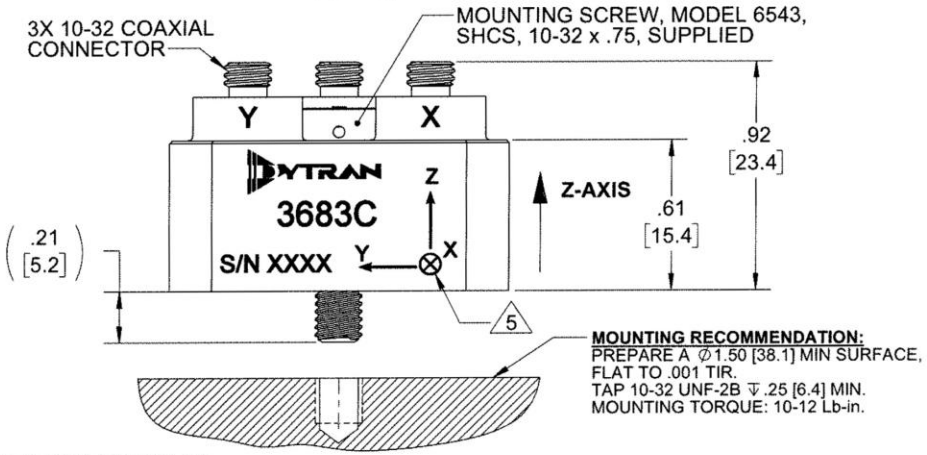


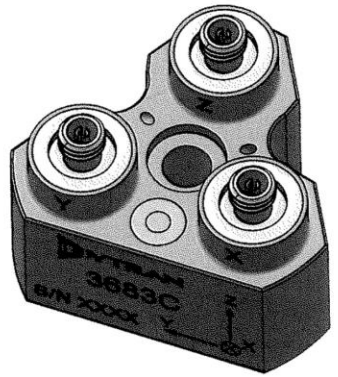
REVISIONS					
REV.	ECN	DESCRIPTION	BY/DATE	CHK	APPR
A	13438	INITIAL RELEASE SAME AS REV X1	LN 10/08/18	DV	KG





SCHEMATIC DIAGRAM





6 US PATENT NUMBER US 8,375,793 B2

5 ARROWS INDICATE DIRECTION OF ACCELERATION FOR NEGATIVE (-) OUTPUT

4. MAXIMUM OPERATING TEMPERATURE: 1000°F [538°C]

3. CHARGE SENSITIVITY: 1.0 - 2.0 pC/g

2. WEIGHT: 65 GRAMS, MAX.

1. HOUSING MATERIAL: ALLOY 600

NOTES: UNLESS OTHERWISE SPECIFIED

UNLESS OTHERWISE SPECIFIED:
INTERPRET DIM & TOL PER ASME Y14.5M - 1994.
REMOVE BURRS.
COUNTERSINK INTERNAL THDS 90° TO MAJOR DIA.
CHAM EXT THDS 45° TO MINOR DIA.
THD LENGTHS AND DEPTHS ARE FOR MIN FULL THDS.
DIMENSIONS APPLY AFTER FINISHING.

ALL MACHINED SURFACES 63
TOTAL RUNOUT WITHIN .005.
BREAK SHARP EDGES .005 TO .010.
MACHINED FILLET RADII .005 TO .015.
WELDING SYMBOLS PER AWS A2.4.
ABBREVIATIONS PER MIL-STD-12.

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

DECIMALS	METRIC	ANGLES
.XX ±.03	.X ±0.8	±1°
.XXX ±.010	.XX ±0.25	

APPROVALS		DATE
ORIG	LN	03/13/17
CHK	DV	10/15/18
APP	KG	10/15/18

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION USA

DYTRAN INSTRUMENTS, INC. Chatsworth, CA

TITLE: OUTLINE/INSTALLATION DWG, HIGH TEMP TRIAX, ISOLATED, 3683C

SIZE	CAGE CODE	DWG NO	REV
B	2W033	127-3683C	A

SCALE: 2:1 SHEET 1 OF 1

Model Number 3683C	PERFORMANCE SPECIFICATION	DOC NO PS3683C
	TRIAXIAL, CHARGE MODE ACCELEROMETER	REV A, ECN 13438, 10/09/18

- 1000°F [538°C] OPERATION
- CASE ISOLATED
- CENTER THROUGH HOLE MOUNT
- HERMETICALLY SEALED

		ENGLISH		SI	
PHYSICAL					
Weight, Max.		2.28	oz	65	grams
Connector	Type	3X 10-32		3X 10-32	
Mounting Provision		Thru Hole, #10 Screw		Thru Hole, #10 Screw	
Material	Housing	Alloy 600		Alloy 600	
Element Style	Material	Single Crystal		Single Crystal	
	Type	Shear		Shear	
PERFORMANCE					
Sensitivity [1]		1 to 2	pC/g	0.10 to 0.20	$pC/m/s^2$
Frequency Range, ±5%		[3] to 1000	Hz	[3] to 1000	Hz
Frequency Range, ±3dB		[3] to 3000	Hz	[3] to 3000	Hz
Resonant Frequency		> 9	kHz	> 9	kHz
Capacitance		120	pF	120	pF
Linearity [2]		± 1%	% F.S.	± 1%	% F.S.
Maximum Transverse Sensitivity		6	%	6	%
Base Strain Sensitivity		0.01	g/με	0.10	$m/s^2/\mu\varepsilon$
Magnetic Sensitivity, Typ.		0.016	g/Gauss	0.00163	m/s^2/Gauss
Insulation Resistance		at 75°F >3.0E7	Ω	at 75°F >3.0E7	Ω
		at 1000°F >1.0E5	Ω	at 1000°F >1.0E5	Ω
Output Polarity		Negative		Negative	
ENVIRONMENTAL					
Maximum Vibration		±1000	G, peak	±9810	m/s^2, peak
Maximum Shock		±3000	G, peak	±29430	m/s^2, peak
Temperature Range		-67 to +1000	°F	-55 to +538	°C
Seal		Hermetic		Hermetic	
Ground Isolation		Case Isolated		Case Isolated	

This family also includes:

Model	Sensitivity (pC/g)	Range F.S (G's)	Output Polarity	Temperature (°F)

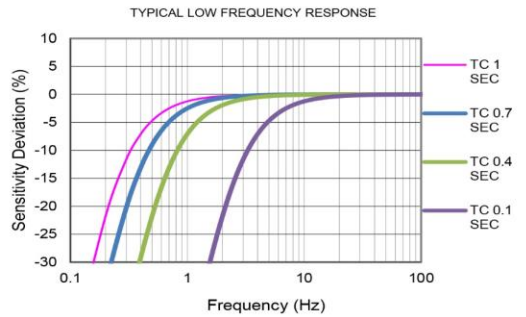
Refer to the performance specifications of the products in this family for detailed description.

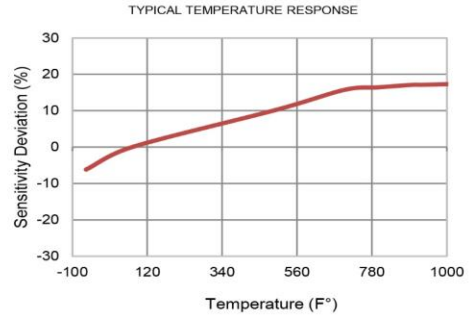
Supplied Accessories:

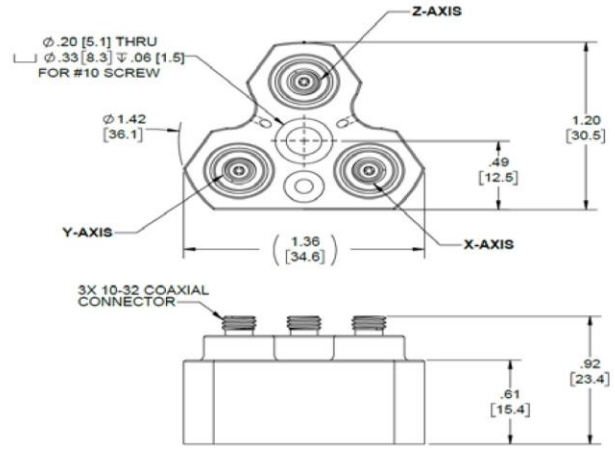
1) Accredited calibration certificate (ISO 17025)
2) Mounting screw, model 6543 (SHCS, 10-32 X .75), qty 1

Notes:

[1] Measured at 100Hz, 1 Grms per ISA RP 37.2
[2] Measured using zero-based straight line method, % of F.S. or any lesser range.
[3] Low frequency response and phase response is function of charge amplifier. See graph below for example.
[4] In the interest of constant product improvement, we reserve the right to change specifications without notice.
[5] U.S. Patent number US 8,375,793 B2 applies to this unit.



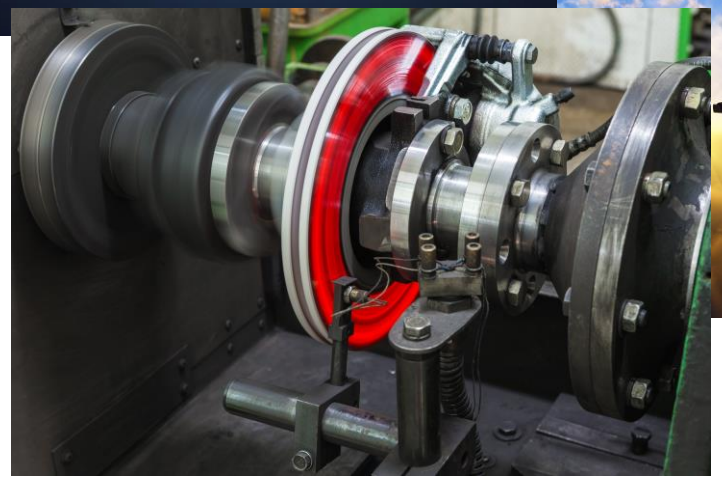




Units on the line drawing are in inches, units in brackets are in millimeters. Refer to 127-3683C for more information.

Applications

- Turbine engines
- Power plants
- Exhaust manifold testing
- Hypersonic applications
- Turbocharger testing
- Brake rotor testing
- HALT/HASS
- Vibration monitoring of components in ultra-high temperature environments



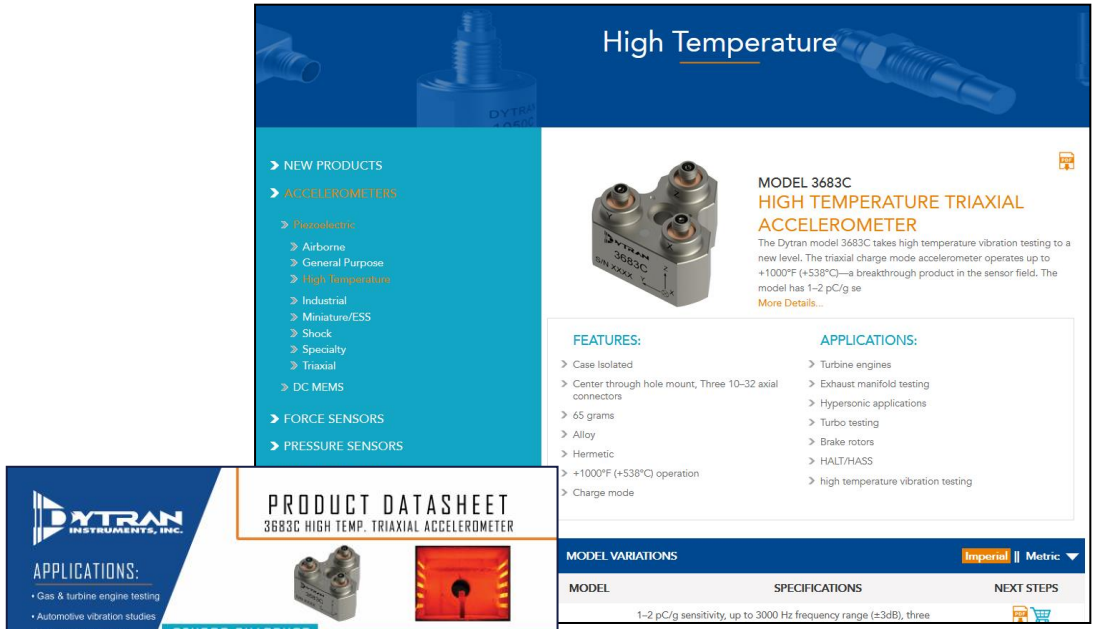
Resources

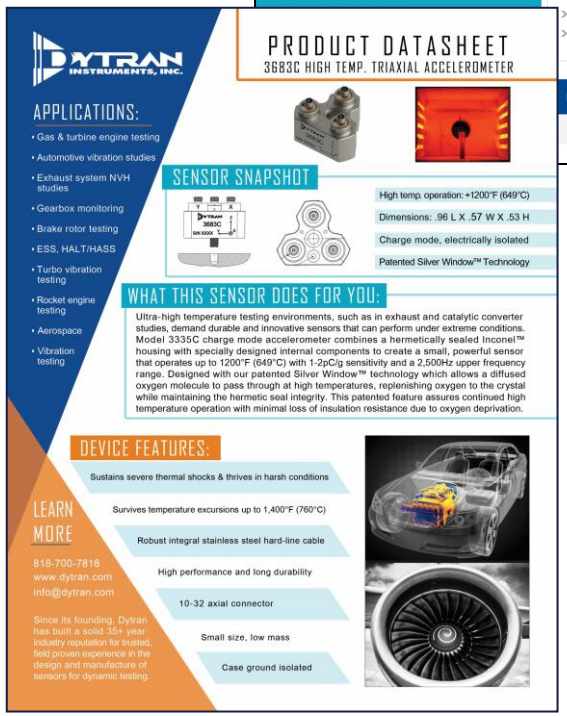
Product page on website
(www.dytran.com/Model-3683C-High-Temperature-Triaxial-Accelerometer/)

Call to speak to a Dytran sales engineer: (818) 700-7818

Product Cutsheet

(www.dytran.com/literature)





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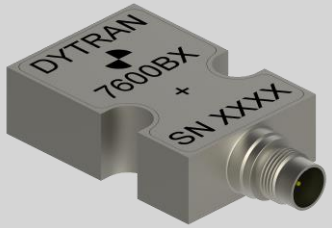
VibraCorder™ II

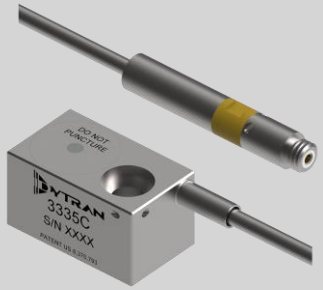
CLVD 7506A

6DoF

VC MEMS



Silver Window™



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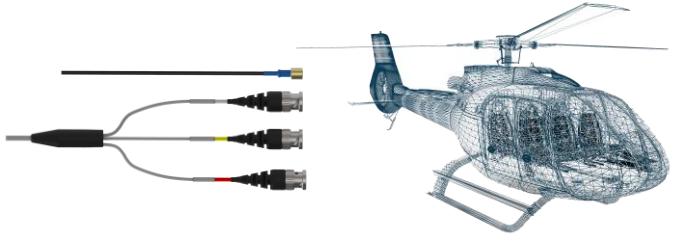

[Cables]

[Accessories]

[Electronics]