

PRODUCT DATA

Triaxial CCLD Accelerometer Type 8345

Triaxial CCLD* Accelerometer Type 8345 is designed to operate in harsh environments. Its 4-pin Glenair® 800-series connector is robust for industrial applications. The 3 × M4 holes forming an isosceles triangle on the mounting surface secure the mounting and avoid misalignment of the mounting direction.

Uses

- Measurement in harsh environments
- Triaxial measurements
- Permanently installed machine condition monitoring

Features

- Hermetically sealed
- Ruggedized connector

Description

Type 8345 is a piezoelectric, triaxial, shear design, CCLD accelerometer. The transducer features a ruggedized Glenair Series 800 connector for use in harsh industrial environments. The transducer is made of Stainless Steel AISI 316-LS, hermetically sealed. It can be mounted on the test object by means of 3 × M4 screws for maximum safety.

Calibration

Each accelerometer is individually calibrated using random excitation and 1600-line FFT transformation to provide a high-resolution (amplitude and phase) frequency response, yielding a unique characterisation and securing the integrity of the vibration measurement

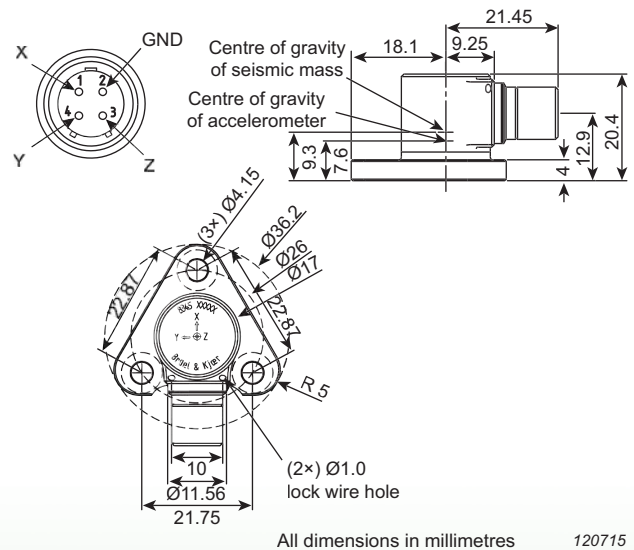
The sensitivity given on the calibration chart has been measured at 159.2 Hz with 95% confidence level using a coverage factor $k = 2$.

The upper frequency limits given on the calibration chart are frequencies where the deviation from the reference sensitivity at 159.2 Hz is less than $\pm 10\%$. The upper frequency limit is approximately 30% of the mounted resonance frequency. This is based on the assumption that the accelerometer is correctly mounted on the test structure – poor mounting can have a marked effect on the mounted resonance frequency.



The lower frequency limits and phase response are determined by the built-in preamplifiers. The lower frequency limits are given in the specifications for deviations from reference sensitivity of less than $\pm 10\%$.

Fig. 1 Pin connections and dimensions of Type 8345



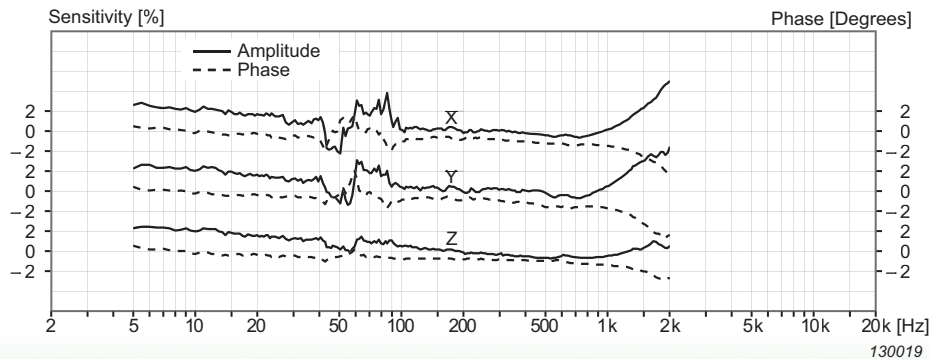
* CCLD: Constant Current Line Drive, also known as DeltaTron (IEPE compatible)

Specifications – Triaxial CCLD Accelerometer Type 8345

	Units	8345*
General Characteristics		
Voltage Sensitivity (@159.2 Hz and 4mA supply current)	mV/ms ⁻² (mV/g)	10 ± 5% (98 ± 5%)
Measuring Range (± peak)	ms ⁻² (g)	± 500 (± 51)
Frequency Range	Frequency response	See Fig. 2
	Amplitude (±5%)	X, Y, Z: 2 to 2000
	Phase Response (±5°)	X, Y, Z: 2 to 2000
Mounted Resonance Frequency	kHz	X, Y, Z: >18
Amplitude Linearity	%	±1
Transverse Sensitivity (at 30 Hz, 100 ms ⁻²)	%	< 5
Electrical Characteristics		
Bias Voltage (full temperature range)	V _{DC}	+12 ± 1
Power Supply	at unloaded supply voltage	V _{DC}
	at constant current	mA
Output Impedance	Ω	< 2
Start-up time (to final bias ± 10%)	s	< 10
Insulation Resistance (signal ground to case)	MΩ	> 100
Residual Noise (X, Y, Z-axis (RMS), 1 Hz to 6 kHz)	μg (μV)	< 1000 (< 100)
Niose Spectral	10 Hz	μms ⁻² /√Hz (μg/√Hz)
	100 Hz	μms ⁻² /√Hz (μg/√Hz)
	1000 Hz	μms ⁻² /√Hz (μg/√Hz)
Insulation Resistance (signal ground to case)	MΩ	> 100
Grounding		Signal ground isolated from housing
Environmental Characteristics		
Operating Temperature Range	°C (°F)	-54 to +125 (-65 to +257)
Temperature Coefficient of Sensitivity	%/°C	+0.09
Thermal Transient Sensitivity (3 Hz Low.Lim.Frq. (-3 dB, 6 dB/oct))	ms ⁻² /°C (g/°F)	1 (0.057)
Magnetic sensitivity (50 Hz, 0.038 T)	ms ⁻² /T (g/kG)	20 (0.2)
Base strain sensitivity (at 250 με in base plane)	Equiv. ms ⁻² /με (g/με)	0.01 (0.001)
Max. Non-destructive Shock (peak)	kms ⁻² (g)	50 (5100)
Humidity		100% RH, non-condensing
Physical Characteristics		
Dimensions		See Fig. 1
Weight	gram (oz.)	40 (1.41)
Case Material		Stainless steel AISI 316-LS
Connector		4-pin Glenair Series 800
Mounting		3 x M4 in isosceles triangle
Mounting torque	Nm (lbf.in)	Max. 3.5 (31) Min 0.5 (4.4)

* All values are typical at 25°C (77°F) unless otherwise specified

Fig. 2 Typical X, Y and Z frequency responses of Type 8345



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Local representatives and service organisations worldwide

Ordering Information

Type 8345 Triaxial CCLD Accelerometer
Includes the following accessories:

- Carrying Box
- Calibration Chart
- 3 × YS-9907: M4 Mounting Bolt with safety wire hole, stainless steel
- 3 × YS-0409: Washer, M4 flat, stainless steel

Optional Accessories*	
AO-0745-D-xxx†	Cable, Glenair Series 800 4-pin (F) to 3-way BNC (M), max. 90°C (194°F)
QS-0007	Tube of cyanoacrylate adhesive
YJ-0216	Beeswax for mounting
Type 4294	Calibration Exciter
Calibration Services	
8345-CFF	Factory Standard Calibration
8345-CAF	Accredited Calibration
8345-CAI	Accredited Initial Calibration
8345-CTF	Traceable Calibration

* Additional accessories, cables and services are available (see www.bksv.com)

† xxx = length in decimetres

CE The CE marking is the manufacturer's declaration that the product meets the requirements of the applicable EU directives

RCM RCM mark indicates compliance with applicable ACMA technical standards – that is, for telecommunications, radio communications, EMC and EME

China RoHS China RoHS mark indicates compliance with administrative measures on the control of pollution caused by electronic information products according to the Ministry of Information Industries of the People's Republic of China

WEEE WEEE mark indicates compliance with the EU WEEE Directive

TRADEMARKS

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