HQA-T Series High Temperature Quartz-Flexible Accelerometer

1. Application

HQA-T Series High Temperature Quartz-Flexible Accelerometer is a single-axis torque reaction type accelerometer to detect the external acceleration signal by detecting quality and then demodulated and amplified by the servo circuit, and finally output current signal proportional to the acceleration signal. It is widely used for high accuracy navigation system of aerospace and oil drilling inclinometer or geological exploration system.

2. Product model code table

HQA -H 185 S – CF 25

Accelerometer style: T——High temperature Oil industry

Maximum temperature T185——185℃

T160——160℃

T135——135℃

Flange style: CF— Round flange See No 7 for mechanical dimension, customized size is available.

Diameter or flange shape CF——Round flange φ28； Body diameter φ25.4

CF25——Round flangeφ28； body diameter φ25

Tel：0532－68013909 Fax：0532－58710108 Mobile：185 61815991
Add.：No 11 Mingyuan road, High-tech zone, Qingdao, China（266111） www.zitnmicro.com

SQ30—— Square flange □29.5

SQ28—— Square flange □28

TR—— Triangle flange

3. Products features

- High temperature resistance
- Vibration and shock resistance
- Small volume and light quality
- Wide voltage supply, low power consumption
- Analogue signal output
- Flange mounted or round embedded installation

4. Technical performance

Electrical performance	
Working voltage	±（10～18）VDC
Insulation resistance	50MΩ，@50VDC
Power consumption	＜240mw@15V
Current consumption	＜10mA@15V

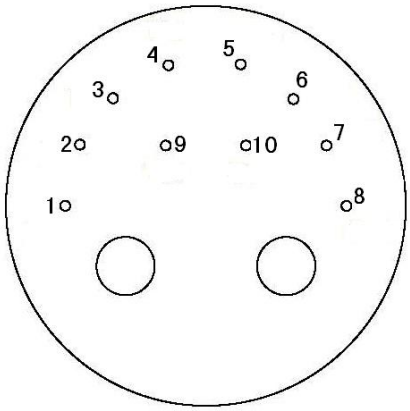
Technical performance			
	T135	T160	T185S
Range	±30g		
Threshold	1×10^{-5}g		
Bias （K0）	＜±20mg		
Bias （K0） temperature drift	＜80μg/℃	＜80μg/℃	＜80μg/℃
K0 one-month repeatability	＜250μg	＜250μg	＜250μg
Scale factor（K1）	2.4 mA/g ±10%		
Scale factor（K1）	＜60ppm/℃		

temperature drift			
K1 One-month repeatability	300ppm	300ppm	300ppm
K0& K1Comprehensive repeatability Note1	＜2mg	＜2mg	＜3mg
Misalignment angle	＜1mrad		
Vibration rectification error	＜100 μ g/g² rms（50-500Hz）		
Noise	＜3000 μ g-rms（0-10000Hz）		
Band width	＞300Hz		
Maximum operating temperature	135℃	160℃	185℃

Note1: After vibration, temperature cycling, shock, high temperature storage etc environment test, the normal temperature repeatability.

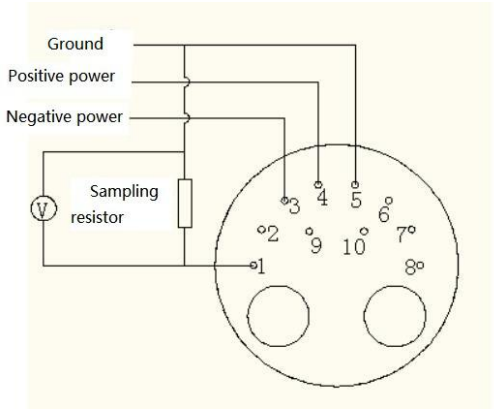
Environment condition	
Sine vibration（No electricity added）	30g 0 ～ peak，（20～800 ）Hz
Random vibration（No electricity added）	20gram，（20～500） Hz
Shock（No electricity added）	1000g，0.5msec，half sine

5. Interface distribution and definition



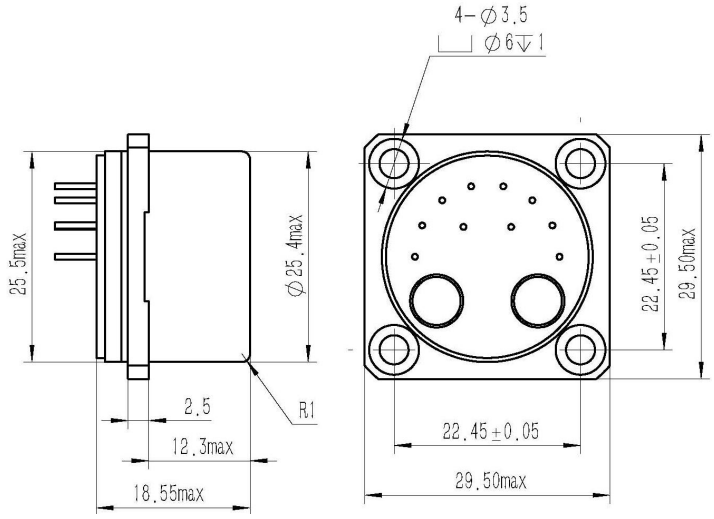
No	Name	Definition
1	ML	Output end
2	MH	Torque high end
3	Vs-	Negative power
4	Vs+	Positive power
5	GND	Ground
6	TEST	Test end
7	C-	Test end
8	C+	Test end
9	Vo+	Positive power output
10	Vo-	Negative power output

6. Connection diagram of typical use

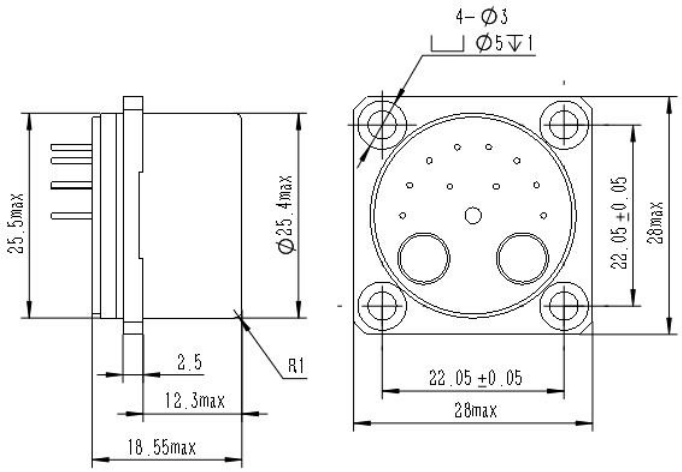


7. Mechanical Dimensions

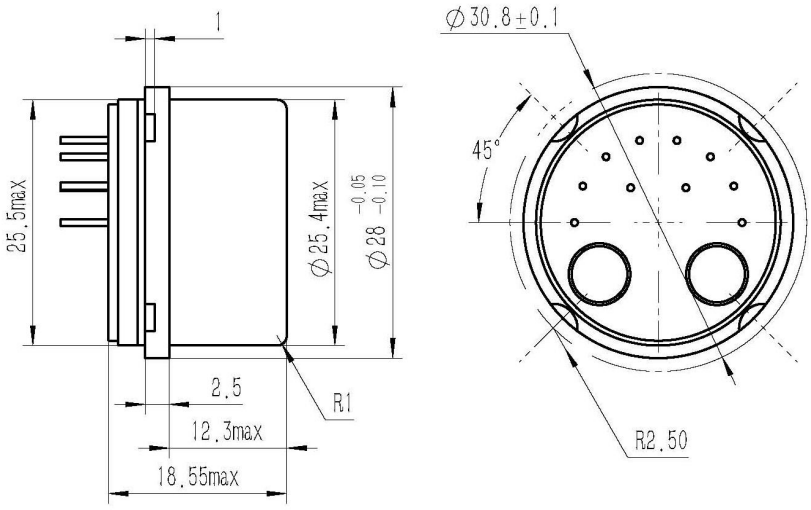
HQA-TXXX SQ30 Mechanical Dimensions



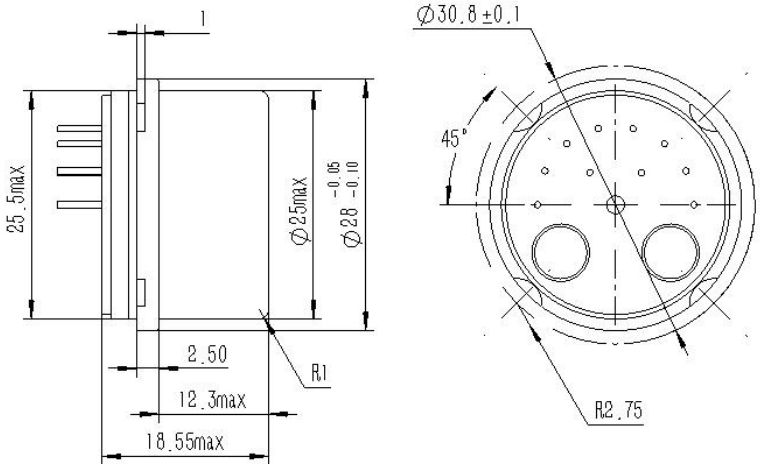
HQA-TXXX SQ28 Mechanical Dimensions



HQA-T XXX-CF Mechanical Dimensions



HQA-T XXX-CF25Mechanical Dimensions



Other mechanical dimension can be customized according to requirements.

8. Installation requirements

- The accelerometer flange face is installation base level.

9. Note

- The accelerometer is easy-damaged part, please take care when take and put, don't drop and no collision. The vibration and shock can't exceed the technical requirements

- The accelerometer should be packaged well during transportation, there should be not less than 20mm cushion foam around it, and the accelerometer should be fixed with the foam. Be sure that there is no collisions with each other for several accelerometers packages.
- Check all the interface wire before electricity to be sure no mistakes.
- The products should be kept in the original package box and stored at dry and ventilated environment. Please handle with care when moved.
- Pay attention to the electrostatic protection .