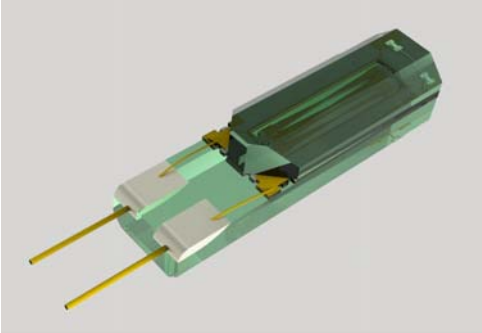
AXTAL ADVANCED XTAL PRODUCTS

Specification	RKMA-P-OS-21	Rev.: 1	Date: 2016-09-09

Type: **Quartz Pressure Sensor**

Features:

- **Pressure sensing crystal element**
- **Frequency varies with pressure induced stress**
- **High resolution and accuracy**
- **High long term crystal stability**
- **Wide temperature range -40°C up to +180°C**
- **Low power consumption of driving oscillator**
- **For precision downhole applications**



Parameter	min.	typ.	Max.	Unit	Condition
Frequency range	47.000		49.000	kHz	
Pressure range (See order code)			40 100	MPa MPa	Option "P" = 40 Option "P" = 100
Series resonance resistance R_1		100 160	120 200	kΩ kΩ	@ 20°C @ +180°C
Drive level			1.0	µW	Note 1
Aging per year			±15 ±95	ppm ppm	@ 20°C @ +180°C
Insulation resistance	100			MΩ	
Frequency-pressure equation (3rd order)	$f(p) = f_0 + A_1 \cdot p + A_2 \cdot p^2 + A_3 \cdot p^3$				f_0 = frequency at p=0 A_1 = sensitivity [Hz/MPa] A_2, A_3 = 2nd and 3rd order coefficients
Sensitivity A_1	70			Hz/MPa	Note 2
2nd and 3rd order coefficients A2, A3					Note 2
Maximum deviation over temperature				%	0°C to +120°C
Maximum short-time overstress FS = full scale			1.3·FS 1.1·FS	MPa MPa	0°C to +120°C 120°C to +180°C
Operating temperature range	0 -40		+130 +180	°C °C	 On request
Storage temperature range	-55		+85	°C	Note 3
Dimensions	14.5 x 4 x 4			mm	See drawing

Notes:

1. Exceeding maximum drive level will degrade the performance and damage the crystal
2. Data will be provided with sample delivery
3. Temperatures higher than +85°C only for limited time. Consult factory for details

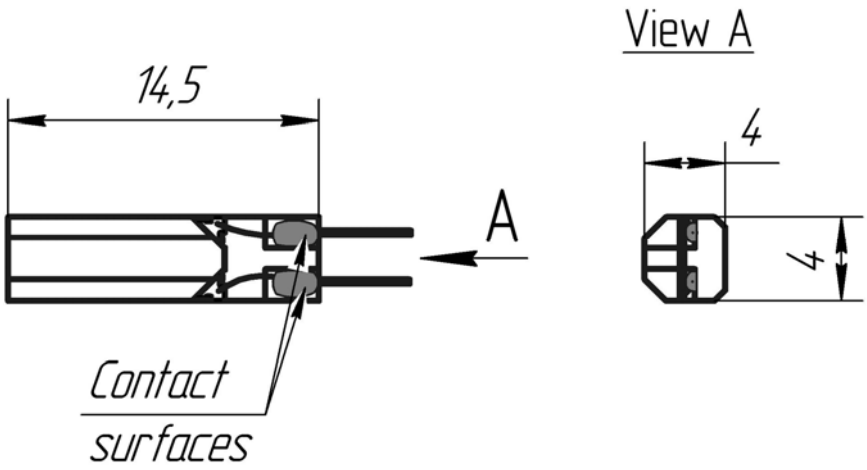
Ordering Code

RKMA – P - OS-21

Pressure range (MPa) – Option P

40	60	80	100

Enclosure drawing:



Revision History

Rev.	Drawing	Date [dd.mm.yyyy]	Remarks	Author	Checked
1	D0	09.09.2016	First issue RKMA-P-OS-21	BN	BN