

PMG17 Vibration Energy Harvester

GENERAL DESCRIPTION

The PMG17 range of energy harvesters convert the most prevalent “twice-line-frequency” machine vibration into useful electrical energy.

Generating continuous power, these devices can provide entirely maintenance free operation of wireless sensors.

Optimized to give the highest power output on the typical industrial machines, they operate over the full industrial temperature range. Certified intrinsically safe ATEX/IECEX/CSA versions are available.

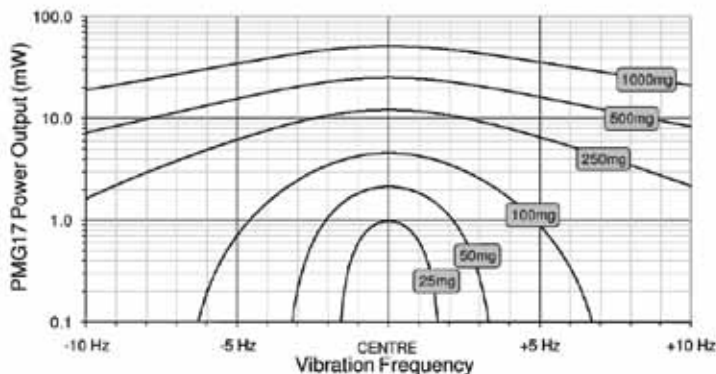
FEATURES

- Operates from the prevalent 100 Hz and 120 Hz vibration bands found on electrical machines
- 1 mW peak power at 0.025 g with >2 Hz half-power bandwidth
- Typically >0.3 mW power output on 95 % of machines (see application note)
- Sealed stainless steel construction
- Intrinsically safe, Zone 0, ATEX/IECEX/CSA certified versions available

AVAILABLE ASSOCIATED DOCUMENTATION

- ATEX certificate
- IECEx certificate
- CSA certificate
- Reliability case report summary
- Application note
- Reference design
- Mechanical drawings
- ROHS and WEEE compliance

Figure 1. Power Output Spectrum



The PMG17 range is optimized to give the highest power output possible on the typical industrial machines they operate.

Table 1. Ordering Information

Model	Part Number	Deployment Environment	Electrical Mains Frequency
PMG17-100	26049	Industrial	50 Hz
PMG17-100Ex	26042	Hazardous	50 Hz
PMG17-120	26053	Industrial	60 Hz
PMG17-120Ex	26046	Hazardous	60 Hz

Table 2. ATEX/IECEX Certification

Characteristic	Certificate
ATEX certificate number	Sira 07ATEX2178
IECEX certificate	IECEX SIR 07.0053
Certification code	II 1GD (T100°C) Ga Da Ex ia IIC T4 Ex iaD 20 T100°C T _a = -40 °C to +85 °C
Safety description	Ui=0, Uo=11.06 V, Io=0.059 A Po=0.147 W, Co=1.90 μF, Lo=1 mH

Table 3. CSA Certification

Characteristic	Certificate
CSA certificate number	2213366
Certification code	CL I, Div 1, Grps ABCD CL I, Zone 0: Ex/AEx ia IIC T4; Ta=-40 Deg.C to +85 Deg. C.
Safety description	Uo/Voc=11.06V, Io/Isc=59mA Po=147mW, Co/Ca=1.9uF Lo/La=1.0mH