

WAVE-L01S-10

**Key Features**

- Small size
- High resolution, direct drive linear motion
- High speed
- Very simple drive electronics
- Low power consumption (no power in hold position)
- Very robust design

The PiezoWave® motor is designed for low cost, volume applications, and based on a new, innovative drive principal.

PiezoWave® offers direct linear drive with variable speed in a very small package, ideal for precision applications where miniature size and low weight is important, such as portable devices. The design makes the motor very robust and insensitive to different environmental conditions as well as resistant to shock and vibrations.

The motor has very low power consumptions and operates on low voltage. The motor does not draw any power in hold position which further enhance battery life in many applications.

The PiezoWave® comes in a complete package – tested and ready to run.

Ordering information

Wave-L01S-10

PiezoWave® standard motor

Drive Technology

The motor is based on the patented PiezoWave® technology.

Drive control electronics

You need two phases plus ground to drive the motor. The most straightforward way of driving the motor is to send a puls train via an inductor to the piezo element phase electrodes. This creates an LC circuit and sinusoidal voltage across the piezo element. The direction of motion depend on the phase shift between the phase signals A and B. Compared to conventional electromagnetic motors, the PiezoWave® motor has the great advantage of not consuming energy while withstanding a holding force. The PiezoWave® motor only consumes energy while moving. The overall energy consumption is kept low by using resonant drive electronics.

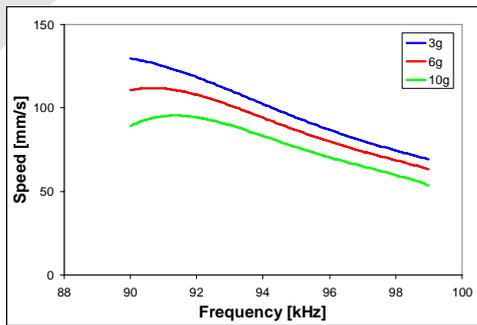
Open Loop/Closed Loop Operation

If your mechanical system requires very accurate positioning (closed loop), we propose an additional integrated sensor system. For example: IR photo detectors can be surface mounted on the flexible printed circuit board. The photo sensor can detect the position of the drive rod or act as a limit switch.

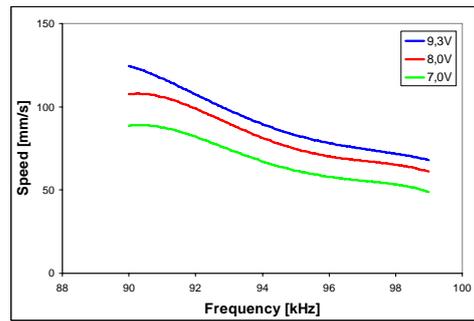
Notes

Additional information is available on request at info@piezomotor.com

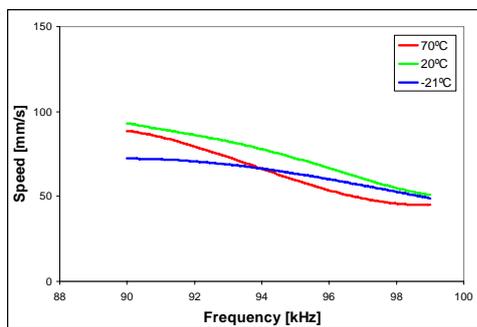
Performance



Typical speed as a function of frequency for different loads at 8 V and 20°C.

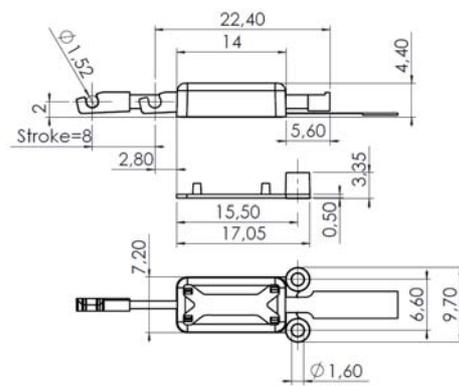


Typical speed as a function of frequency for different voltages at 0.1 N and 20°C.

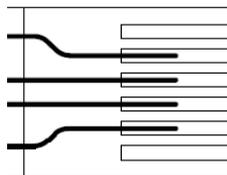


Typical speed as a function of frequency for different temperatures at 8 V and 0.1 N

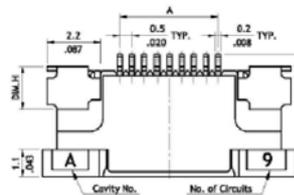
Mechanical Drawing



Connector Type and Pin Assignment



NC
VCC
GND
Phase A
Phase B
NC



The CviLux CF21 Series ZIF #CF21061U0R connector

Technical Specification		
Type	Wave-L01S-10	Unit
Drawing No	FAD100-31001	
Speed @ 0,1 N	50 – 100	mm/s
Holding force	0.3 – 0.4	N
Dynamic force	0.1	N
Drive voltage	3.3 – 5.0	V
Current at max speed	60 – 70	mA @ 4V
Stroke length	8	mm
Average step	0.5 – 1.0	µm
Life time	>100.000	Cycles, 8 mm stroke
Dimensions motor housing	14.0x7.2x4.4	mm (LxWxH)

Note: All specifications are subject to change without notice.