

Dual Oscillator DO-1 for (Quartz) Crystal Microbalances



Dual Oscillator (DO-1) is a high performance dual oscillator, including two identical proprietary oscillators, that drive two quartz crystal resonators simultaneously. The outputs provide series frequency and series resistance of each resonator. The parallel capacitance of the quartz resonator can be cancelled in the range from 6 pF to 50 pF in each oscillator. This is important for accurate measurements in liquids and in soft (lossy) films.

An automatic level control (ALC) is employed and the driving level in the crystal is chosen between 0.5mA and 1.0mA.

The crystal face is in contact with the measuring ground, but it is electrically isolated from the computer ground, allowing an external current or voltage source to be connected to it.

DO-1 can drive crystal resonators with frequencies in the range from 1 MHz to 25 MHz. This frequency shall be specified for each oscillator. The oscillator can work with crystals in the range of the specified frequency ± 1 MHz. (If an oscillator is specified for 10 MHz, it will work with crystals from 9 MHz to 11 MHz).

Overtone operation is also possible in the range from 1 MHz to 25 MHz. This shall be specified.

The supply voltage (12 V DC) is taken from [OCM-3](#) central connector.