

45CA Charge Amplifier



The 45CA Charge Amplifier conditions and amplifies charge-mode accelerometer signals. It is a rugged device designed to be used in engine test cells and other environments where charge-mode accelerometers are used to measure machinery vibration.

Each 45CA Charge Amplifier provides one (1) channel of charge amplification, and provides a buffered acceleration output signal as well as an integrated (velocity) signal output.

Outputs may be configured (at the MTI Instruments factory) for either differential or singled ended configurations, for optional highpass filter settings, and for one of three different gain settings to match accelerometer sensitivities.

INPUTS

Differential Input	Static discharge protected
Input Connection	Differential with shield connected to case, MS3101E-10SL-3P
Input Impedance	10 Ω maximum
Maximum Input Charge	16,000 pC pk, maximum
DC Power	20 – 30 volts DC

OUTPUTS - Outputs are normally differential, factory option single ended

Velocity Output	DB-9 connector
Acceleration Output (buffered)	DB-9 connector
Output Impedance	10 Ω maximum
Capacitance Load	0.1 μ F maximum
DC Output Bias	0 Vdc
Linear Output Voltage	17Vpk-pk max
Output Current	25 mA maximum
Linearity	2%
Residual Noise (RTD)	1.0 mV RMS maximum at gain = 1, 4.0 mV RMS max at gain = 10.

CONFIGURATION OPTIONS

Channel gain settings:	1, 4, 10 mV/pC
Highpass filter options:	10, 15, 20, 25 Hz
Outputs (ACC & VEL):	Differential or Single Ended

PHYSICAL CHARACTERISTICS

Dimensions	1.6" H X 2.6" W X 4.77" D (40.6 mm x 66 mm x 121mm)
Weight	8 oz.
Case Material	Aluminum
Mounting	DIN rail standard Flange mount optional