DJB Instruments
SENSING ENGINEERING INNOVATION

LHP Filter

Modular Switchable Low/High Pass Filter

The LHP Filter is a modular switchable high or low pass filter unit available as a one channel DC powered unit or up to 8 channels in a AC/DC powered chassis. The units both use simple BNC input/output connectors on the front panel and offer user selectable AC/DC coupling as well as fixed IEPE signal source (4mA/24VDC) via a 3 way switch.

A full range of filters are available including (must be specified when ordering, see graphs for filter responses)

- Butterworth
- Bessel
- Anti-aliasing
- General Purpose

Features

- Input Overload Indicator
- Switchable High/Low pass
- Single ended/differential input
- Modular system
- 6 gain steps to x50

Performance	
Connections	BNC Input Connectors, front panel BNC Output Connectors, front panel
Indicators	Correct connection/Short Circuit/open circuit Warning LED
Sensor Excitation	+24V DC (IEPE current 4mA)
Input Impedance	100kΩ , 100pF
Input Gain	x1, x2. X5, x10, x20, x50
Input Voltage	±10V (linear), ±40V (maximum)
Input modes	Single Ended/Differential (jumper set)
Filter setting	
High Pass/Low Pass	High Pass/Low Pass, switch selectable
Filter types (specify when ordering)	01(anti-aliasing), 03,05 (Butterworths), 07,09 (Bessel), 41 (General purpose)
Frequency (Specify when ordering)	0.1 Hz - 980 Hz 1.0 Hz - 9 800 Hz 10 Hz - 98 000Hz
Environmental	
Operating Temp.	0 to +45°C
Power	
Input	10-30VDC (single/two channel chassis) 3 Watts 90 -120 / 180-240 VAC 50/60Hz – Multi channel rack Opt. DC power 9 - 30V DC power – Multi channel rack
Physical	
Weight	Min 1Kg – Max 10Kg
Size	Single Channel - 112 x 44 x 270mm Two channel - 112 x 88 x 270mm channel rack - 420 x 155 x 350mm

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A UK company with UK-based manufacturing, assembly and calibration in-house.

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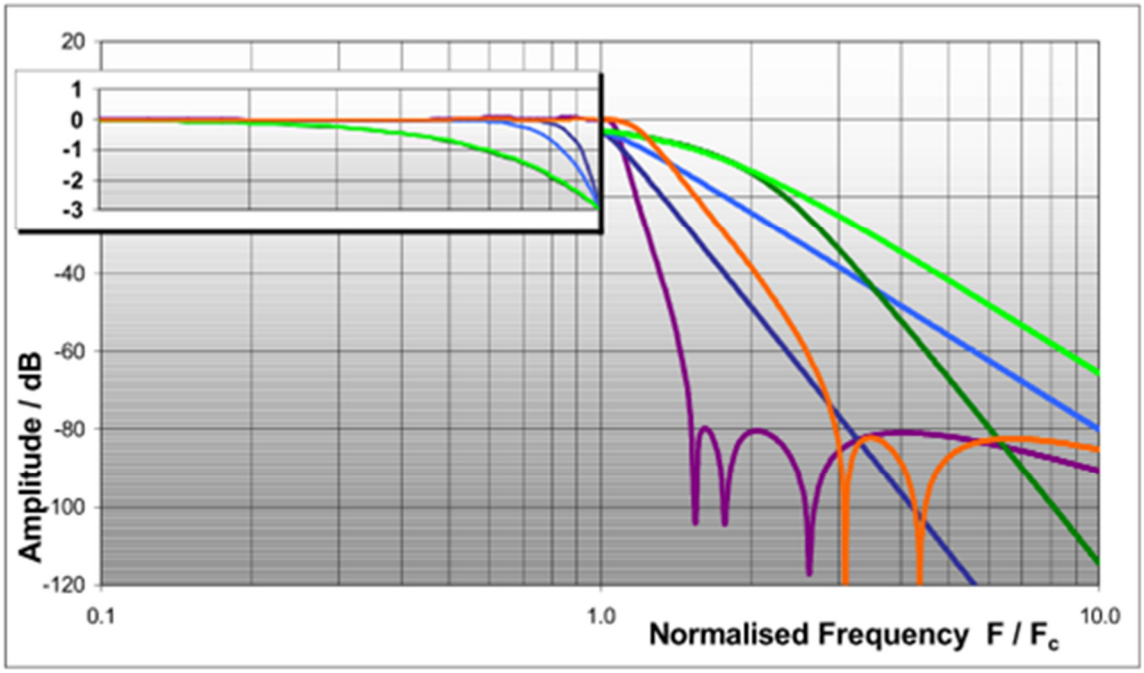
Filter Responses



Theoretical Amplitude Response

Filter Description	Type	Comments
Anti aliasing	01	Flat to cut off, sharp filter for anti-aliasing and similar applications. 136 dB/Octave equivalent slope, -80dB stop band. > - 79 dB at 2 F_c
General purpose	41	Flat to cut off, linear phase, good general purpose filter 52 dB/Octave equivalent slope, -82dB stop band. - 31 dB at 2 F_c
8 pole Butterworth	03	Classic 8 pole 48dB/Octave Butterworth filter, -3dB at cut off 48 dB/Octave equivalent slope, monotonic stop band. - 48 dB at 2 F_c
4 pole Butterworth	05	Classic 4 pole 24dB/Octave Butterworth filter, -3dB at cut off 24 dB/Octave equivalent slope, monotonic stop band. - 24 dB at 2 F_c
8 pole Bessel	07	Classic 8 pole 48dB/Octave Bessel filter, -3dB at cut off 48 dB/Octave equivalent slope, monotonic stop band. - 24 dB at 2 F_c
4 pole Bessel	09	Classic 4 pole 24dB/Octave Bessel filter, -3dB at cut off 24 dB/Octave equivalent slope, monotonic stop band. - 13 dB at 2 F_c

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