

- Filter frequencies from 0.1 Hz to > 500 kHz
- Easy to Use
- Wide Range of filter responses – to suit most applications
- AC/DC, Single ended / differential / 4-20mA / IEPE inputs
- Low pass / Highpass / Notch filter responses
- Adjustable gain 1,2,5 steps to x1000 (+60dB)
- Screw terminal connections
- Independent signal and power earth
- 9 – 30 V DC power input – ideal for +24 V DC
- 2 Types
  - 255 step variable frequency (DR 1600 series)
  - fixed frequency (DR 1200 series)
- Power on indication
- Optional +/- 50% output offset
- Optional 4-20mA output, current sink, and source.



The Kemo range of DIN rail mounting filters are a fast, easy to install, solution for many , small noisy signal problems. The combination of configurable input, gain, plus a flexible range of signal filters, make the Kemo DIN rail filters an ideal choice for many signal filtering applications.

Kemo DIN rail filters are in use world-wide in a wide range of industries and applications. Including:- data acquisition, control signal conditioning, industrial measurements, IEPE transducer conditioning, and a wide range of other applications

DIN rail filters are available in two versions

DR 1200 – fixed filter frequency, specified at order. 0.1 Hz to > 500 kHz

DR 1600 – 255 filter steps, set by DIP switch, range covering 0.2 Hz to 127 500 Hz.

Both have input gain, up to x1000 (+60 dB), AC/DC input coupling, single ended/differential input, and a 24V IEPE transducer, set to 4mA, but adjustable to 10mA. The signal zero volts is floating from the power supply, allowing flexibility in system earthing, allowing optimisation of signal earthing and zero volt paths.

### Applications

- Anti-aliasing filters
- Noise reduction in industrial measurements
- Signal reconstruction
- Data acquisition systems
- 4-20mA systems
- Sound and Vibration testing
- Band limiting
- Communications systems
- Signal optimization

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## Specification (typical values)

Power Input	10 – 30 Volts DC, 2.5 Watt. Polarity protected, isolated from signal path.
Connections	9 screw terminals.
Indicators	External LED indicator shows correct power to filter
Operating Temperature	10 to 45 °C, non condensing.
Input Coupling	DC / AC (with dual line AC coupling for differential input)
Input Mode	Single ended / Differential / IEPE (24V, 1 - 10 mA, set by single resistor) 4-20 mA input ( across 499Ω resistor)
Input Impedance	1 MΩ
Input Gain	x1,x2,x5,x10,x20,x50,x100,x200,x500,x1000. Set by on board jumpers.
Bandwidth	0 dB gain, > 500 kHz
Signal level	+/- 10 Volt pk-pk
Noise and THD	< 0.003% typical (depending on filter type, signal amplitude and frequency)
Output Impedance	47Ω
Outputs	2 Buffered voltage outputs. Optional 4-20mA output, current source (internal +24V source), and current sink.
Trim Adjustments	Offset and Gain. Multi-turn pots.
Frequency Setting	DR 1200 factory set at order DR 1600 by DIP switch, 255 filter steps

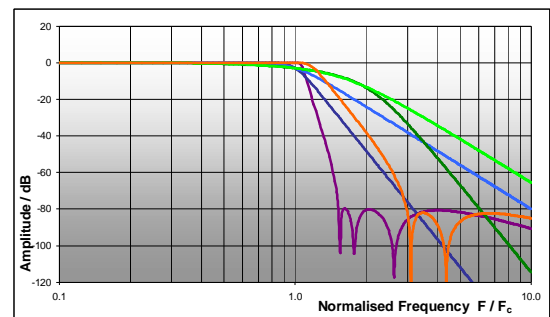
Base Frequency	Frequency Range	Steps
0.2	0.2 – 51 Hz	0.2 Hz
1	1 – 255 Hz	1 Hz
2	2 – 510 Hz	2 Hz
5	5 – 1 275 Hz	5 Hz
10	10 – 2 550 Hz	10 Hz
20	20 – 5 100 Hz	20 Hz
50	50 – 12 750 Hz	50 Hz
100	100 – 25 500 Hz	100 Hz
200	200 – 51 000 Hz	200 Hz
500	500 – 127 500 Hz	500 Hz

Dimensions	27 x 83 x 114 mm (1.1 x 3.3 x 4.5") excluding connectors
Weight	180 gms (6.4 oz)
Fixing	standard 35mm and 15mm DIN rails

## Filter Responses

A range of standard filter responses are available to cover most applications.

- 05 4 pole Butterworth, 24 dB/Octave, monotonic stopband.
- 03 8 pole Butterworth, 48 dB/Octave, monotonic stopband.
- 09 4 pole Bessel, 24 dB/Octave, monotonic stopband.
- 07 8 pole Bessel, 48 dB/Octave, monotonic stopband.
- 01 Anti Aliasing Elliptic type response, 94 dB/Octave, - 90 dB stopband.
- 41 General Purpose Flat, linear phase, 52 dB/Octave, - 80 dB stopband.



## Ordering Information

Order as DR 1200, specify filter frequency and type.  
Order as DR 1600, specify filter base frequency and type

### Options

Add 'O' for +/- 50% output offset, set by multi-turn pot output offset option  
Add 'I' for 4-20mA current output option - 4-20mA output, operates as current source or sink

Due to continued product development Kemo Limited reserves the right to change specification without notice

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