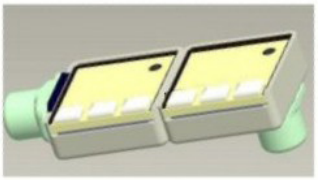
Description

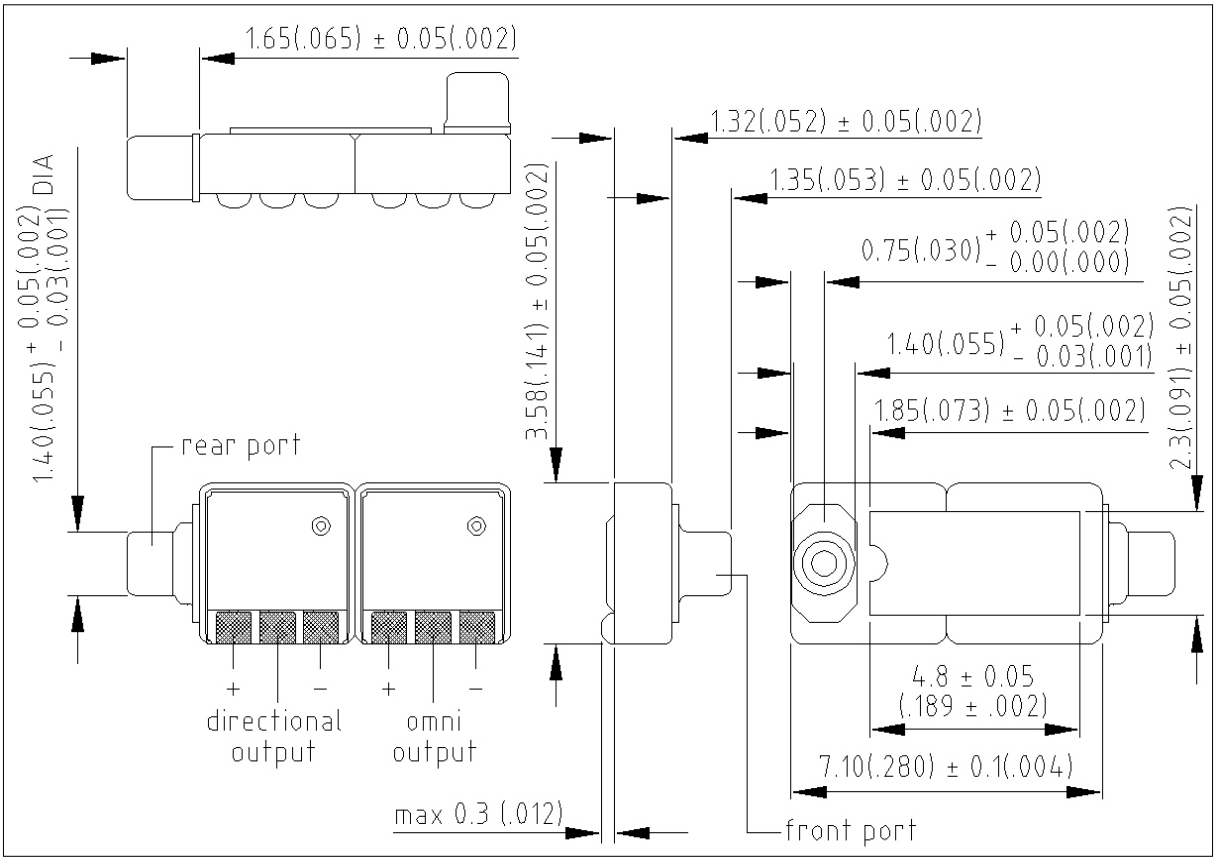
The 6918 is a unit consisting of a directional and an omni-directional microphone for hearing instruments.



Features

- Low noise CMOS amplifier with improved power supply feedtrough attenuation
- High sensitivity of directional microphone

Product drawing - Dimensions in mm [inch]



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RoHS 2011/65/EU

Specifications

All parameters are specified at 1.0 V and 1 MOhm // <200pF load impedance, AC-coupled with 1µF, unless specified otherwise. Environmental conditions: 23°C (73.4F), 50 % RH

Parameters directional		Min	Typ	Max	Unit	Comments
Sensitivity *	@ 100 Hz	-30	-22	-14	dB	re. 1 kHz value
	@ 1 kHz	-37.5	-34.5	-31.5	dB	re. 1V per Pascal
	@ 3 kHz	4	8	12	dB	re. 1 kHz value
Peak frequency			3		kHz	Approx.
Equivalent noise (A-weighted)			32	35	dB SPL	
Power supply feedthrough		30	33		dB	
Battery voltage range		0.8	1	5	VDC	
Battery drain		28	30	35	µA	
Output impedance **		3	4.5	5.5	kOhm	
Delay time			12		µs	
Null angle		110	125	140	Degrees	
AI-DI			5.5		dB	
Input-referred vibration sensitivity			77		dB SPL/g	1 kHz ref. acc. in axial dir.
Humidity coefficient of sensitivity			0.06		dB/%RH	
Input-referred EMI noise ***	0.8-0.96 GHz			30	dB SPL	according SMI 255, E=75 V/m
	1.8-2.0 GHz			30	dB SPL	according SMI 255, E=50 V/m
Phase (dir-omni)****	@ 200 Hz	45	75	105	Degrees	
	@ 1 kHz	20	50	80	Degrees	
	@ 6 kHz	-135	-105	-75	Degrees	

* Sensitivity change on reducing supply from 1.3 VDC to 0.9 VDC: -1 dBtyp., -3 dB max.

** Output impedance change on reducing supply from 1.3 VDC to 0.9 VDC: 7.5 kOhm max.

*** EMI noise measured in GTEM cell according variant of SMI255. Microphone soldered with 10 mm effective lead wire length to a shielded hearing instrument which is connected acoustically to measurement setup.

**** Phase is measured in a free field setup with all ports open and expressed from -180 deg to +180 deg.

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Specifications

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Parameters omni-directional		Min	Typ	Max	Unit	Comments
Sensitivity *	@ 80 Hz	-5	-3	-1	dB	re. 1 kHz value
	@ 1 kHz	-36.5	-33.5	-30.5	dB	re. 1V per Pascal
	@ 5.8 kHz	-1	2	5	dB	re. 1 kHz value
Peak frequency			5.8		kHz	Approx.
Equivalent noise (A-weighted)			26.5	29.5	dB SPL	
Power supply feedthrough		30	33		dB	
Battery voltage range		0.8	1	5	VDC	
Battery drain		28	30	35	µA	
Output impedance **		3	4.5	5.5	kOhm	
Input-referred vibration sensitivity			67		dB SPL/g	1 kHz ref. acc. in axial dir.
Humidity coefficient of sensitivity			0.025		dB/%RH	
Input-referred EMI noise ***	0.8-0.96 GHz			30	dB SPL	according SMI 255, E=75 V/m
	1.8-2.0 GHz			30	dB SPL	according SMI 255, E=50 V/m
Operating temperature range		-17	23	63	°C	
Storage temperature range		-40		63	°C	
ESD protection level: Class 2 according to MIL-STD-750D, test method 1020,2. Apply protection in accordance with IEC 61340-5-1 and 61340-5-2.						
* Sensitivity change on reducing supply from 1.3 VDC to 0.9 VDC: -1 dBtyp., -3 dB max.						
** Output impedance change on reducing supply from 1.3 VDC to 0.9 VDC: 7.5 kOhm max.						
*** EMI noise measured in GTEM cell according variant of SMI255. Microphone soldered with 10 mm effective lead wire length to a shielded hearing instrument which is connected acoustically to measurement setup.						

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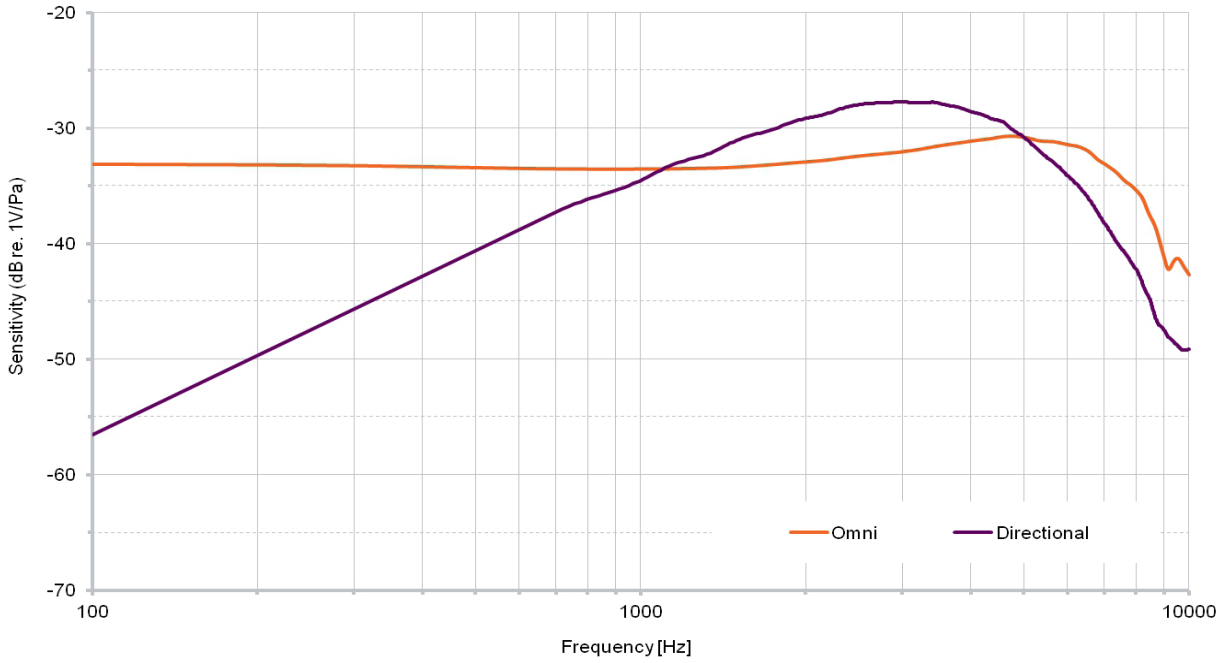
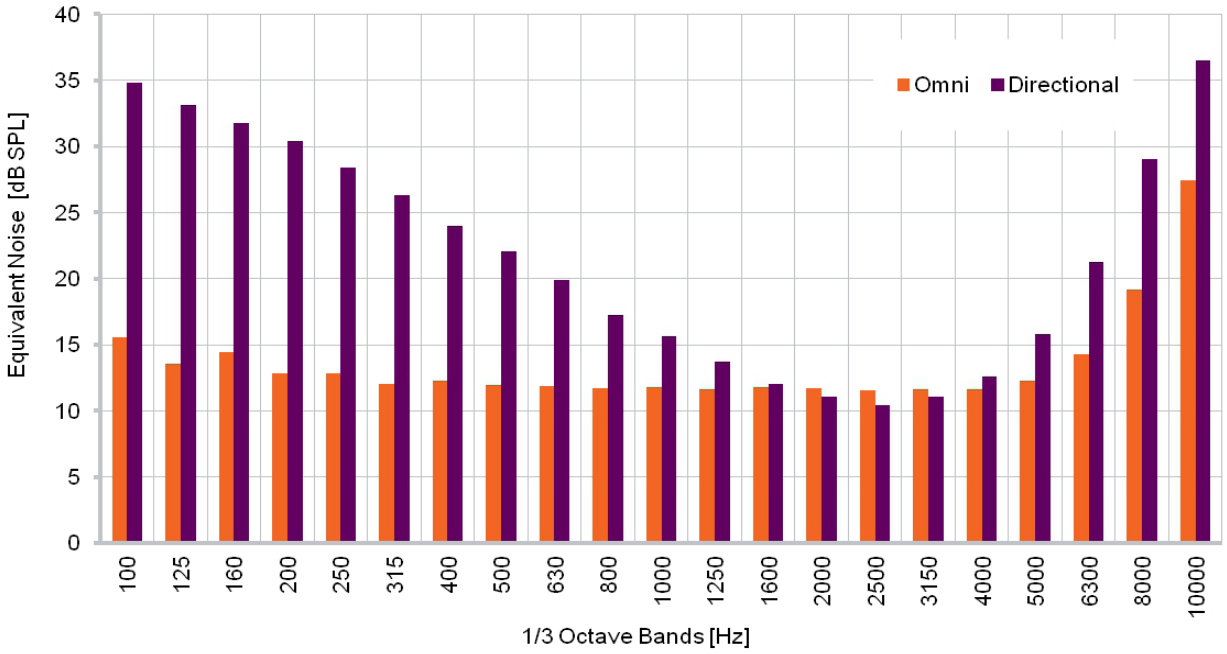
Typical response curve



Typical 1/3 octave equivalent noise



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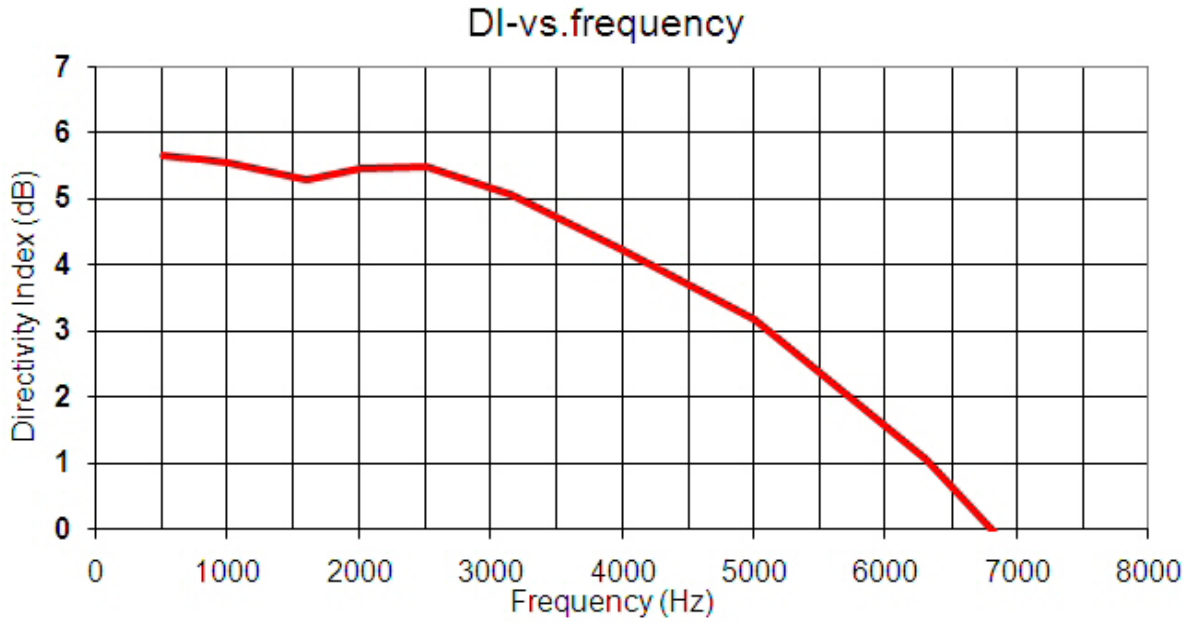
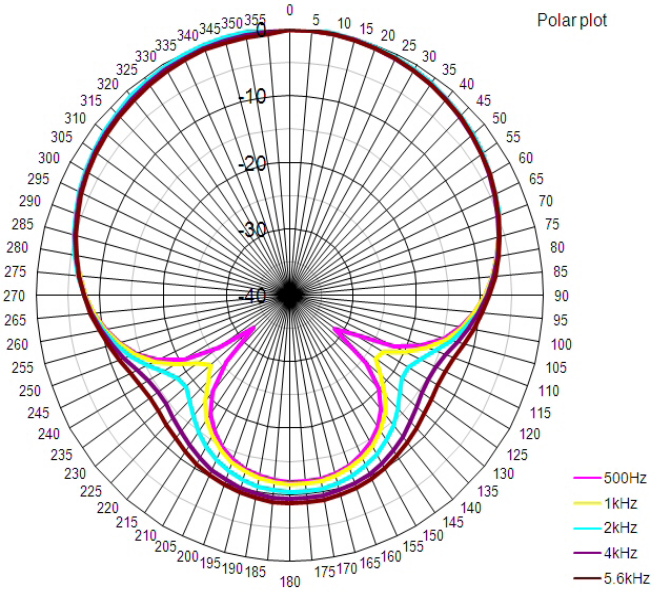
Typical response curve



Polar plot



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