

5.25" Extended Woofer

# PURE SOUND

Long Stroke driver with Ultra Low Distortion



## PTT5.25X08-NFA-01 DATA SHEET

### KEY SPECIFICATIONS

- ⊗ Negligible Force Factor Modulation and Surround Radiation Distortion
- ⊗ Low Magnetic Hysteresis Distortion
- ⊗ "Real" long-stroke Performance: Distortion remains low over full Excursion
- ⊗ Uncompromised Midrange Performance
- ⊗ Designed and Manufactured in Denmark

Driver size	5.25"
DC resistance, $R_{DC}$	5.9 $\Omega$
Resonance freq., $f_s$	32 Hz
Total Q factor, $Q_{ts}$	0.27
Effective piston area	85 cm <sup>2</sup>
Equivalent volume, $V_{as}$	13 L
SPL@2.83V <sub>rms</sub> /1m	84.7 dB
Linear $X_{max}$	+/- 9.8 mm
Mechanical $X_{max}$	+/- 14 mm
IEC Power handling	250 W
Cone material	Proprietary Fibre Mix

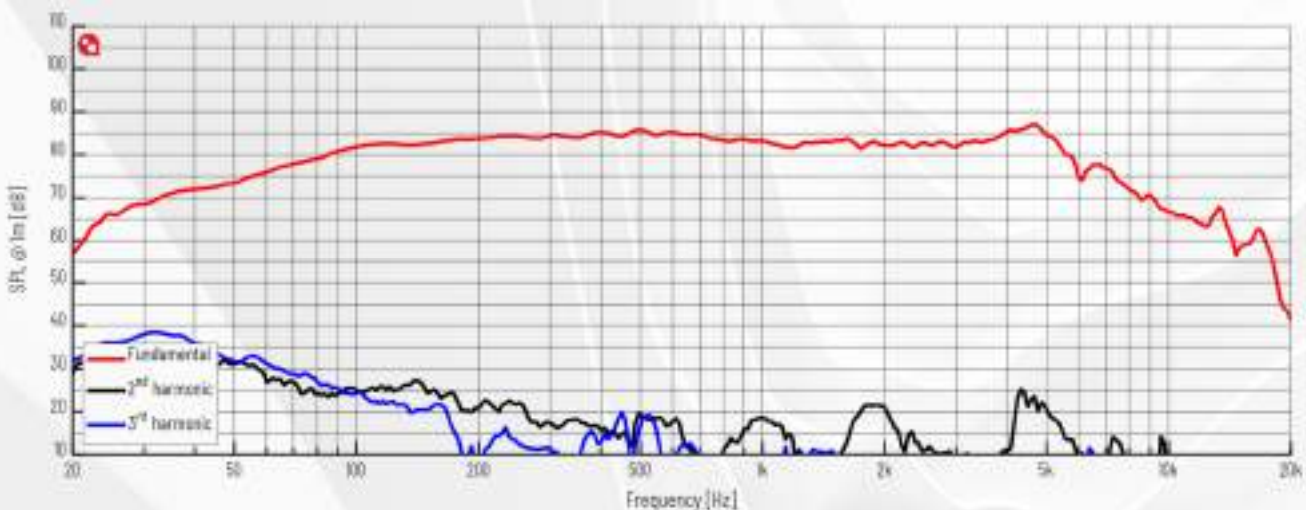


Figure 1 Frequency Response 2.83Vrms @1m

# 1 Specifications

## 1.1 Electrical & Acoustical Parameter

Parameter		Typ	Unit
$Z_n$	Nominal impedance	8	$\Omega$
$Z_{min}$	Minimum impedance above resonance	6.8	$\Omega$
$f_{min}$	Frequency for minimum impedance	262	Hz
$Z_o$	Maximum impedance	144	$\Omega$
$R_{DC}$	DC resistance	5.9	$\Omega$
$L_e$	Voice Coil inductance @ 1kHz 0mm	0.55	mH
SPL	SPL@2.83V <sub>rms</sub> /1m, 300Hz-800Hz, ref. 20 $\mu$ Pa (infinite baffle / 2pi)	84.7	dB
	SPL@1W( $Z_{min}$ )/1m, 300Hz-800Hz, ref. 20 $\mu$ Pa (infinite baffle / 2pi)	83.9	dB

Table 1 Electrical &amp; Acoustical Parameters

## 1.2 T/S & Lumped Parameters

Parameter		Typ	Unit
$f_s$	Resonance frequency	32	Hz
$Q_{ms}$	Mechanical Q factor	6.6	-
$Q_{es}$	Electrical Q factor	0.28	-
$Q_{ts}$	Total Q factor	0.27	-
$V_{as}$	Equivalent volume	13.2	L
$S_d$	Effective piston area	84.9	cm <sup>2</sup>
$D$	Effective piston diameter	10.4	cm
$Bl$	Force factor	9.0	N/A
$R_{ms}$	Mechanical resistance	0.59	kg/s
$M_{ms}$	Moving mass	19.6	g
$C_{ms}$	Suspension compliance	1.30	mm/N

Table 2 T/S &amp; Lumped Parameters

## 1.3 Mechanical Properties

Parameter		Typ	Unit
<b>Excursion Properties</b>			
$X_{max}$	Linear excursion = (Voice Coil length - Airgap height) / 2	+/-9.8	mm
	Mechanical excursion	+/-14.0	mm
<b>Physical Dimensions</b>			
	Basket diameter	147	mm
	Cutout diameter	121	mm
	Mounting hole pattern diameter	138	mm
	Mounting hole diameter	4.2	mm
	Magnet diameter	100	mm
	Outer flange height	3.6	mm
	Build-in depth	75	mm
	Weight	1.75	kg
<b>Voice Coil Properties</b>			
	Voice Coil diameter	39	mm
	Voice Coil length	23.6	mm
	Voice Coil layers	4	-
	Airgap height	4	mm
	Winding material	CCAW	-

Table 3 Mechanical Properties

## 1.4 Power Handling

Parameter		Typ	Unit
	Long term maximum power (IEC268-5 18.2)	250	W
	Rated noise power, 100h (IEC268-5 18.4)	80	W

Table 4 Power Handling



## 1.5 Typical Performance, Graphs

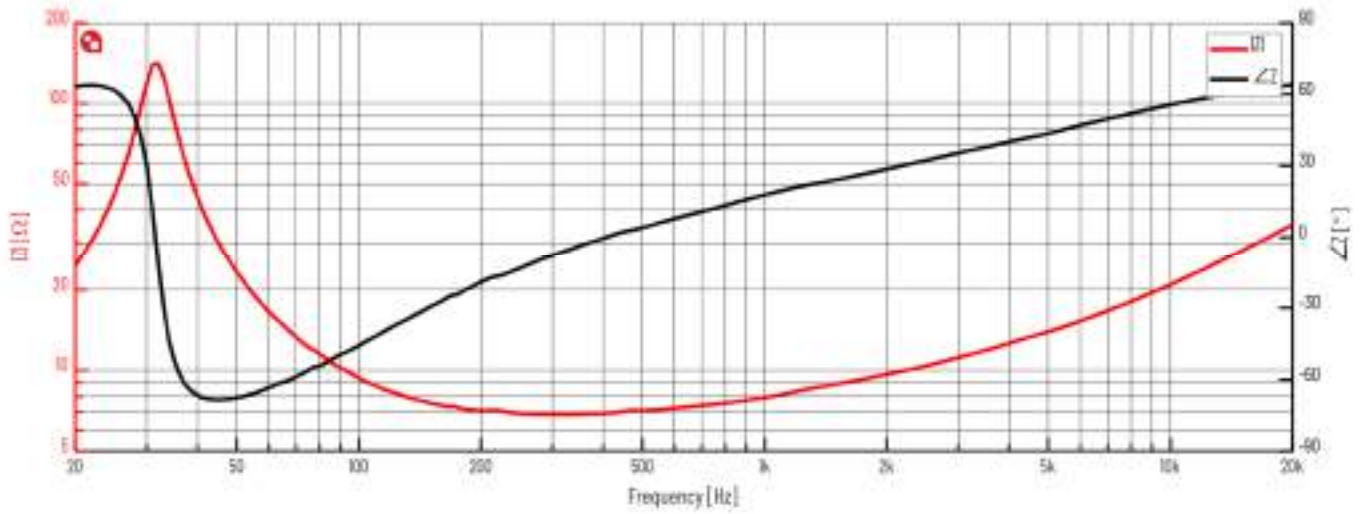


Figure 2 Impedance Response @ 2.83V

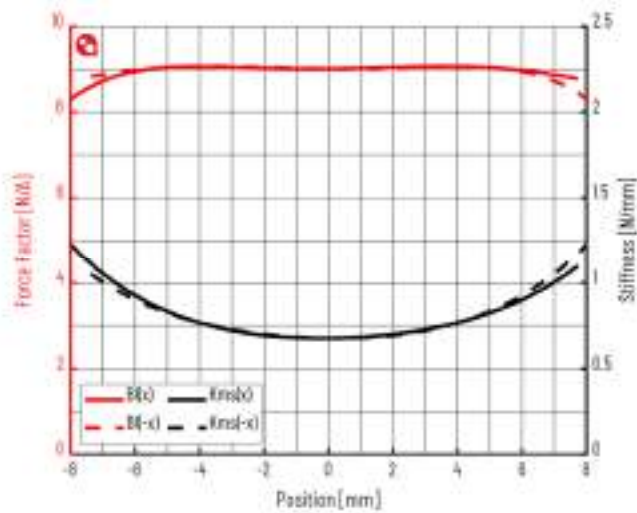


Figure 3 Force Factor and Stiffness vs Voice Coil Position

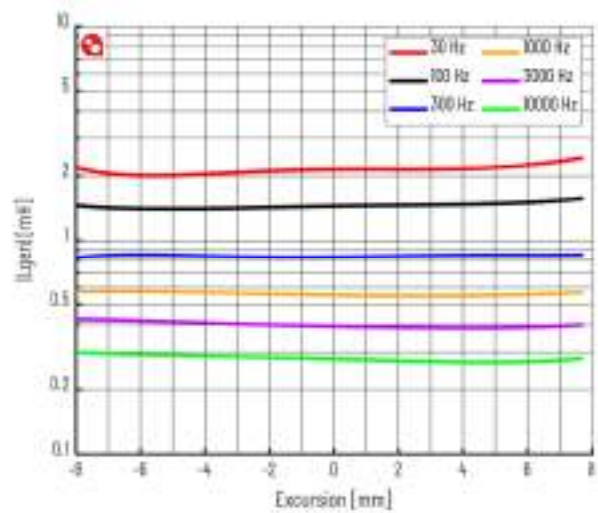


Figure 4 Inductance vs Voice Coil Position

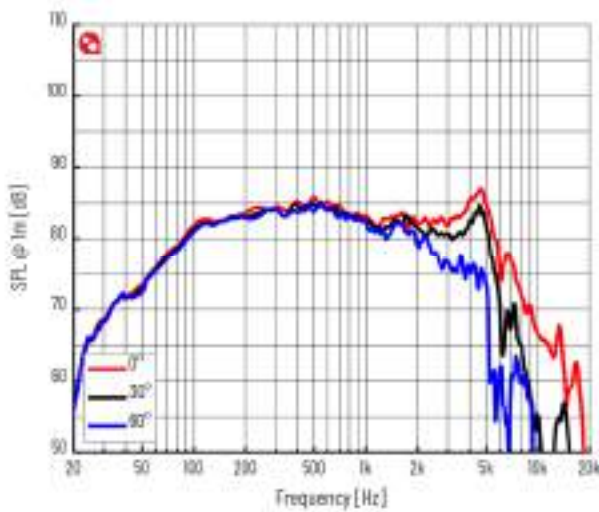


Figure 5 Axial Frequency Response @ 1m, 2.83Vrms

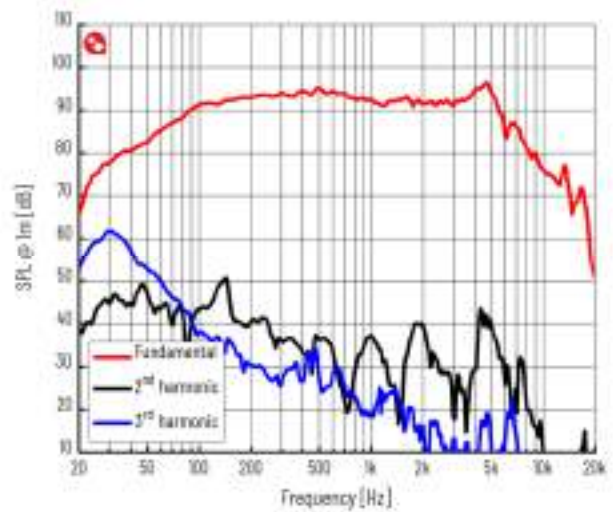


Figure 6 Frequency Response @ 1m, 94dB

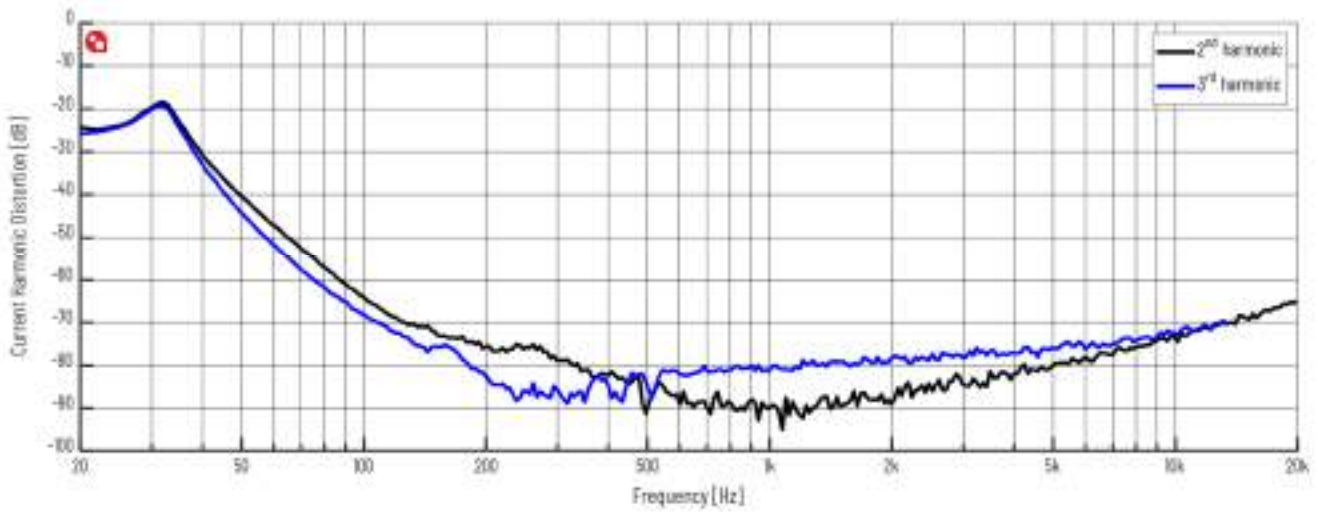


Figure 7 Current Harmonic Distortion @ 2.83Vrms

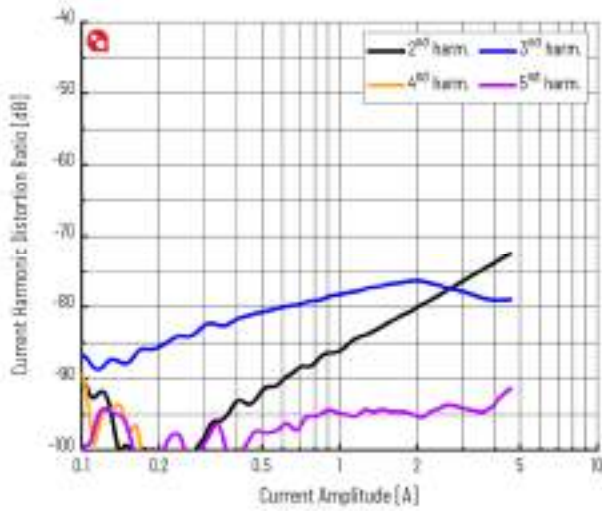


Figure 8 Current Harmonic Distortion @ 1kHz, 0-28.3Vrms

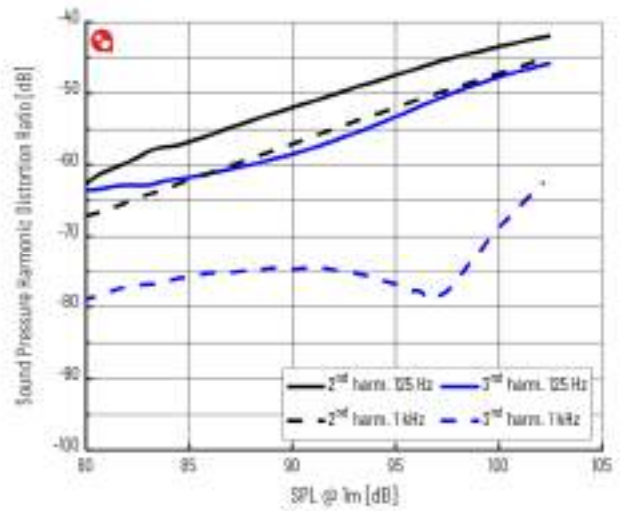


Figure 9 Sound Pressure Harmonic Distortion @ 1m, 0-28.3Vrms

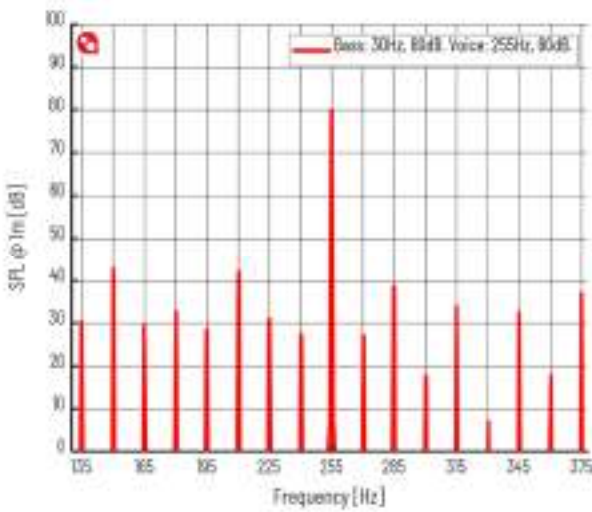


Figure 10 Intermodulation Distortion @ 30Hz 80dB, 255Hz 80dB

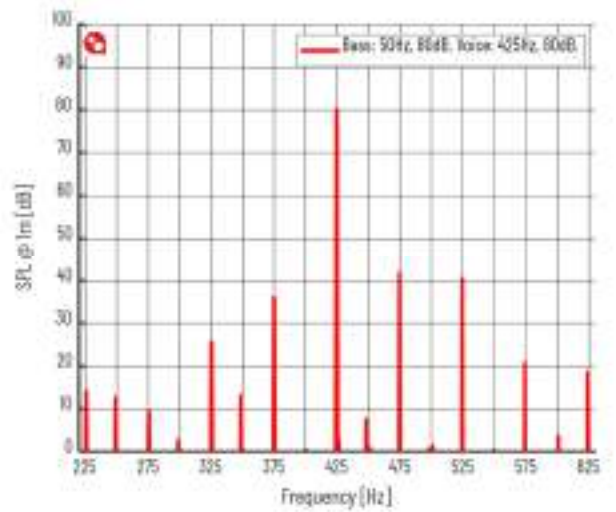
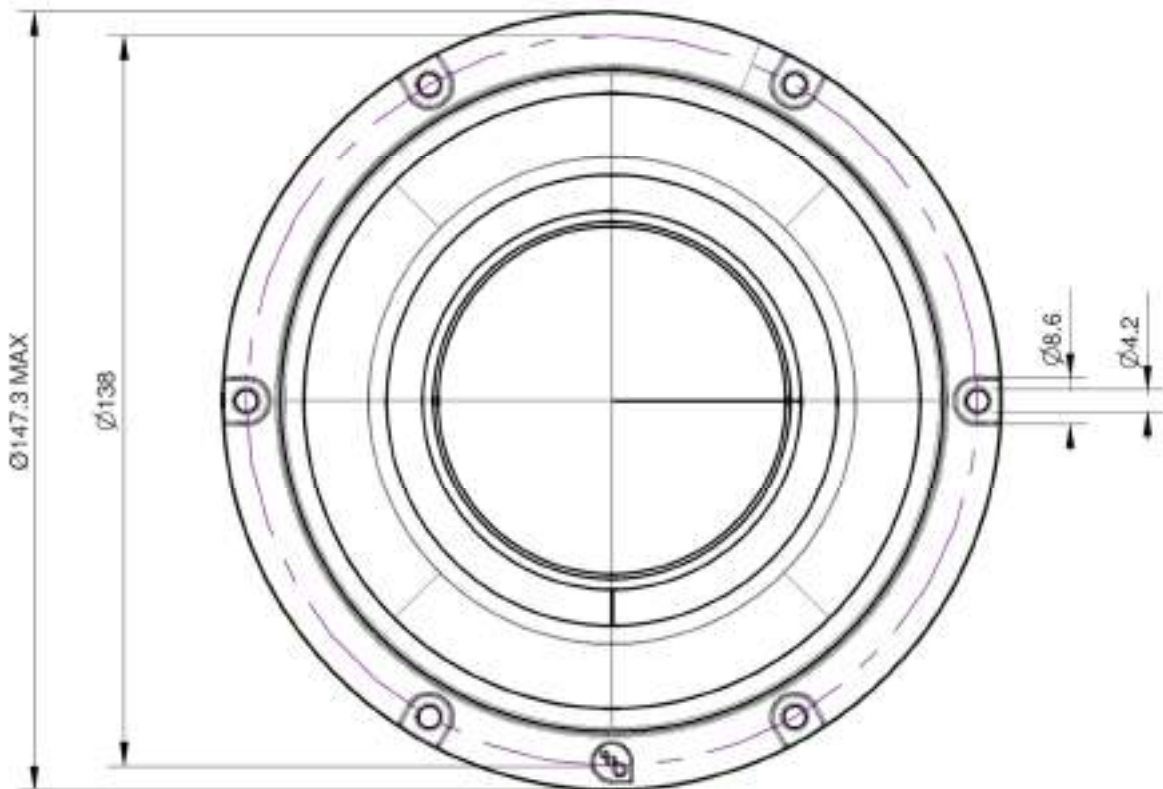
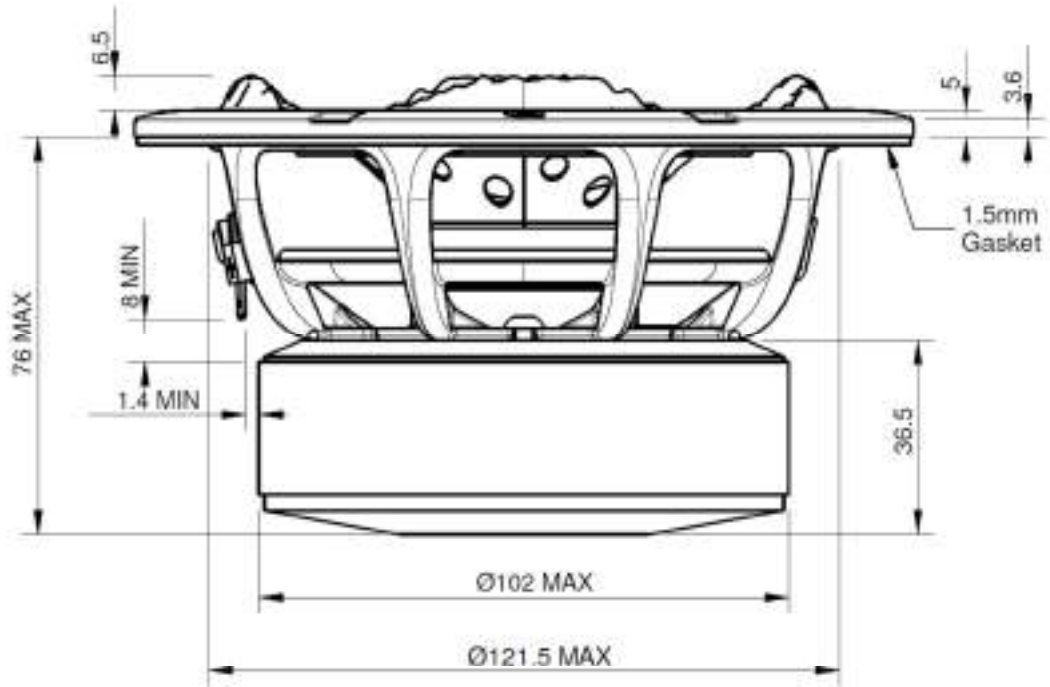


Figure 11 Intermodulation Distortion @ 50Hz 80dB, 425Hz 80dB

## 2 Drawings



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