RF Reduction Filter Set

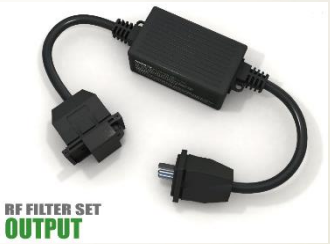
The Nanolux RF Reduction Filter set reduces both the emitted and conducted RF radiation from Digital/Electronic ballasts. It has come to the industries attention in the last year that virtually every Digital/Electronic ballast does not meet the FCC regulations for the emissions of excessive RF interference. This can have interference effects on radios (AM and FM), televisions, cellular phones, police and fire department communications and Ham radios. The RF interference can be triangulated if someone wants to identify the source of the interference which may lead to your garden…

TWO SOURCES OF EMMISIONS ARE THE PROBLEM

- **Conducted Emissions** – This is RF current which is conducted back through the input cord of the ballast and conducted through the lamp cord. The RF interference, which radiates back through the power cord, allows the internal copper wiring of the building to act as a large antenna.
- **Radiated Emissions** – These are the electromagnetic fields which are actually radiated out of the electrical wiring. Radiation is a natural consequence of radio frequency current and voltage flowing through conductors. This allows the cords to act as antenna to transmit the RF radiation.

TWO FILTERS REQUIRED

INPUT FILTER - The INPUT filter is installed in-line with the IEC input power cord of the ballast. The INPUT filter will reduce the RF levels of any Digital/Electronic power supply to be near or to exceed the FCC required limits of both EMC and EMI. It specifically works on reducing the conducted emissions from traveling back into the electrical wiring of the building.



OUTPUT FILTER – The OUTPUT filter is installed onto the output cord of the ballast. The filter uses the “standard” male plug (if you have an HF ballast, you will need an adaptor). The filter has dual female outlets which accepts both styles. The OUTPUT filter specifically works on reducing the EMI from the high frequency signal generated by the ballast traveling through the lamp cord. The output Filter will reduce the RF levels of any Digital/Electronic power supply to be near or to exceed the FCC required limits of both EMC and EMI.

RF Reduction Filter Set

SPECIFICATIONS

RF FILTER SET - OUTPUT

Max. Voltage: 600V Max. Current: 10A
Max. Conducted Emission (0.45MHz-30MHz): 25dB
Max. Radiated Emission (30MHz-1000MHz): 25dB
Reference Standard: FCC Part 18 Class B

RF FILTER SET - INPUT

Input Voltage: 120/240/277Vac Max. Current: 15A Frequency: 50/60Hz
Max. Conducted Emission Reduction (0.45MHz-30MHz): 45dB
Max. Radiated Emission Reduction (30MHz-1000MHz): 23dB
Reference Standard: FCC Part 18 Class B

CAUTION:

This device is used for reducing the EMI and EMC of ballasts, use for INPUT&OUTPUT respectively.
Make sure that all plug connections are good and that RF Filter Set is secured.

EXAMPLE TEST RESULT

2013 Common 1000W Ballast

EMI	
Without FILTER	With Input & Output Filter
	

EMC	
Without FILTER	With Input & Output Filter