

Noise and Interference Rejection Filters

proFIL™ series of Professional Noise and Interference Rejection Filters blocks efficiently conducted noise from cables and increases system performance. proFIL™ reduces electromagnetic interference much below the levels allowed by EMC regulations.



proFIL 0100 series Power Line Noise filters is designed to reduce noise and interference from the switched mode power supplies. They attenuate effectively low frequency switching frequencies and higher harmonic frequencies caused by unintentional interaction with high power rf-transmissions.

proFIL 1010 series Coaxial Cable Interference Filters are designed to minimize interference that is travelling backwards in coaxial cables due to antenna circuit mismatch, reflections around antenna and cable faults. If present, this interference shows erratic behavior in other electronics and electrical equipment like sporadic activations, data errors, clicks and cracks. It can also activate other transmitters and make them oscillating on other frequencies. In higher power transmitters it can create strong electromagnetic field inside the cockpit which can exceed even healthy limits. proFIL 1010 does not block DC-current thus it can be used in coaxial cables that supply control signals and DC power to the antenna tuner.

Due to the innovative design of proFIL™ technology, products do not have attenuating effect to original signal. This makes them easy to adapt in any situation without the fear of losing performance.

High-performance proFIL™ technology enables modern communication without compromising safety and performance. Its low loss and medium isolation output ports improves the overall performance of the communication system in comparison to the traditional one antenna – one radio approach. proFIL™ technology is proven and being used by many governments and authorities in Europe.

Less noise, no interference

- minimizes power supply noise
- easy to try and install
- keeps EMI levels at minimum
- zero loss technology



Electromagnetic modelling services fine-tunes performance

By using advanced proEMS™ electromagnetic simulation, modelling, analysis and measurement services a complete 3D-electromagnetic environment of the ships external structures is built and the optimal location for each antenna with the least interference can be found and verified. The proEMS™ services are useful for any size of boat or ship and are tailored for each customer separately.

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Table 1 Electrical Specifications

Electrical Specifications (TA=25°C)	proFIL 0100 (FIL0100)	proFIL 0101 (FIL0101)	proFIL 1010 (FIL1010)
Power	DC: 30V / 8A	DC: 30V/ 10A	max 250W
Interference rejection	Common mode / differential mode < 1MHz (>40dB) 1- 30MHz (>15dB) 30-300MHz (10-15dB)	Common mode 10MHz – 1GHz (~15dB)	1-30MHz : > 15dB no DC block
Insertion Loss	N/A	N/A	< 0.5 dB
Port impedance	N/A	N/A	50ohm
Connectors/Terminals	Open end 2.5m2 conductors (+/-)	Open end 2.5m2 conductors (+/-)	N -female
Resistance to ground	Body grounded with yellow/green protective ground wire	Body floating	Body grounded with coax shields, antenna port shield and radio port shields in the same DC- potential

Table 2 Mechanical and Environmental properties

Mechanical and Environmental properties (TA=25°C)	proFIL 0100 (FIL0100)	proFIL 0101 (FIL0101)	proFIL 1010 (FIL1010)
Dimensions	height: 60mm width: 150mm depth: 60mm	height: 45mm width: 110mm depth: 45mm	height: 45mm width: 165mm depth: 45mm
Weight	about 550g	300g	350g
Material	aluminum body		
Mounting	-	-	-
Ingress protection	IP54		
Operational environment	-30° - +60° C		
Standards	All proFIL™ products are to the standard of IEC60945 to insure safe operation in the environment on relevant parts. Some of the criteria are operating temperature, storage temperature, humidity, vibration, electromagnetical compatibility.		

Connection example

