"All-in-One" GPS, Cellular and WiFi, Heavy-duty External Antenna with over 40% Efficiency

Taoglas today launched the Spartan MA.600 antenna, a heavy-duty, waterproof external M2M antenna for use in telematics, transportation and remote monitoring applications. The Spartan is unique in the market because it combines a 3in1 GPS, Cellular (2G and 3G) and WiFi, heavy-duty antenna with 40% efficiency in a compact format. The antenna screws down permanently onto a roof or metal panel and can be pole or wall-mounted with a metal bracket.

For industries such as commercial vehicle telematics, remote monitoring, smart meter systems and construction equipment, the Spartan provides a robust, rugged antenna that is durable, even in extreme environments. The Spartan antenna delivers over 40% efficiency and 2dBi+ peak gain at the connector on 3M of cable on frequency ranges of 824-2170 MHz for cellular, 2.4/4.9~6 GHz for WiFi/Public Safety/Zigbee, and 5dBi for GPS. All while still maintaining 20dB isolation between antennas. It uses high-shielded PTFE dielectric ultra low-loss cables that maintain low attenuation at all frequency bands, with an average 0.3dB per meter (0.1dB per foot), compared to 0.7dB for RG58 and 1.2dB for RG174. Because of this, the Spartan maximizes chances of passing PTCRB and network approvals first time.

At a height of 50mm (2inches) and a diameter of 150mm (6 inches), the Spartan is a ribbed, curved, low-profile antenna that suits roof mounting on vehicles or covert installations for outdoor equipment. It also has a heavy-duty, extra thick thread and nut, which prevents the antenna being snapped off, damaged or vandalized. The base and thread is made of unique one-piece, machined steel functioning as a highly efficient integral ground-plane, removing the need for an external ground-plane to couple to. This setup also prevents noise interference from the RF module or nearby electronic equipment entering the antenna. It also directs antenna radiation away from the module increasing isolation.

The cable cannot be accessed externally once the antenna is mounted so cannot be cut. The antenna is salt and UV resistant. An internal O-ring structure rated to IP67 prevents water ingress and protects against humidity. A Japanese synthetic rubber foam solution with 3M adhesive provides the final seal for the antenna to its mounting surface, which prevents water entering the mounting hole.

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