

Gas Meter AMR Transmitter Technical description

The GA-TX is a family of wireless end-point units (Transmitters) for gas utility Automated Meter Reading (AMR). These Transmitters are designed to operate in NexusData's Fixnet™, a highly economical fixed network configuration, achieving long coverage range while maintaining high reliability of the communication link.

Transmitted messages contain meter reading, status and online alerts. Readings are transmitted periodically (typically daily), and status alert messages are transmitted immediately, once exception or tampering is detected. Transmitters are battery operated, with a typical battery life of over 10 years.

The GA-TX is housed in a sealed, unobtrusive, waterproof enclosure, and is installed between the meter cast and the index. Its installation procedure is very simple since the Transmitter is delivered as a single-piece module. A separate, sealed and waterproof battery compartment is easily replaceable in the field by removing the index cover and sliding in a new battery pack in place of the old one.

Initial settings (ID, Reading, etc.) are programmed to the GA-TX by using a handheld terminal with a wireless (magnetic loop) interface, eliminating the need to open its enclosure.

Models of the GA-TX have been adapted to residential and industrial gas meters by American Meter, Invensys/Equimeter (Rockwell) and Schlumberger (Sprague).

Specification

RF Output	30dBm (1 Watt)
Range	Urban area (typical) – 5-10 miles (8-16 km)
Data Rate	4 Kbps
Chip Rate	1 Mchips / sec
Frequencies	903.8 – 926.2 MHz, 57 channels x 400 kHz steps
Modulation	Direct Sequence SPSP, BPSK
PN Codes	255, maximal length sequence
Configuration Storage	Non-volatile memory
Power Supply	Lithium battery
Power Consumption	750mA at transmission burst Less than 3µA – in power-down mode
Battery Life (Typical)	Over 10 years for daily reads
Operating Temperature	-30°C to +80°C