

## 2102 Wireless Module - Specifications

<b>Size (HxWxD):</b>	2.2 x 11.3 x 7.5 in. (5.4 x 28.7 x 19.1 cm)
<b>Weight:</b>	2 lbs (0.9 kg)
<b>Material:</b>	High-impact polystyrene
<b>Enclosure:</b>	NEMA 4X, 6P and IP68 (connectors capped)
<b>Operating Temperature:</b>	-0°F to 140°F (-18°C to 60°C)
<b>Storage Temperature:</b>	-40°F to 140°F (-40°C to 60°C)
<b>Power</b>	
<b>Voltage:</b>	10 to 16.6V DC (12V DC nominal)
<b>Current:</b>	<1 mA standby, 300 mA maximum, 5 mA average at 4 minute power cycle
<b>Typical battery life:</b>	50 days (with 2 alkaline batteries)
<b>Transmitter</b>	
<b>Frequency:</b>	902 to 928 MHz Spread Spectrum
<b>Output power:</b>	1 Watt
<b>Typical range:</b>	line of sight - 0.5 miles (0.8 km); from inside manhole - 100 ft (30 m)
<b>Modulation, GFSK:</b>	120 kBs - 170 kBs
<b>Occupied bandwidth:</b>	230 kHz
<b>Receiver</b>	
<b>Sensitivity:</b>	108dBm at 10 <sup>-6</sup> raw BER (bit error rate)
<b>Selectivity:</b>	40 dB at fc ± 230 kHz; 60 dB at fc ± 460 kHz
<b>Data Transmission</b>	
<b>Carrier Detect Cycle:</b>	4 minutes
<b>Average connect time:</b>	2 minutes
<b>Error Detection:</b>	32 Bit CRC, resend on error
<b>Data Encryption:</b>	Substitution, dynamic key
<b>Link Throughput:</b>	115 kbps
<b>FCC Identifier:</b>	KNY-205-108213
<b>DOC (Canada) Identifier:</b>	2329 102 336A
<b>Software/setup:</b>	Via serial connection to computer with Isco Flowlink Software (version 4.11 or above)