

### WI-I/O 9-K Transmitter (Single Sensor Units)

- Frequency hopping spread spectrum 902-928 MHz 1W, license-free USA/Canada
- Configurable sub-bands license-free Mexico, South America, Australia/NZ, Hong Kong

The Single Sensor Wireless I/O range of products is suitable for connecting to a single sensor or group of sensors and provides an economical solution for remote monitoring systems. Capable of being powered by battery-only supplies, these products are particularly suitable where power is not available.

### Features

- Input-only unit - two digital/pulse one analog
- Networks with Multi-I/O and Gateway units
- Analog Loop Supply for field devices
- Sensor signals (inputs) are transmitted to a Multi-I/O module where the signals are re-created as output signals, or passed via serial or Ethernet data bus to a host device such as a PLC or SCADA system.
- Extremely low power consumption by reverting to “sleep” mode
- Multiple power supply options including battery-only supply
- Weatherproof IP66 / NEMA 4 enclosures
- Class 1 Div 2 hazardous areas approval (USA/Canada)
- Up to 3000 wireless units per network
- Any input on any unit can be wirelessly linked to any output on any unit. Inputs can be linked to multiple outputs.
- Peer-to-peer communications. Exception reporting. Reliable self-checking messages. Highly secure data encryption.
- Multi-hop repeater functions - up to 5 intermediate units can be configured in any input-output link
- External inputs plus internally calculated values - analog setpoint status, pulse rate and pulse total, power supply voltage, power supply alarm
- Setpoint status generated by comparing analog input to high and low setpoints.
- Pulse inputs generate separate pulse count value and a pulse rate value. Pulse rates are treated as internal analog registers with a configurable maximum value.
- Power supply generates internal I/O values that can be transmitted— low normal supply voltage status, low battery voltage status and battery voltage (analog)
- Can connect to up/down counter transducers such as shaft-encoders
- Easily configured to repeat the transmission several times to ensure that the transmission is received correctly
- Easy-to-use E-Series Windows configuration.

WI-I/O-9-K



**Technical Data**

<b>Inputs:</b>	two digital/pulse inputs, suitable for voltage free contacts / NPN, or voltage input 0-1 VDC on / >3 VDC off
Digital:	status transmission on change of input signal and on time elapsed since last transmission - update time period 10 sec - 5days, a separate update time can be configured when the discrete input is "on"
Pulse:	Pulse rate up to 1000 Hz, 3 msec on time. Pulse counted as 16 bit register with a 16 bit overflow register (total count 32 bit). Transmissions occur when count change exceeds configured increase, or on time elapsed since last transmission; update time 10 sec - 5 days ; change transmissions may be suspended if increase exceeds a configured value to reduce radio traffic. the two pulse inputs may be configured to a single count, to suit quadrature or incremental shaft encoder transducers.
Up/Down Pulse Count	calculated from rate of pulse input and treated as an internal analog input. Configurable scaling. Transmitted as per analog input.
Pulse Rate	one analog input 0-25 mA (4-20mA, 0-10mA)
Analog:	0-10V also available "floating" differential input

resolution	12 bit
accuracy	< 0.1 % measurement continuous or sampled
sample time configurable	1 min - 5 days
transducer warm-up time configurable	0.5-127 sec
analog value transmitted on change of input signal or time elapsed since last transmission,	
change sensitivity configurable	0.7-75%
update time configurable	0.1min - 5 days

<b>Setpoint Status</b>	high and low setpoints generate internal digital status setpoint status sets (on) when analog value < low setpoint and resets (off) when analog value > high setpoint status transmitted as per digital input
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<b>Power Supply</b>	quiescent (sleep mode) 120µA, operating mode 10mA + analog loop
Power consumption @12VDC	300mA @ 1W, 220µA @ 500mW
Power consumption during radio transmission (50 - 100 msec)	100mA @ 100mW, 50mA @ 10mW
Analog loop supply internally generated	Yes
Internal monitoring of supply low voltage status	may be transmitted to remote modules as an "input"
Power consumption increases for pulse inputs > 10Hz.	

<b>Serial Port</b>	DB9 female DCE, used for configuration and diagnostics
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<b>General Data</b>	
Operating Temperature	-40 to 60°C (-40 to 140°F)
Humidity	0 - 99% RH
EMC Standards	compliant 89/336 EEC, EN 300 683, AS3548, FCC Part 15
Approvals	Housing - IP66 NEMA4; FCC Part 15.247, RS210, CSA Class 1, Div 2
Mounting	
LED indication	Radio TX, Operation OK
frequency hopping spread spectrum	902-928MHz, sub-bands available
Transmit power	1 W
Maximum line of sight range	20miles (4W ERP), 15 km (1W ERP)
Receiver data sensitivity	108 dBm
Data rate	19.2 Kbs with forward error correction
Antenna connector	SMA coaxial

<b>Dimensions mm (in)</b>	150 x 64 x 36 (5.1 x 2.5 x 1.4)
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Ordering Data	Type	Part No.
	WI-I/O-9-K	672005004
<b>Battery Pack (optional)</b>	WI-BP-I/O-9-K	672005112
<b>Plug and Lead-1 meter</b>	WI-PLI-9-K	672005113