

SwiftComm™ Wireless Incremental Interface

A whole new era in wireless industrial control



Now the machine designer is free to install sensor equipment without the expense and constraints of a hard-wired system. Encoder installations in difficult applications like cranes, rotating tables or mobile applications, are greatly simplified. The SwiftComm system includes the transmitter-receiver pair, which communicates using a point-to-point frequency-hopping 2.4 GHz RF protocol. Because of its flexible input/output electronics, it can interface with many different industrial sensors and control systems. Simply connect the SwiftComm transmitter to the sensor and the SwiftComm receiver to your control system and apply power. That's it! No complicated cabling required.



SwiftComm's proprietary radio protocols include a broad security code range, data encryption, handshaking, interference recovery, and error checking that together provides a secure and robust wireless interface system. Ruggedness and flexibility are further enhanced with SwiftComm's NEMA 4 weatherproof enclosures, panel mounting options, antenna choices and wide-range DC power inputs.

SwiftComm's Unique Advantages

- Robust Signal
- Secure Transmission
- Real-Time Control
- Long Range

Electrical Specifications

Supply Voltage (transmitter or receiver): 5 to 28 VDC (see model number)

Supply Current (transmitter or receiver): 220 mA Max

Output Format:

Transmitter Input: 2 Channels in quadrature, 1/2 cycle index gated w/ negative B channel
Receiver Output: 2 Channels in quadrature, cycle index gated w/ negative B channel

Temperature: Operating: -40°C to 70°C

Storage: -40°C to 100°C

Rf Specifications

RF Power Output: 17 dBm (50 mW) min

Frequency Range: 2.4 GHz ISM Band Adaptive Frequency Hopping Protocol

Sensitivity: -80 dBm (0.1% BER @ 1000kbps)

Antenna Connector: TNC – Reverse Polarity (50 Ohm)

Transmission Range: 300 Meters (5.5 dBi Gain "Rubber Duck" Swivel Antenna, antenna mounted directly to enclosure)

Encryption: Proprietary enhanced 40-bit encryption with pseudo-random frequency hopping sequence.

Security Codes: 5 Byte range (>500 billion unique codes)

Output Specifications

Frequency Response: > 500 KHz

Link Update Rate: 600 uS

Signal Loss Time without Link Failure: 120 mS

Transmission Response Time: 1ms typical

Mechanical Specifications

Dimensions: (mm, including Antenna Connector)
Transmitter (excluding cable set): 75W x 98L x 53H
Receiver: 75W x 119L x 53H

Weight:

Transmitter with 10-foot cable (no antenna): 911 grams
Receiver (no antenna): 455 grams

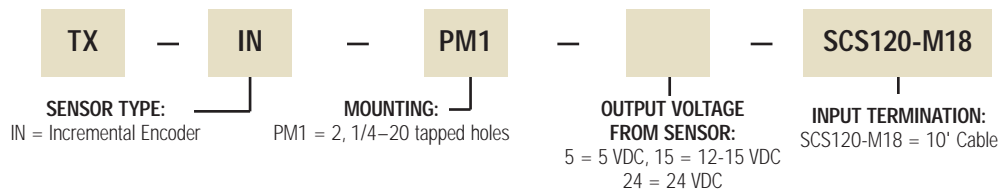
Enclosure: NEMA 4 cast aluminum, powder coated, gasketed closure intended for indoor or outdoor use. Protected against windblown dust and rain, splashing water, hose directed water and by the formation of ice on the enclosure.

Mounting Options: Two 1/4 - 20 tapped holes on back of enclosure for mounting to flat surface. Optional mounting ears or DIN rail kit available.

SwiftComm Ordering Options for assistance call 800-350-2727

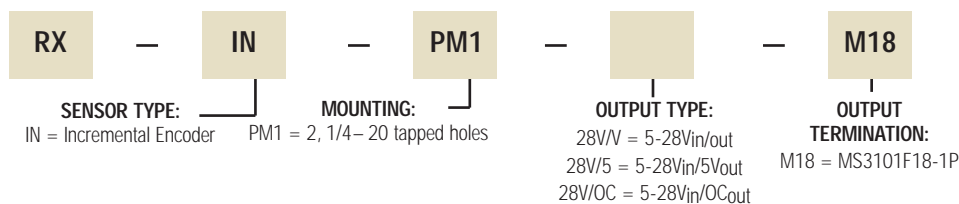
Order Note: The Transmitter and Receiver are sold as pairs. Sensor type must be the same for Transmitter and Receiver modules

TRANSMITTER MODEL NUMBER



Transmitter includes antenna and 10' cable connector assembly. Power cable ordered separately.

RECEIVER MODEL NUMBER



Receiver includes antenna. Mating cable assemblies are available.



Tel: 805-968-0782 / 800-350-2727
Fax: 805-968-3154 / 800-960-2726
7230 Hollister Ave., Goleta, CA 93117-2807

www.beied.com

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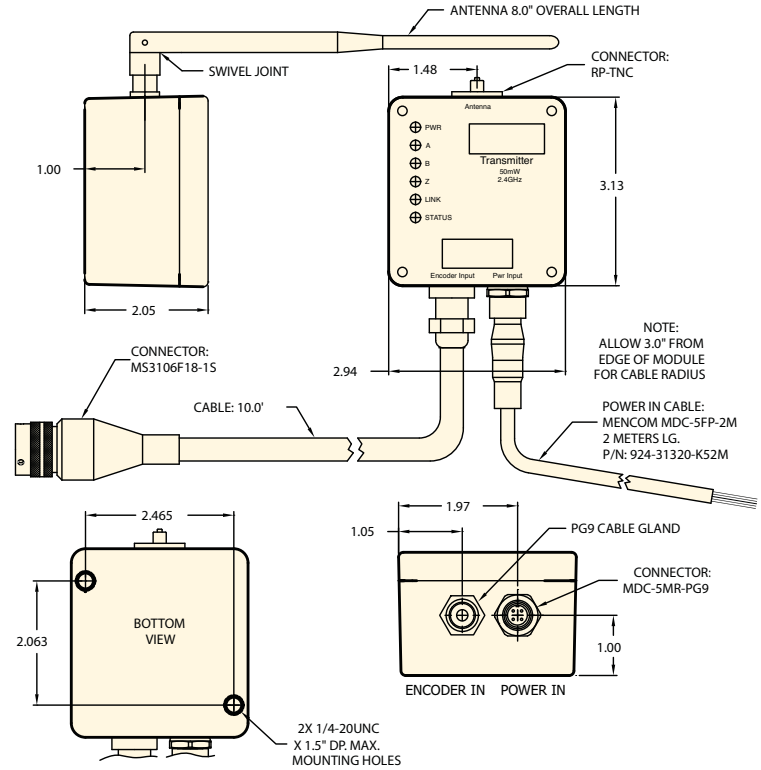
SwiftComm Transmitter Module

The SwiftComm Transmitter Module has two connector plugs: a 5-pin connector for power input, B.I.T output and chassis ground; and a 3-meter (10 foot) cable with a 10-pin MS connector attached to the end.

Transmitter: Pwr Input & BIT Output (5 Pin Connector)					
PIN	FUNCTION	COLOR	PIN	FUNCTION	COLOR
1	+V (Supply Voltage)	BRN	4	---	BLK
2	B.I.T Output*	WHT	5	Case Ground	GRY
3	0V (Circuit Common)	BLU			

*If transmission is interrupted for longer than 0.13 seconds the status of this pin will change from LO to HI. B.I.T. is HI at +V level.

Transmitter: Encoder Input (MS3106F18-1S or 10 ft pigtail)			
PIN	FUNCTION	PIN	FUNCTION
A	A	F	0V (Supply to Encoder)
B	B	G	---
C	Z	H	\bar{A}
D	+V (Supply to Encoder)	I	\bar{B}
E	---	J	\bar{Z}

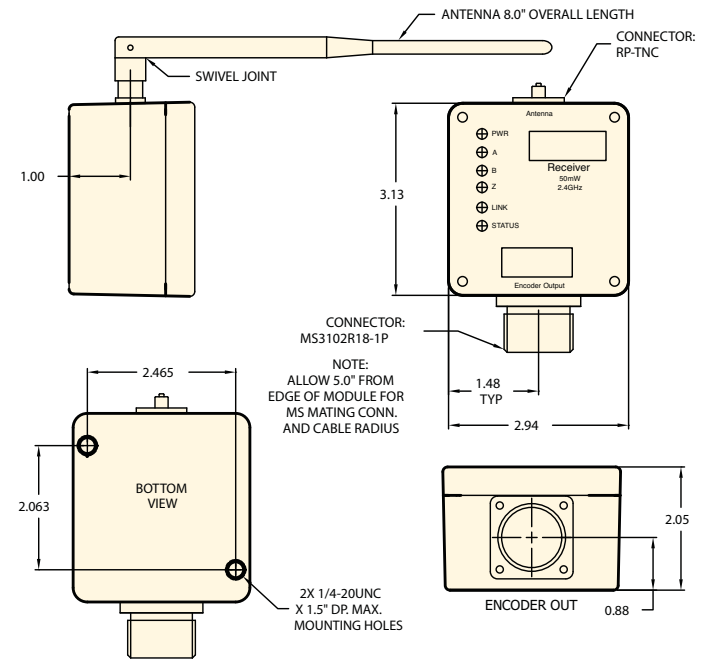


SwiftComm Receiver Module

Receiver Pinouts: Encoder Output (MS3102R18-1P)			
PIN	FUNCTION	PIN	FUNCTION
A	A	F	0V (Circuit Common)
B	B	G	---
C	Z	H	\bar{A}
D	+V (Supply Voltage)	I	\bar{B}
E	B.I.T Output*	J	\bar{Z}

*If transmission is interrupted for longer than 0.13 seconds the status of this pin will change from LO to HI. B.I.T. is HI at +V level.

Table A – Front Panel Indicators		
FUNCTION	COLOR	DESCRIPTION
POWER	GREEN	ON Indicates input power is supplied to the Module
A	RED	Indicates quadrature signal A status
B	RED	Indicates quadrature signal B status
Z	RED	Indicates index signal Z status
LINK	GREEN	ON Indicates SwiftComm Modules have established a reliable RF link. OFF Indicates the RF link has been lost and the B.I.T. signal is active
SET-UP	RED	Blinks ON each time RF packets are lost. Rate of blinking indicates relative quality of the RF link. Useful when setting up antennas and troubleshooting interference problems.



The SwiftComm Receiver Module has an MS connector that provides the same output signals as a standard BEI encoder. Input power can be from 5 to 28 VDC. Quadrature output signals (specified at time of ordering) can be 5 VDC or V in. The B.I.T output signal indicates the RF Link Status. Case ground is internally coupled to 0V (circuit common) through a 0.022uF capacitor. Depending on system grounding, link performance may be improved by electrically isolating the SwiftComm case from metallic mounts.

United States FCC IC: VSR-SWIFTCOMM07 | Canadian IC: 7445A-SWIFTCOMM07 | Licensed in US, Canada and European Union

To satisfy RF exposure requirements, this device and its antenna must operate with a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This device has been designed to operate with an antenna having a maximum gain of 5.5dBi. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated (EIRP) is not more than the required for successful communication.