

General Specifications

Model IB100
Interface box

GS 12B06J09-01EN-P

■ Overview

The IB100 interface box is used for creating a connection between Yokogawa's SMART SENCOM sensors and a PC/tablet running the Mobile Field Device Management (FieldMate) calibration and maintenance software. Digital signals from the SENCOM smart adapter SA11 are converted to a Bluetooth standard radio signal.

The calibration data is stored within the sensor's memory chip. Once the sensor is connected to the analyzer, the latest calibration data is automatically uploaded to the analyzer, making calibrating in the field a thing of the past.

The FieldMate asset management software uses calibration and diagnostic data from the sensor, providing technicians with the tools to:

- Predict maintenance intervals
- Advise calibration frequency
- Estimate sensor lifetime
- Asset management

Calibration data can be downloaded or uploaded to and from the SENCOM sensor to the receiving HMI, allowing for true plug and play field installation.

■ Features

- Convenient and quick connection using Bluetooth.
- Easy-to-use interface in combination with FieldMate Asset management software
- Intrinsically safe USA, CAN, AUS/NZL



■ 1. General Specifications

1.1 Operating conditions

Ambient Temperature	: -10°C to 50°C
Ambient Humidity	: 10% to 85% RH
Installation Altitude	: 2000m or less
Installation location	: Only indoors

1.2 Enclosure

Material	: ABS
Degree of protection	: IP54 rating applies when the cable Assy is connected (IEC 60529)
Connector type	: M9 5pin female

1.3 Power Supply

Battery	: 2x 1.5V AA alkaline batteries (LR6) or 2x 1.2V AA hydrogen nickel batteries (HR6) (Not attached to this product)
Power consumption	: 200mW (Not including SENCOM sensor or SA11 SMART adapter)

1.4 Bluetooth communication

Bluetooth SIG ID	: D032445
Version	: Bluetooth Ver 2.1 + EDR
Supported profile	: SPP (Serial port profile)
Carrier frequency band	: 2404MHz to 2480MHz
Channel spacing	: 1 MHz
Number of channels	: 79
Max transmit power	: +4dBm
Comm. Distance	: 10m (Class 2)

1.5 Serial communication

Protocol	: MODBUS RTU
Physical layer	: RS485 half-duplex (2 wire)
Baud rate	: 9600bps (E/8/1)

1.6 Environmental conditions

Storage temperature	: -30°C to +70°C (-22°F to +158°F)
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1.7 Shipping details

Packaging (LxWxH)	: Approx. 300x95x73 mm (11.8x3.7x2.0 inch)
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1.8 Regulatory Compliance

Table 1 : Regulatory Standards

Type	Country	Laws and regulations		Compliance standard
-AB	USA	FCC		FCC ID: PI4411B * Note 2 47CFR Part15 subpart B
		Safety		FM Class 3810: 2005 ANSI/ISA 61010-1: 2012
	Canada	Industry Canada		IC ID: 1931B-BTM411 * Note 2 ICES-003
	Japan	Radio		Construction design attestation number: 204-320077 * Note 1
	Australia, New Zealand	RCM	EMC	EN 61326-1: 2013 Class A (For use in industrial locations)
			Radio	AS/NZS 4268 [EN 300 329 V.2.1.1]
			EME	AS/NZS 2772.2: 2016
	Korea	KC	EMC	KN 301 489-1 KN 301 489-17
			Radio	신고하지 아니하고 개설했을 수 있는 무선국용 무선설비의 기술기준 (미래창조과학부 고시 제2016-127호)
			(Certification No.)	(MSIP-CRM-YPA-WEN018)
	China	Radio		信部无[2002] 353 号 (CMIT ID: 2017DJ3320)
		China RoHS		
		China PL		
-CB	USA	Explosion protected		FM Class 3600: 2011 FM Class 3610: 2015 ANSI/UL 60079-0: 2013 ANSI/UL 60079-11: 2014
		FCC		FCC ID: PI4411B * Note 2 47CFR Part15 subpart B
		Safety		FM Class 3810: 2005 ANSI/ISA 61010-1: 2012
	Canada	Explosion protected		CAN/CSA-C22.2 No. 60079-0: 2015 CAN/CSA-C22.2 No. 60079-11: 2014
		Industry Canada		IC ID: 1931B-BTM411 * Note 2 ICES-003
		Safety		CAN/CSA-C22.2 No. 61010-1: 2012
	Australia, New Zealand	Explosion protected		IEC 60079-0: 2011 IEC 60079-11: 2011
		RCM	EMC	EN 61326-1: 2013 Class A (For use in industrial locations)
			Radio	AS/NZS 4268 [EN 300 329 V.2.2.1]
			EME	AS/NZS 2772.2: 2016

Note 1: Pollution degree indicates the degree of existence of solid, liquid, gas or other inclusions which may reduce dielectric strength. Degree 2 is the normal indoor environment. Installation category describes a number which defines a transient overvoltage condition. It implies the regulation for impulse withstand voltage. “I” applies for connection to circuits in which measures are taken to limit transient over voltages to an appropriately low level.

Note 2: Modular approval for Bluetooth module built in the product

■ 2. Model and Suffix Codes

Table 2: Model and suffix codes for IB100

Model	Suffix Code	Option Code	Description
IB100			Interface box for SENCOM
Type	-AB		General purpose. Without cable.
	-CB		Intrinsically safe for USA, CAN, AUS/NZL. Without cable (*1,2)
Options		/CS2	2m WU11 cable for SA11

Note * 1: It cannot be used as an explosion-proof related device in Japan

Note * 2: Please note that it is necessary to meet the regulations of each country such as the Radio Law in addition to explosion proof

■ 3. Dimensional Drawings

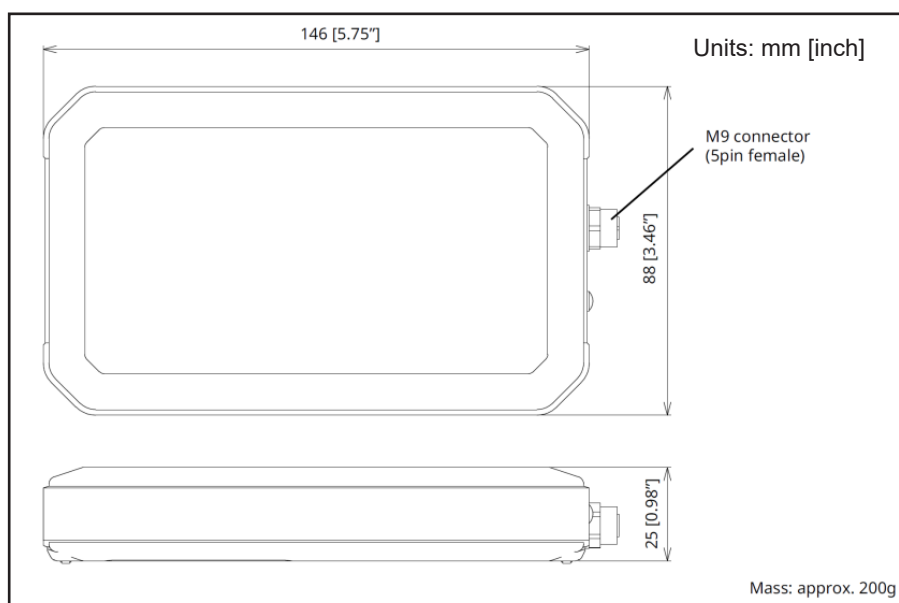
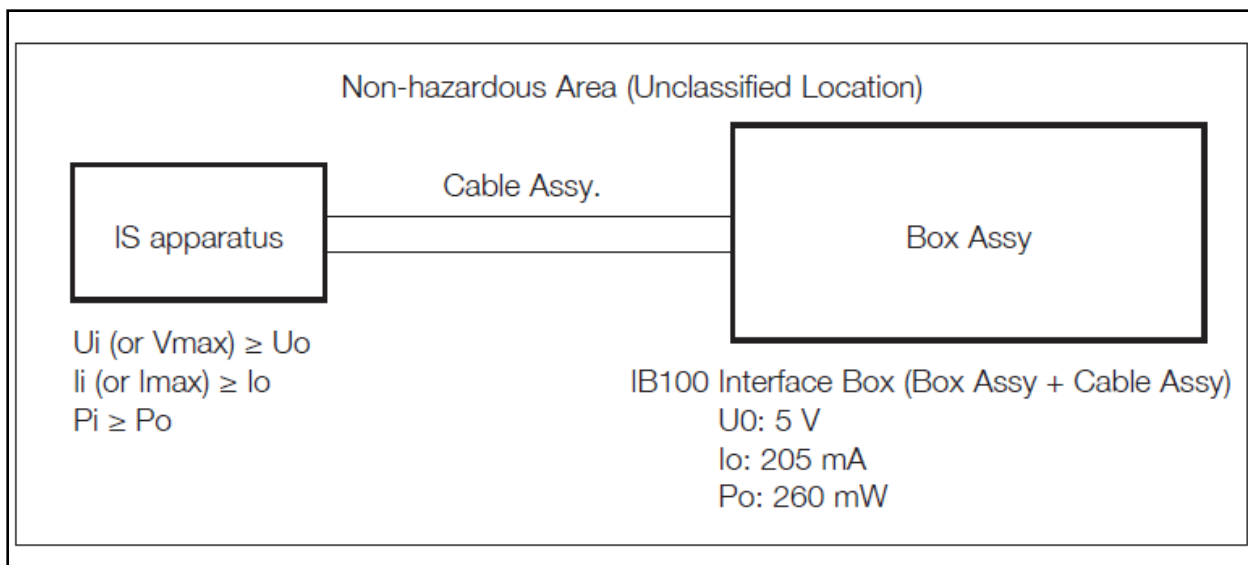


Figure 1: Dimensional drawing for IB100

■ Addendum 1: Control Drawings



Specific Condition of Use:

This is an accessory device intended for connection to the intrinsically safe apparatus only when the intrinsically safe apparatus is located in a non-hazardous area.

Notes:

- No revision to this drawing without prior approval of FM.
- Warning: Do not either take IB100 into hazardous (classified) location or connect to any equipment located in a hazardous (classified) location
- Warning: Substitution of components may impair intrinsic safety

Technical Data

• US	
- Certificate	: FM16US0405X
- Applicable Standards	: FM Class 3600: 2011 FM Class 3610: 2015 FM Class 3810: 2005
ANSI/UL 60079-0: 201	
	ANSI/UL 60079-11: 2014 ANSI/ISA 61010-1: 2012
- Ratings and Marking code	: Associated apparatus for Class I/II/III, Division 1, Groups A, B, C, D, E, F, G Class I, Zone 0, [AEx ia] IIC
• Canada	
- Certificate	: FM16CA0186X
- Applicable Standards	: CAN/CSA-C22.2 No. 0-10: 2010 (R2015) CAN/CSA-C22.2 No. 60079-0: 2015 CAN/CSA-C22.2 No. 60079-11: 2014 CAN/CSA-C22.2 No. 61010-1: 2012
- Ratings and Marking code	: [Ex ia Ga] IIC Associated apparatus for Class I/II/III, Division 1, Groups A, B, C, D, E, F, G
• International (IECEX)	
- Certificate	: IECEX FMG 16.0041X
- Applicable Standards	: IEC 60079-0: 2011 IEC 60079-11: 2011
- Ratings and Marking code	: [Ex ia Ga] IIC

■ Addendum 2: Configuration



Figure 2: Configuration of IB100 with PC and tablet

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