

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 EU, 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	EU	CE	RED (Article 3 2.)	EN 300 328 V2.1.1
			LVD (RED Article 3 1.a)	EN 61010-1: 2010 *Note 1 Pollution degree 2 installation category I EN 62311: 2008
			EMC (RED Article 3 1.b)	EN 61326-1: 2013 Class A (For use in industrial locations) EN 301 489-1 V2.1.1 EN 301 489-17 V3.1.1
			RoHS	EN IEC 63000:2018
		REACH		Regulation (EC) 1907/2006
		WEEE2		Directive 2012/19/EU
	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		

Type	Country	Laws and regulations		Compliance standard
-CB	EU	CE	ATEX	EN 60079-0:2012 +A11: 2013 EN 60079-11: 2012
			RED (Article 3 2.)	EN 300 328 V2.1.1 EN 62311: 2008
			LVD (RED Article 3 1.a)	EN 61010-1: 2010 * Note 1 Pollution degree 2 installation category I EN 62311: 2008
			EMC (RED Article 3 1.b)	EN 61326-1: 2013 Class A (For use in industrial locations) EN 301 489-1 V2.1.1 EN 301 489-17 V3.1.1
			RoHS2	EN IEC 63000:2018
		REACH		Regulation EC 1907/2006
		WEEE2		Directive 2012/19/EU
	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
CE	CE-mark has been affixed on the product in 2016 for the first time			
UKCA	The UKCA mark has been affixed on the product in 2022 for the first time.			

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 EU, 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

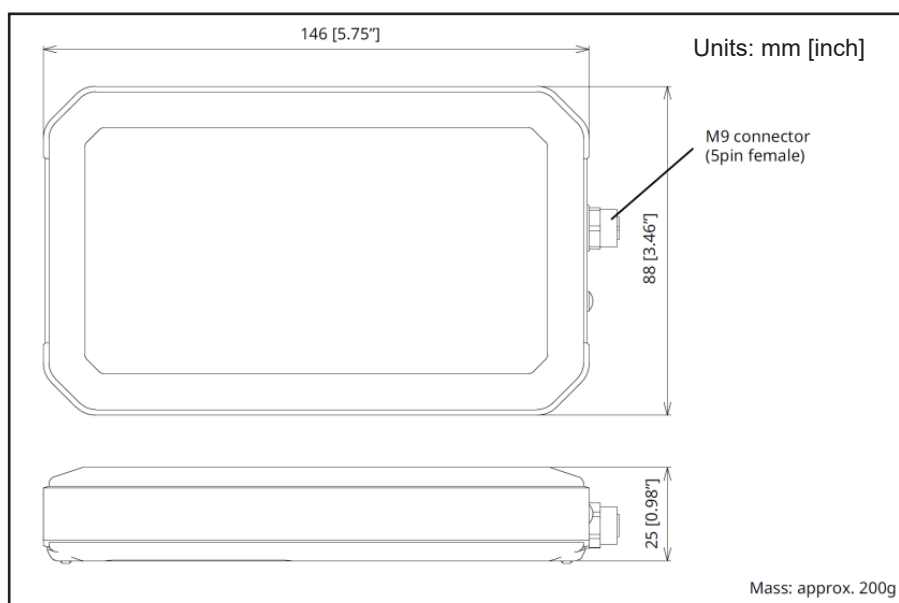
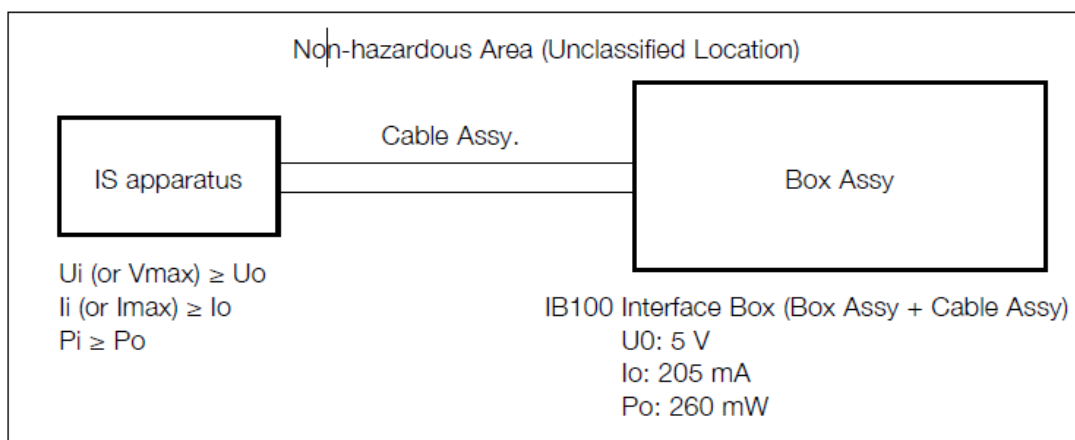


Figure 1: Dimensional drawing for IB100

■ Addendum 1: Control Drawings

1. Control drawing



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 it to any equipment located in a hazardous (classified) location
- Warning: Substitution of components may impair intrinsic safety

2. Technical Data

1) US

- Applicable Standards: FM Class 3600: 2011
FM Class 3610: 2015
FM Class 3810: 2005
ANSI/UL 60079-0: 2013
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

2) 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

3) Europe (ATEX)

- Certificate: FM16ATEX0110X
- Applicable Standards: EN 60079-0: 2012/A11:2013
EN 60079-11: 2012
- Ratings and Marking code: II (1) G [Ex ia Ga] IIC

4) 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

5) Electric parameter

- Uo: 5V
- Io: 205mA
- Po: 260mW

6) 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.

7) Installation

The installation of IB100 should be carried out by the engineers or other professional personnel of the related expertise. The installation should not be carried out by operators or other unprofessional personnel.

8) Operation

Note a warning label as follows (English) NON-HAZARDOUS AREA ONLY
(French) ZONE NON DANGEREUSE UNIQUEMENT

9) Maintenance and Repair

Modification or parts replacement by other than authorized Representative of Yokogawa is prohibited and will void the certification.

■ Addendum 2: Configuration

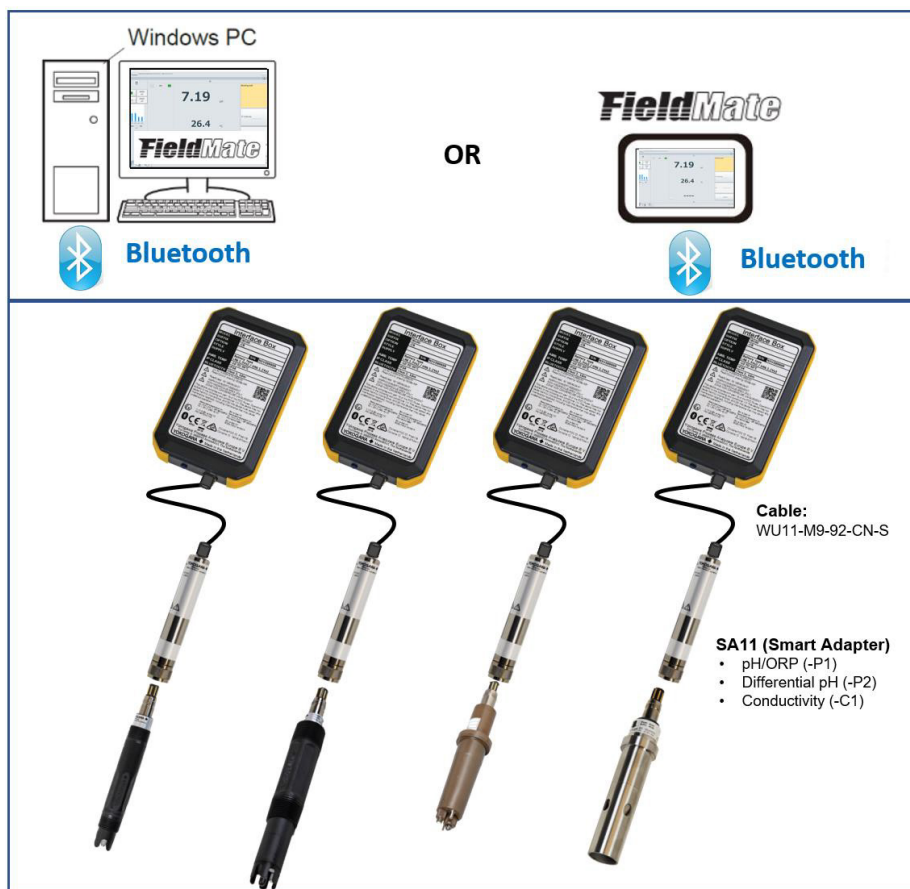


Figure 2: Configuration of IB100 with PC and tablet

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