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BIS M-411-068-001-02-S115

High Frequency Passive Radio Frequency, Identification Processor unit

INSTALLATION GUIDE

This document provides instructions and information designed to assist users in the hardware setup of the BIS M-411-068-001-02-S115 Processor unit. For configuration details download the BIS M-41x Manual from the product page at www.balluff.com.
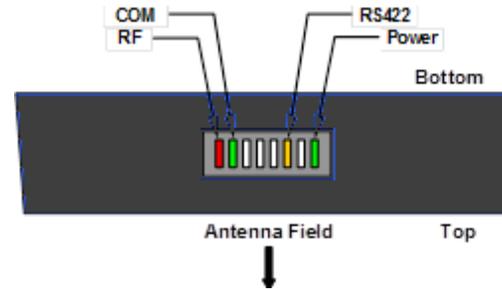
TECHNICAL FEATURES

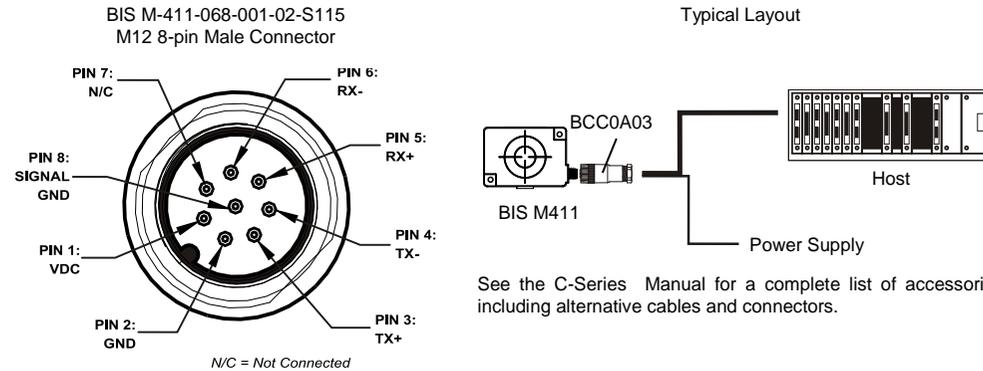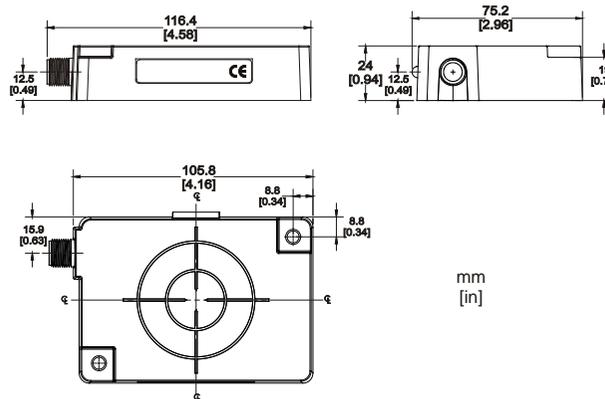| ELECTRICAL FEATURES	
Power Supply	10 to 30 VDC
DC Input Current	400 to 140 mA
Communication Interface	RS422
RADIO FEATURES	
Frequency	13.56 MHz
Air Protocols	ISO 14443A, ISO 15693
ENVIRONMENTAL FEATURES	
Operating Temperature	-20° to +50 °C (-4° to +122 °F)
Storage Temperature	-20° to +70 °C (-4° to +158 °F)
Humidity max.	90% non condensing
Vibration Resistance EN 60068-2-6	14 mm @ 2 to 10 Hz; 1.5 mm @ 13 to 55 Hz; 2 g @ 70 to 200 Hz; 2 hours on each axis
Shock Resistance EN 60068-2-27	30 g; 11 ms; 3 shocks on each axis
Protection Class EN 60529	IP67
PHYSICAL FEATURES	
Dimensions	116.4 x 75.2 x 24 mm (4.58 x 2.96 x .94 in)
Weight	210 g (7.4 oz)
USER INTERFACE	
LED Indicators	RF, COM, Operating Mode/Diagnostic, Power

GENERAL VIEW

LED INDICATORS

CONNECTIVITY

BIS M-411-068-001-02-S115
M12 8-pin Male Connector

PIN 7: N/C
PIN 6: RX-
PIN 8: SIGNAL GND
PIN 5: RX+
PIN 1: VDC
PIN 4: TX-
PIN 2: GND
PIN 3: TX+

N/C = Not Connected

Typical Layout

BCC0A03

BIS M411

Host

Power Supply

See the C-Series Manual for a complete list of accessories including alternative cables and connectors.

MECHANICAL DIMENSIONS

116.4 [4.58]
75.2 [2.96]
12.5 [0.49]
24 [0.94]
12.5 [0.49]
19 [0.76]
105.8 [4.16]
8.8 [0.34]
8.8 [0.34]
15.9 [0.63]

mm [in]

INSTALLATION GUIDELINES

- Select a suitable location to mount the BIS M-411 Processor unit. BIS M-411 Series Processor units can be mounted to wood, plastic fixtures and metal plate surfaces. The BIS M-411 may be mounted horizontally or vertically, but should be aligned in such a manner that the LED indicators can be seen during operation.

- RF performance and read/write range can be negatively impacted by the proximity of metallic objects. Do not recess the BIS M-411 in metal and allow at least 6 cm (2.4 in.) clearance from metallic objects along the sides of the BIS M-411.

- Do not route cables near other unshielded cables or near wiring carrying high voltage or high current. Cross cables at perpendicular intersections and avoid routing cables near motors and solenoids.

- Avoid mounting the processor unit near sources of EMI (electro-magnetic interference) or near devices that generate high ESD (electro-static discharge) levels. Always use adequate ESD prevention measures to dissipate potentially high voltages.

- If electrical interference is encountered (as indicated by a significant reduction in read/write performance), relocate the processor unit to an area free from potential sources of interference.

- When installing multiple Processor units that operate at the same frequency (13.56 MHz), maintain a minimum distance of 20 cm (8 in.) between adjacent RF devices.

INSTALLATION

The BIS M-411-068-001-02-S115 Processor unit is designed for point-to-point RFID applications, where the distance from host to processor unit can be up to 1200 meters (3940 feet), depending on the baud rate used. It therefore supports longer distances than those acceptable for RS232 communications and it is also suggested in electrically noisy environments. The processor unit connects directly to an RS422 serial communications port on a host computer (or PLC) via an RS422-compatible cable. **Ensure that an RS422 port is installed on the host or that an RS232/RS422 converter is connected to an RS232 COM port on the host.**

1. Fasten the BIS M-411 to the mounting surface using two M5 (#10) screws, washers and nuts (not provided). Tighten all screws to between 1.3 and 1.7 Nm (12-15 lbs per inch).

2. Build an RS422 compatible cable using the BCC0A03 M12 8-pin female connector. Use suitable shielded twisted-pair wires for RS422 connection and power supply signals according to the connector pinout (see figure). Connect the BCC0A03 M12 8-pin female connector to the M12 8-pin male connector on the BIS M-411. Connect the other end of the cable (wires or user-supplied connectors) to the host (PLC) and power supply.

3. Apply power to the processor unit after all cable connections have been made. The LEDs on the unit will flash.

(over)

4. On the host computer, set COM port parameters to: 9600 baud, 8 data bits, 1 stop bit, no parity and no handshaking.

5. To verify operations, download the Balluff Dashboard™ Configuration Tool from www.balluff.com. The Balluff Dashboard™ Configuration Tool allows users to configure and control their BIS M-411 processor units and send RFID commands for testing purposes.

Note: If the host does not support the Windows environment, configuration must be made by sending the configuration command protocol strings, refer to the ABx Command Protocol Manual.

COMPLIANCE

This product is intended to be installed by Qualified Personnel only.

This product must not be used in explosive environments.

See the BIS M-41x Manual for the Declaration of Conformity.

Power Supply
This device is intended to be supplied by a UL Listed or CSA Certified Power Unit with «Class 2» or LPS power source.

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