⬩DATALOGIC™

COBALT C0405-422-01

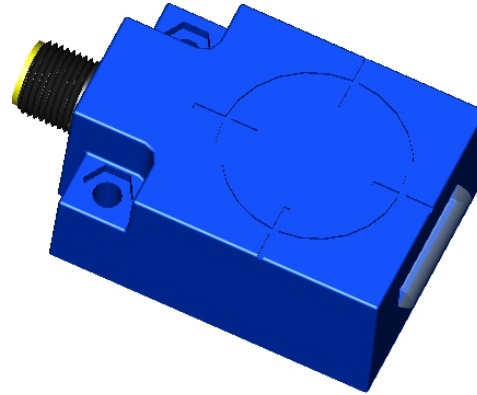*High Frequency Passive Radio Frequency, Identification Controller*

QUICK REFERENCE GUIDE

This document provides instructions and information designed to assist users in the hardware setup of the Cobalt C0405-422-01 RFID Controller. For configuration details download the C-Series Reference Manual from the product page at www.automation.datalogic.com.
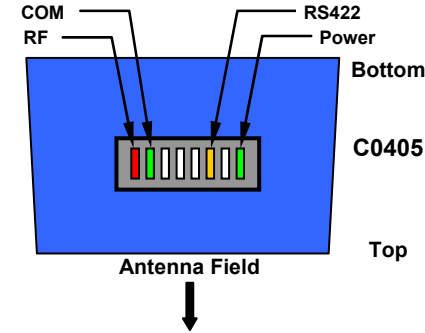
TECHNICAL FEATURES

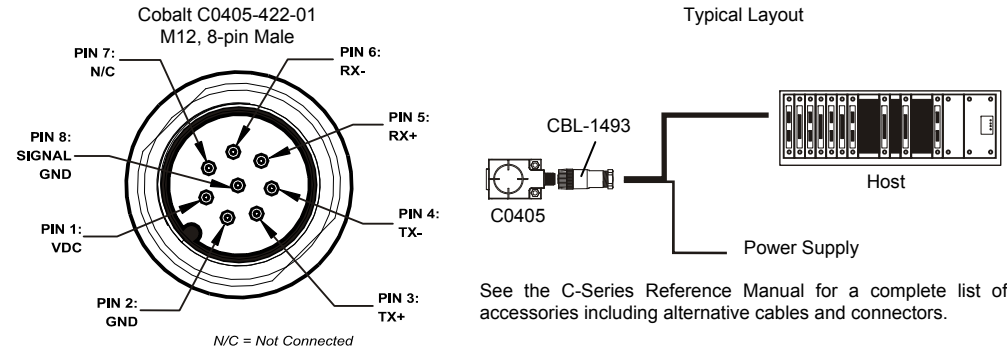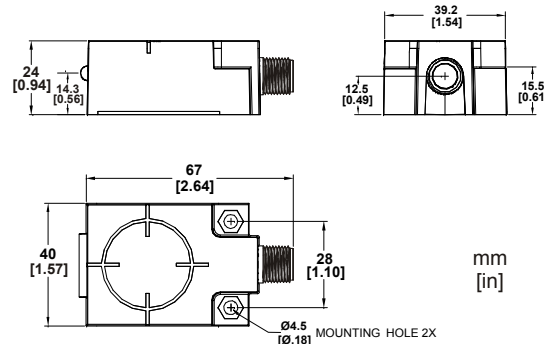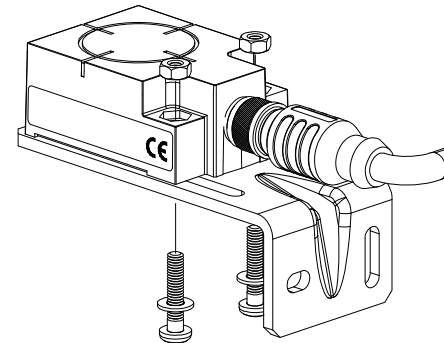| ELECTRICAL FEATURES	
Power Supply	10 to 30 VDC
DC Input Current	150 to 60 mA
Communication Interface	RS422
RADIO FEATURES	
Frequency	13.56 MHz
Air Protocols	ISO 14443A, ISO 15693
ENVIRONMENTAL FEATURES	
Operating Temperature	-20° to +50 °C (-4° to +122 °F)
Storage Temperature	-20° to +70 °C (-4° to +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	67 x 40 x 24 mm (2.64 x 1.57 x .94 in)
Weight	47 g (1.7 oz)
USER INTERFACE	
LED Indicators	RF, COM, Operating Mode/Diagnostic, Power

GENERAL VIEW

LED INDICATORS

COM — RS422
RF — Power
Bottom
C0405
Antenna Field **Top**

CONNECTIVITY

Cobalt C0405-422-01
M12, 8-pin Male

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

CBL-1493
Host
C0405
Power Supply

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

MECHANICAL DIMENSIONS

24 [0.94] 14.3 [0.56]
39.2 [1.54]
12.5 [0.49] 15.5 [0.61]
67 [2.64]
40 [1.57] 28 [1.10]
mm [in]
Ø4.5 [Ø.18] MOUNTING HOLE 2X

MOUNTING

INSTALLATION GUIDELINES

- Select a suitable location to mount the C0405 Controller. C0405 Series RFID Controllers can be mounted to wood or plastic fixtures. The C0405 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. Avoid mounting the controller within 5 cm (2 in.) of any metallic object or surface.

- 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 controller 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 controller to an area free from potential sources of interference.

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

INSTALLATION

The C0405-422-01 RFID Controller is designed for point-to-point RFID applications, where the distance from host to controller 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 controller 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. Attach the C0405 Controller to the polycarbonate mounting bracket (for metallic isolation) using the two sets of M4 screws, washers and nuts provided as shown in the mounting figure. Fasten the other end of the mounting bracket to your work area. Tighten all screws to 0.7 Nm (6 lbs per inch).

2. Build an RS422 compatible cable using the CBL-1493 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 CBL-1493 M12 8-pin female connector to the M12 8-pin male connector on the C0405. Connect the other end of the cable (wires or user-supplied connectors) to the host (PLC) and power supply.

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

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

To verify operations, download the Cobalt Dashboard™ Utility from www.automation.datalogic.com. The Cobalt Dashboard™ Utility allows users to configure and control their C0405 controllers 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 Fast Command Protocol Reference Manual.

UPDATES AVAILABILITY

UK/US	The latest documentation updates for this product are available on Internet. Log on to: www.automation.datalogic.com
I	Su Internet sono disponibili le versioni aggiornate di documentazione di questo prodotto. Collegarsi a: www.automation.datalogic.com
F	Les versions mises à jour de documentation de ce produit sont disponibles sur Internet. Cliquez sur: www.automation.datalogic.com
D	Im Internet finden Sie die aktuellsten Versionen der Dokumente zu diesem Produkt. Adresse: www.automation.datalogic.com
E	En Internet están disponibles las versiones actualizadas de la documentación de este producto. Dirección Internet: www.automation.datalogic.com

SERVICES AND SUPPORT

Datalogic provides several services as well as technical support through its website. Log on to www.automation.datalogic.com and click on the links indicated for further information:

- **PRODUCTS**
  Search through the links to arrive at your product page which describes specific Info, Features, Applications, Models, Accessories, and Downloads including the Cobalt Dashboard™ utility program, which allows system testing, monitoring, and configuration using a PC. It provides Serial (RS232 or USB) and Ethernet interface configuration.

- **SERVICE**
  - **Overview** - Warranty Extensions and Maintenance Agreements
  - **Sales Network** - Listing of Subsidiaries, Repair Centers, Partners
  - **Helpdesk**
  - **Material Return Authorization**

COMPLIANCE

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

This product must not be used in explosive environments.

See the C-Series Reference 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.

Radio Compliance

ENGLISH
Contact the competent authority responsible for the management of radio frequency devices of your country to verify any possible restrictions or licenses required.
For further information, refer to the web site:
http://ec.europa.eu/enterprise/sectors/rtte/

ITALIANO
Prendi contatto con l'autorità competente per la gestione degli apparati a radio frequenza del tuo paese, per verificare eventuali restrizioni o licenze.
Ulteriori informazioni sono disponibili sul sito:
http://ec.europa.eu/enterprise/sectors/rtte/

FRANÇAIS
Contactez l'autorité compétente en la gestion des appareils à radio fréquence de votre pays pour vérifier d'éventuelles restrictions ou licences. Pour tout renseignement vous pouvez vous adresser au site web:
http://ec.europa.eu/enterprise/sectors/rtte/

DEUTSCH
Wenden Sie sich an die für Radiofrequenzgeräte zuständige Behörde Ihres Landes, um zu prüfen ob es Einschränkungen gibt, oder eine Lizenz erforderlich ist.
Weitere Informationen finden Sie auf der Web Seite:
http://ec.europa.eu/enterprise/sectors/rtte/

ESPAÑOL
Contacta la autoridad competente para la gestión de los dispositivos de radio frecuencia de tu país, para verificar cualesquiera restricciones o licencias posibles requerida.
Además se puede encontrar mas información en el sitio:
Web: http://ec.europa.eu/enterprise/sectors/rtte/

$C\mathcal{E}$

FCC Compliance

Modifications or changes to this equipment without the expressed written approval of Datalogic could void the authority to use the equipment.

This device complies with PART 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference which may cause undesired operation.

FCC ID: E36-0005

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

LEGAL NOTICES

Datalogic Automation S.r.l.
Via Lavino 265 - 40050 Monte S.Pietro - Bologna – Italy
Tel: +39 051 6765611 - Fax: +39 051 6759324
www.automation.datalogic.com
e-mail: info.automation@datalogic.com