

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.

Changes or modifications not expressly approved by Cosasco could void the user's authority to operate the equipment

This radio transmitter (ER-200) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

OMB.242.08F21

Le présent émetteur radio (ER-200) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

OMB.242.08F21

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC ID: ZYS-ER200
IC : 9910A-ER200

RDC2-COT* (ER-200)



COSASCO® Rohrback Cosasco Systems, Inc.

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RDC2-COT-G* only differs by the N-type connector used, for hazardous area approvals it may not pass the 500V isolation between antenna and enclosure.

Rohrbach Cosasco Systems, Inc.
11841 Smith Avenue,
Santa Fe Springs, CA 90670
USA

Phone: 800-635-6898
Phone: 562-949-0123
Fax: 562-949-3065

Website: www.Cosasco.com
Sales Email: Sales@Cosasco.com
General Email: RCS@Cosasco.com

North American Certifications

CSA Certification: 70008419
CSA_{US} Class I, Zone 0, AEx ia IIC T4 Ga, Ta = -40°C to +70°C
cCSA Ex ia IIC T4 Ga, Ta = -40°C to +70°C
For use only with RCS RDC2 Battery Pack P/N 726043

The RDC2-COT* complies with the following North American standards:

US Approval:

ANSI/UL 60079-0:2013, 6th Ed. Electrical Apparatus for Explosive Gas Atmospheres – Part 0: General Requirements
ANSI/UL 60079-11:2013, 6th Ed. Electrical apparatus for Explosive Gas Atmospheres – Part 11: Intrinsic safety “i”
ANSI/ISA 61010-1 3rd Edition, Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements – Third Edition

Canadian Approval:

CAN/CSA-C22.2 No. 61010-1-12, Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements – Third Edition
CAN/CSA-C22.2 No. 60079-0:11 Ed. 5, Explosive Atmospheres – Part 0: Equipment – General requirements
CAN/CSA-C22.2 No. 60079-11:14 Ed. 6, Explosive Atmospheres – Part 11: Equipment protection by intrinsic safety “i”

Electromagnetic Compatibility Directive (EMC) 89/336/EEC, Amended 91/263/EEC, 92/31/EEC and 93/97/EEC

The RDC2-COT* complies with the European EMC Directive and the following standards:

EN 61326-1:2013, Electrical Equipment for Measurement and Control
EN 61326-1:2013, Group 1 Class B: Radiated Emissions
EN 61000-4-2:2009, EMC: Electrostatic Discharge Immunity
EN 61000-4-3:2010, A2:2008, EMC: Radiated Radio Frequency Immunity

Telecommunication Compliance

All wireless devices require certification to ensure that they adhere to regulations regarding the use of the radio frequency (RF) spectrum. Nearly every country requires this type of product certification. RCS is working with governmental agencies around the world to supply fully compliant products and to remove the risk of violating country directives or laws governing wireless device usage.

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 that may cause undesired operation..

Note: 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

PRODUCT CERTIFICATIONS

Product Name: RDC2-COT*
Model: ER-200

Approved Manufacturing Location

Rohrback Cosasco Systems, Inc. — Santa Fe Springs, California USA

Canadian Standards Association (CSA Group)

The RDC2-COT* has been examined and tested to determine that the design meets basic electrical, mechanical and fire protection requirements by CSA, a Nationally Recognized Testing Laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).

European Union (EU) Directives

ATEX certification

SIRA 14ATEX2265X
Ex ia IIC T4 Ga, Ta = -40°C to +70°C
For use only with RCS RDC2 Battery Pack P/N 726043

ATEX Directive 94/9/EC

The RDC2-COT* complies with the European ATEX Directive and the following standards:

EN 60079-0:2012/A11:2013, Explosive atmospheres – Part 0: Equipment – General Requirements
EN 60079-11:2012, Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”
EN 60079-26:2015, Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) (*applicable to the Ga equipment only*)

IEC Ex Certification

IECEX SIR 14.0098X
Ex ia IIC T4 Ga, Ta = -40°C to +70°C
For use only with RCS RDC2 Battery Pack P/N 726043

The RDC2-COT* complies with the following IEC standards:

IECEX:
IEC 60079-0:2011-06, Edition 6.0, Explosive atmospheres – Part 0: Equipment – General Requirements
IEC 60079-11:2011-06, Edition 6.0, Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”
IEC 60079-26:2014-08, Edition 3.0, Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) (*applicable to the Ga equipment only*)

IMPORTANT NOTICE

This start guide provides basic guidelines for the RDC2-COT* installation. Refer to the RDC2-COT* Reference Manual for additional details including configuration, diagnostics, maintenance, service, troubleshooting, and installation.

Shipping considerations for wireless products (Lithium Batteries)

Primary lithium batteries are regulated in transportation by the U.S. Department of transportation, and are also covered by IATA (International Air Transport Association), ICAO (International Civil Aviation Organization), and ARD (European Ground Transportation of Dangerous Goods). It is the responsibility of the shipper to ensure compliance with these or any other local requirements. Please consult current regulations and requirements before shipping.

Conditions Of Certification/Special Conditions For Safe Use:

- i. Under certain extreme circumstances, the exposed plastic/fibre glass surfaces of the non-metallic enclosure version of the equipment may generate, and its unearthed metal parts may store, an ignition-capable level of electrostatic charge. Therefore this version of the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on the enclosure surfaces. In addition, the equipment shall only be cleaned with a damp cloth. This is particularly important if the equipment is installed in a Zone 0 location.
- ii. The maximum radio power output at the r.f. connectors is 1W. Any antenna fitted shall not result in the radiated power from exceeding 2W when any antenna gain is taken into account.
- iii. The RDC2-COT-G* is not capable of passing a 500V R.M.S. insulation test according to 60079-11 between its intrinsically safe circuits and the enclosure. This shall be taken into account in any equipment installation.

WARNING

Explosions could result in death or serious injury

Installation of this datalogger in an explosive environment must be in accordance with the appropriate local, national, and international standards, codes, and practices. Please review the Product Certifications section for any restrictions associated with a safe installation.

- Before connecting the RDC2-COT* in an explosive atmosphere, ensure the instruments are installed in accordance with intrinsically safe field wiring practices.

Electrical shock can result in death or serious injury

- Avoid contact with the leads and terminals. High voltage that may be present on leads can cause electrical shock.

Use only with RCS RDC2 Battery Pack, P/N 726043

MOUNT THE RDC2-COT* (ER-200)

The RDC2-COT* cannot be directly mounted to a probe. The RDC2-COT* is typically remote mounted.

The antenna used for this transmitter must be installed to provide 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.

Grounding

A 8 to 14 AWG grounding wire can be attached to the Datalogger at the grounding lug. Connect the ground wire to earth ground per local electrical code.

Typical RDC2-COT* Mounting



VERIFY OPERATION

Operation can be verified with the MATE* handheld or similar device.

Handheld Device

Check the Status of the connection with the MATE handheld device. Refer to the MATE handheld device documentation for more details.

NOTE:

It may take a minimum of 5 minutes for the device to take a reading.

Troubleshooting

If the device is not operating properly, refer to the troubleshooting section of the RDC2-COT* Reference Manual.

The intrinsic safety parameters at the permanently connected probe cable are:

| | | |
|-----------|----------------|----------------------------|
| $U_i = 0$ | $U_o = 5.36V$ | $C_o = 64.9\mu F$ |
| $I_i = 0$ | $I_o = 0.329A$ | $L_o = 300\mu H$ |
| $P_i = 0$ | $P_o = 0.45W$ | $L_o/R_o = 53\mu H/\Omega$ |

The intrinsic safety parameters at the RF connector, if installed, are:

| | | | |
|-----------|----------------|-------------------|------------------------|
| $U_i = 0$ | $U_o = 5.36V$ | $C_i = 30.4\mu F$ | $C_o = 1.6\mu F$ |
| $I_i = 0$ | $I_o = 0.894A$ | $L_i = 35nH$ | $L_o = 44.4^{**}\mu H$ |
| $P_i = 0$ | $P_o = 0.95W$ | | |

**A maximum of 2 μH shall be discrete inductance, the balance being permitted to be cable inductance.

NOTES:

