IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx UL 21.0025X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2022-04-12) Issue 0 (2021-05-11)
Date of Issue:	2023-06-16		

Applicant: **ExRobotics B.V.**
Effenseweg 1
Breda, 4838 BA
Netherlands

Equipment: **Robot Operator and Docking Station, ExR-2 Robot Operator (Includes ExR-2 Docking Station)**

Optional accessory:

Type of Protection: **Equipment assemblies**

Marking: Ex 60079-46 IIB T4 Gb

-40°C … -20°C to 50°C … 55°C

Approved for issue on behalf of the IECEx Certification Body: **Erin LaRocco**

Position: **Staff Engineer**

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

UL LLC
333 Pfingsten Road
Northbrook IL 60062-2096
United States of America

IECEx Certificate of Conformity

Manufacturer: **ExRobotics B.V.**
Effenseweg 1
Breda, 4838 BA
Netherlands

Manufacturing locations:

ExRobotics B.V.
Effenseweg 1
Breda, 4838 BA
Netherlands

Ex Robotics B.V.
Delftechpark 26,
Delft 2628 XH
Netherlands

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1:2014 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11:2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-18:2017 Edition:4.1	Explosive atmospheres - Part 18: Protection by encapsulation "m"
IEC 60079-5:2015 Edition:4.0	Explosive atmospheres –Part 5: Equipment protection by powder filling “q”
IEC 60079-7:2017 Edition:5.1	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
IEC TS 60079-46:2017 Edition:1.0	Explosive atmospheres - Part 46: Equipment assemblies
ISO 80079-36:2016 Edition:1.0	Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
ISO 80079-37:2016 Edition:1.0	Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

US/UL/ExTR21.0025/00 US/UL/ExTR21.0025/01

Quality Assessment Report:

DK/ULD/QAR18.0002/07

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The ExR-2 Robot Operator is a remotely operated vehicle that is used to inspect oil and gas facilities. The ExR-2 Docking Station is provided as one method of charging the ExR-2 Robot Operator and is permissible for charging within the Hazardous (Explosive) Atmosphere. The vehicle is constructed of certified components including cameras, lights, motors, and various sensors. The various components are interconnected with certified cable glands and suitable cables.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The Dome PTZ, when fitted, may be used only in locations with a low risk of mechanical impact.
- Potential electrostatic charging hazard – see instructions.
- Do not repair the flameproof joints of robots or any of their components.
- Flameproof joints are closed using fasteners with a yield stress ≥ 450 N/mm^2 except for:
  - The Dome PTZ Module, use fasteners with a yield stress of ≥ 640 N/mm².
  - Det-tronics Hydrocarbon Gas Module, use fasteners with a yield stress of ≥ 65000 psi (448 N/ mm²).

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1: Update of manufacturing location address. No update of ExTR for this issue.

Issue 2: Revisions to the construction consisting of certified devices and custom designed parts.

Annex:

Annex to IECEx UL 21.0025X Issue 2.pdf

IECEx Certificate of Conformity

TYPE DESIGNATION

ExR-2 Robot Operator and ExR-2 Docking Station

PARAMETERS RELATING TO THE SAFETY

ExR-2 Docking Station 100V to 240Vac, 1300W max

ExR-2 Robot Operator: Um = 240V, 45Vdc max, 1300W max

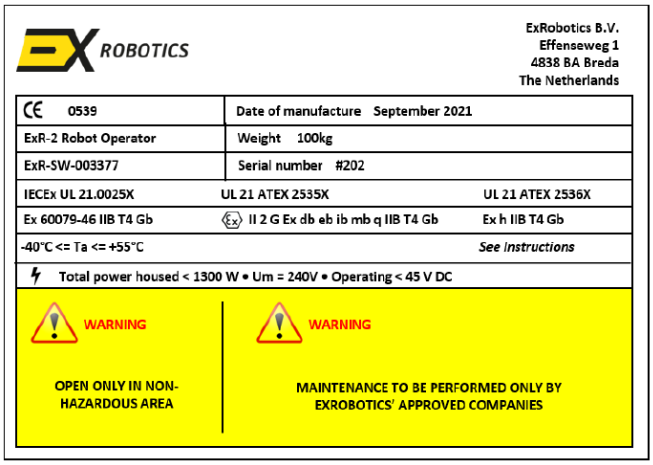
The following Clauses from IEC 60079-14 Ed. 5 were verified as part of the Ex equipment assembly: 4.1, 4.4.1.1, 4.4.1.2, 4.4.2, 5.14.1,, 6.1, 6.2, 6.5.1, 6.5.2, 6.7.1, 6.7.2, 7, 8.1, 9.1, 9.3.1, 9.3.2, 9.3.8, 9.5, 9.6.2, 10.1, 10.2, 10.3, 10.5, 10.6.1, 10.6.2, 11.1, 14.1, 15.1, 16.1, 16.2.1, 16.2.2.1, 16.2.2.2, 16.2.2.5.1, 16.2.2.5.2, 16.2.2.6, 16.2.3, 16.4, 20, and 21.

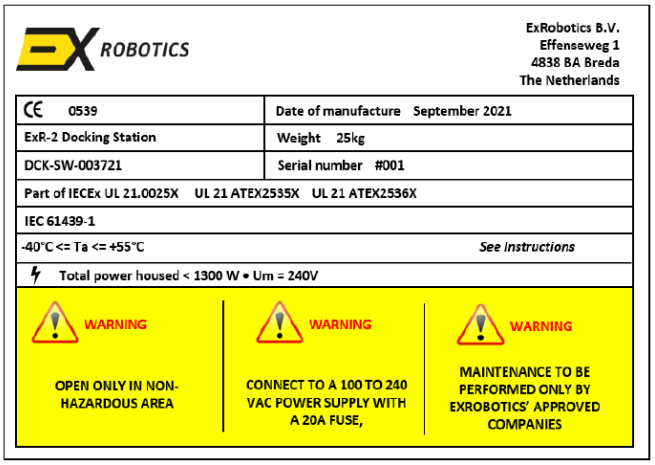
The following Clauses from IEC 60079-14 Ed. 5 were considered not applicable: 4.4.3, 5.4.3, 5.4.5, 5.6.3, 5.8, 5.10.3, 5.11.4, 5.11.5, 5.12, 5.13.1, 5.13.2, 5.13.3, 5.15, 6.5.3, 6.8, 9.2, 9.3.3, 9.3.4, 9.3.5, 9.4, 9.6.1, 9.6.3, 9.6.4, 9.6.5, 9.6.6, 10.4, 10.7, 10.8, 11.2.1, 11.2.2, 11.3, 11.4, 11.5, 11.6, 12, 13, 14.4, 15.2, 15.3, 15.4, 16.2.2.3, 16.2.2.4, 16.2.2.5.3, 16.2.2.7, 16.2.2.8, 16.2.4, 16.3, 16.5, 16.6, 17, 18, 19, 22, 23, and Annex H.

The following Clauses from IEC 60079-14 Ed. 5 need to be verified on site: 4.2, 4.3, 4.5, 5.1, 5.2, 5.3, 5.4.1, 5.4.2, 5.4.3, 5.4.4, 5.5, 5.6.1, 5.6.2, 5.7, 5.9, 5.10.1, 5.10.2, 5.11.1, 5.11.2, 5.11.3, 5.14.2, 5.16, 6.3, 6.4 6.6, 6.9, 8.2, 8.3, 9.3.6, 9.3.7, 9.3.9, 14.2, 14.3, Annex A, Annex C, Annex G, and Annex K.

MARKING

Marking has to be readable and indelible; it has to include the following indications:





ROUTINE EXAMINATIONS AND TESTS

Each piece of equipment defined above has to have successfully passed; before delivery:

- Routine Dielectric Strength Test in accordance with Clause 5.2.2 of IEC/EN 60079-5 shall be performed on each lot of Swarco glass beads.
- Routine Pressure Test in accordance with Clause 5.2.1 of IEC/EN 60079-5 shall be performed on each ELE Electronics Box at a pressure of 50kPa for a duration of not less than 10 seconds. No permanent deformation of the enclosure is to exceed 0.5mm in any dimension.

LIST OF CERTIFIED COMPONENTS

The following additional previous editions of Standards noted under the "Standards" section of this Certificate were applied to integral Components as itemized below. There are no significant safety related changes between these previous editions and the editions noted under the "Standards" section.

Product	Certificate Number	Standards
MBA 332311 MBA 101080	IECEx IBE 14.0020U	IEC 60079-0:2011 IEC 60079-7:2006-07
CTE1300YU	IECEx ITS 13.0018X	IEC 60079-0:2011 IEC 60079-1:2007-04 IEC 60079-7:2006-07
LEX15	IECEx DEK 17.0046X	IEC 60079-0:2011
8003/121-015 8003/131-726-2r	IECEx PTB 06.0065X	IEC 60079-0:2004 IEC 60079-1:2001 IEC 60079-7:2001
PMP.E4 or E5 PMS.N6.C.20	IECEx CML 16.0046X	IEC 60079-0:2011 IEC 60079-1:2007-04 IEC 60079-7:2006-07
XIMIC	IECEx BAS 18.0026X	IEC 60079-0:2011
8573/15-210 241387	IECEx PTB 16.0030U	IEC 60079-7:2015
FALCO 1.1	IECEx FTZU 16.0011X	IEC 60079-0:2011 IEC 60079-1:2007-04
GD10-P00	IECEx PRE 19.0015X	IEC 60079-1:2014-06 IEC 60079-7:2015
ATX10	IECEx ULD 13.0003X	IEC 60079-0:2011 IEC 60079-1:2007-04
AC100	IECEx ULD 13.0002X	IEC 60079-0:2011
DB20 11C	IECEx BAS 05.0083X	IEC 60079-0:2004 IEC 60079-1:2003 IEC 60079-7:2001
HSK-M-Ex M16	IECEx BVS 14.0020X	IEC 60079-7:2015