



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 CSAE 24.0072X	Page 1 of 5	<u>Certificate history:</u>
Status:	Current	Issue No: 1	Issue 0 (2025-02-21)
Date of Issue:	2026-06-03		
Applicant:	ExRobotics B.V. Delftechpark 26 Delft 2628XH Netherlands		
Equipment:	ExR-2.5 Robot Operator and Docking Station		
Optional accessory:			
Type of Protection:	Encapsulation 'mb', Increased Safety 'eb', Non-Electrical 'h', Powder Filling 'qb'		
Marking:	See Annexe		

Approved for issue on behalf of the IECEx
Certification Body:

Michelle Halliwell

Position:

Senior Director of Operations

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:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom





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Manufacturer: **ExRobotics B.V.**
Delftechpark 26
Delft 2628XH
Netherlands

Manufacturing
locations: **ExRobotics B.V.**
Delftechpark 26
Delft 2628XH
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](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-18:2017](#) Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

[IEC 60079-5:2022](#) Explosive atmospheres - Part 5: Equipment protection by powder filling "q"
Edition:4.1

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

[IEC TS
60079-46:2017](#) Explosive atmospheres - Part 46: Equipment assemblies
Edition:1.0

[ISO 80079-36:2016](#) Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
Edition:1.0

[ISO 80079-37:2016](#) 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"
Edition:1.0

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:

[GB/CSAE/ExTR25.0010/00](#)

[GB/SIR/ExTR26.0050/00](#)

Quality Assessment Report:

[DK/ULD/QAR18.0002/10](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The ExR-2.5 Robot Operator is a remotely operated vehicle that is used to inspect oil and gas facilities. The ExR-2.5 Docking Station is provided as a method of charging the ExR-2.5 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.

The overall equipment is intended for use in Zone 1, EPL Gb, Gas Group IIB, IIB+H2 or IIC with a temperature class T4.

The equipment is assessed as an assembly and consists of different devices employing types of protection as follows:

Equipment protection by flameproof enclosures "d"
Equipment protection by increased safety "e"
Equipment protection by intrinsic safety "i"
Equipment protection by encapsulation "m"
Equipment protection by powder filling "q"
Equipment protection by constructional safety "h"

The equipment ratings:

ExR-2.5 Robot Operator: Um= 240V, 48Vdc max, 1300W max

Docking Station: Um= 240V, 1300W max

SPECIFIC CONDITIONS OF USE: YES as shown below:

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

See annexe for more information



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Equipment (continued):

Conditions of Manufacture

1. 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.
2. Routine visual inspection of the encapsulant shall be performed on the chargers of the EXR-2 Robot Operator and Docking Station
3. Inspection and testing of the entire equipment assembly after assembly shall be performed and documented by the manufacturer.
4. The manufacturer shall continually monitor the status of the certified components and inform the Certification Body of changes which may affect the equipment certification.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1 – this Issue introduced the following changes:

- i. Upgrade the ExR-2.5 Robot Operator and Docking Station to IIC certification.
- ii. Introduction of new devices:
 - Sorama Acoustic Monitor
 - Gas sensor Falco 2.1
 - DR4 connector
 - Alternative cable entry devices
- iii. Minor modifications.
- iv. Drawing updates.

Annex:

[IECEx CSAE 24.0072X Issue 1 Annexe.pdf](#)

Annexe to: IECEx CSAE 24.0072X Issue 1

Applicant: ExRobotics B.V.

Apparatus: ExR-2.5 Robot Operator and Docking Station



Marking

ExR-2.5 Robot Operator and Docking Station

Ex 60079-46 II** T4 Gb

*-40°C to +55°C

HP Induction Charger RX

Ex mb IIC T4 Gb

*-40°C to +55°C

HP Induction Charger TX

Ex mb IIC T4 Gb

*-40°C to +55°C

Battery Pack ExR-2

Ex eb IIC T4 Gb

*-40°C to +55°C

Electronics Box

Ex qb IIC T4 Gb

*-40°C to +55°C

Robot Ladder

Ex h IIC T4 Gb

*-40°C to +55°C

*See Document 20250416TV1, Section 1.2.

- The minimum ambient temperature range is between -40°C and -20°C
- The maximum ambient temperature of the equipment is between +45°C and +55°C

**See Document 20250416TV1, Section 1.1:

The equipment Gas Group can be IIB, IIB+H2 or IIC, depending on options installed.

Specific Conditions of Use (continued)

5. In accordance with clause 7 of IEC TS 60079-46 below is a list of clauses from IEC 60079-14 which have been satisfied by the installation of the associated certified equipment:

4.1	General requirements	This assembly is for Zone 1 applications. At manufacture the equipment assembly is inspected and tested for compliance with non-hazardous area electrical safety requirements Equipment used in this assembly are rated at Docking Station 100V to 240Vac, 1300W max ExR-2 Robot Operator: Um = 240V, 48Vdc max, 1300W max as stated in the user instructions. Clauses 5 to 13 have been applied where applicable. No extreme circumstances are likely or considered. All equipment is suitably certified.	Pass
4.2	Documentation	This assessment and supporting information and data will form a verification dossier. Supporting information included lists of the equipment forming the assembly as well as information regarding installation of the same.	Pass
4.3	Initial inspection	In this application it was considered acceptable to review documentation defining the assembly. Subsequent production items being controlled by a relevant QAN/QAR	Pass
4.4	Assurance of conformity of equipment	All equipment forming the assembly is subject to IECEx certificates to IEC 60079 and ISO 80079 series standards	Pass
4.5	Qualifications of personnel	Qualifications of the personal manufacturing the assembly is a matter for the related QAN/QAR	Pass
5	Selection of equipment	The assembly is intended for Zone 1, groups IIC, IIB+H2, and IIB, Gb applications.	Pass
6.1	Light metals as construction materials	All equipment forming the assembly is certified to IEC 60079-0 and ISO 80079, as such light metal requirements are satisfied by default	Pass
6.7	Electromagnetic radiation	Electromagnetic radiation has been evaluated in accordance with IEC 60079-0.	Pass
7	Electrical protection	The motor is protected by a fuse.	Pass
10	Cable entry systems and blanking elements	Cable glands and blanking elements provided are certified and used within their ratings.	Pass
11	Rotating electrical machines	The motor is protected by a fuse.	Pass
14.3	Protection of flameproof joints	Molykote can be used on the Flame paths	Pass

Annexe to: IECEx CSAE 24.0072X Issue 1

Applicant: ExRobotics B.V.

Apparatus: ExR-2.5 Robot Operator and Docking Station



15	Additional requirements for type of protection "e" – Increased safety	The equipment uses certified parts. The assessment was carried out under the EXTR US/UL/ExTR21.0025/00.	Pass
16	Additional requirements for types of protection "i" – Intrinsic safety	Associated apparatus are provided within the certified electronics box. The other intrinsically safe devices are wired within the protective hull. The installation meets the requirements of IEC 60079-11.	Pass
20	Additional requirements for type of protection "q" – Powder filling	The Electronics Box of the ExR-2 utilizes protection type "q".	Pass
21	Additional requirements for type of protection "m" – Encapsulation	The equipment uses certified type "m" components.	Pass
Annex C (normative)	Initial inspection – Equipment-specific inspection schedules	The requirement for an initial inspection of the assembly and related installation is included in the certificate.	Pass

6. The protective cap of the Rota DR4 connector shall be fitted immediately following separation.