EU Type Examination Certificate CML 17ATEX1115X Issue 2

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Equipment **GR680ST 6-axis industrial robots**

3 Manufacturer **CMA (Wuhu) Robotics Co. Ltd.**

4 Address **No.96, East Wanchun Road, China (Anhui) Pilot Free Trade Zone Wuhu Area Wuhu, Anhui Province China**

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 CML B.V., Chamber of Commerce No 67386717, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 12.

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.

8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-2:2014

10 The equipment shall be marked with the following:

II 2 G D

Ex pxb IIB T4 Gb
Ex pxb IIIC T135°C Db

Ta = 0°C to +40°C

11 Description

The GR680ST 6-axis industrial robots is a purged robot arm which may be located in hazardous areas. It comprises a base, big arm, small arm, and wrist. The base and small arm contain uncertified electrical equipment such as motors.

The equipment is intended for environments requiring Equipment Protection Level “Gb or Db” and there are no internal sources of release. The protection level required is therefore “pxb”.

Purging is controlled by a control system which is located in the safe area and which has electrical and pneumatic connections to the robot base and which comprises a purging unit and a control cabinet. The system is purged with compressed air.

The equipment listed below may be fitted and are included for completeness and information only but they do not form part of the equipment certification. Therefore, this certificate does not cover the suitability of these devices with the equipment.

Item, Description, and Certificate Details
Gas applications only
SMC Solenoid valve type 52-SY7140R-TT10-02 DEKRA 11ATEX0273X II 1 G Ex ia IIC T6…T4 Tamb -40°C to +80°C II 2 G Ex ia IIC T6…T4 Tamb -40°C to +80°C
Gas or Dust
VACF-B-K1-... -... -EX4-M Solenoid IBExU16ATEX1146 X IECEx IBE 16.0024X Ex mb llC T5 Gb Ex mb lllC T95 °C Db Tamb -30°C to +40°C
Nuova General Safety Valve G04.XSIC10055 TUV IT 15ATEX 070 Ar Rev. 01 II 2 G D c T6 X
GM Safety Barriers D1031D and D1040Q DMT 01 ATEX E 042X IECEx BVS 07.0027X II (1) G D [Ex ia Ga/Da] IIC I (M1) [Ex ia I] Tamb -20°C to +40°C

Variation 1

This variation introduces the following modifications:

i. To include optional dust marking, the description and conditions of manufacture have been modified accordingly.

Variation 2

This variation introduces the following modifications:

i. The certificate transfer from CML UK to CML BV.
ii. To review and update the equipment against the latest standard.
iii. The modification to manufacturer address.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	20 Jun 2017	R2107A/00	Issue of prime certificate
1	20 Sep 2017	R2107A/01	To introduce Variation 1
2	11 Nov 2022	R15876A/00	The introduction of variation 2

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

i. Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.

ii. Each product shall be subjected to the following routine testing:

- Functional test for the performance of safety devices as required by EN60079-2:2014 Clause 17.1.
- A leakage test in accordance with EN 60079-2:2014, clause 16.3.1, the leakage shall not exceed 35 Nl/min.

iii. The manufacturer shall ensure that the safety and integrity of the purging control system is consistent with a single fault evaluation in accordance with IEC61511 or similar standard.

iv. The separately certified devices shall be installed in accordance with their Specific Conditions of Safe Use.

14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

i. The temperature of the protective gas at the inlet of the enclosure shall not exceed 40°C.

Certificate Annex

Certificate Number	CML 17ATEX1115X
Equipment	GR680ST 6-axis industrial robots
Manufacturer	CMA (Wuhu) Robotics Co. Ltd.

The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
GR-EX-002	1 of 1	-	20 Jun 2017	Pneumatic schematic
C04-QE-0302-01 EN	1 to 17	1.0	20 Jun 2017	GR6100 pressurization ATEX electrical diagram
GR680-ST-910-001	1 of 1	-	20 Jun 2017	GR680 Nameplate
GR-EX-002-CE Component install position 2	1 of 1	-	20 Jun 2017	GR-Ex-002 CE component position
GR-Ex-001-CE component install position 1	1 of 1	-	20 Jun 2017	Explosion proof box assembly
GR680ST-06	1 of 1	-	20 Jun 2017	Cable layout
GR680ST-002	1 of 1	-	20 Jun 2017	Control sequence diagram

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
GR-EX-002	1 of 1	V2.0	20 Sep 2017	Pneumatic schematic
C04-QE-0302-01 EN	1 to 17	V1.0	20 Sep 2017	GR6100 pressurization ATEX electrical diagram
GR680-ST-910-001	1 of 1	V2.0	20 Sep 2017	GR680 Nameplate
GR-EX-002-CE Component install position 2	1 of 1	V2.0	20 Sep 2017	GR-Ex-002 CE component position
GR-Ex-001-CE component install position 1	1 of 1	V2.0	20 Sep 2017	Explosion proof box assembly
GR680ST-06	1 of 1	V1.0	20 Sep 2017	Cable layout
GR680ST-002	1 of 1	V2.0	20 Sep 2017	Control sequence diagram

Issue 2

Drawing No	Sheets	Rev	Approved date	Title
GR680ST-910-001	1 of 1	3	11 Nov 2022	GR680-Nameplate
GR6100ST-910-001	1 of 1	3	11 Nov 2022	GR6100-Nameplate