

1. TYPE EXAMINATION CERTIFICATE

2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3. **Type Examination Certificate Number:** ITS14ATEX47996

4. **Equipment or Protective System:** Electronically Commutated Motor Model No ECM7108, ECM7112 and ECM7120

5. **Manufacturer:** HANGZHOU WEIGUANG ELECTRONIC CO LTD

6. **Address:** No 365 Xingzhong Road, Yuhang Region, Hangzhou, CHINA

7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8. Intertek Testing and Certification Limited certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive 94/9/EC of 23 March 1994

The examination and test results are recorded in confidential Report Ref PCEC/TR14004 (UK Project No G100805586) dated 2014-03-28.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards IEC 60079-0:2011 and IEC 60079-15:2010 except in respect of those requirements referred to at item 16 of the Schedule.

10. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11. This Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include the following:-



II 3 G Ex nA IIA T5 Gc

-30°C ≤ Ta ≤ 50°C



A T Austin
Certification Officer
07 May 2014

Intertek Testing & Certification Limited
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Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

This certificate may only be reproduced in its entirety and without any change, schedule included and is subject to Intertek Testing and Certification's Conditions for Granting Certification.

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13. Description of Equipment or Protective System

The Electronically Commutated Motor is installed inside of equipment such as freezer, showcase or refrigeration, which make the motor isolated from the external environment.

The Electronically Commutated Motor may be one of the models:

Model No ECM7108,

Model No ECM7112

Model No ECM7120

Voltage range: 220V to 240V AC, 50Hz/60Hz

Rated input power:

7W: Model No ECM7108

24W: Model No ECM7112

32W: Model No ECM7120

14. Report Number

Report Ref: PCEC/TR14004 (UK Project No G100805586) dated 2014-03-28.

15. Conditions of Certification

(a). Special Conditions for safe use

- None

(b). Conditions of Manufacture

- Electrical strength test as required by clause 23.2.1 of IEC 60079-15:2010

16. Essential Health and Safety Requirements (EHSR's)

The relevant EHSR's have been identified and assessed in Report Ref PCEC/TR14004 (UK Project No G100805586) dated 2014-03-28.

17. Drawings and Documents

Drawing No	Page	Date	Description
HWD/SJ-ECM08-001	03/34	2013-11-28	ECM7108 assembly diagram
HWD/SJ-ECM08-002	04/35	2013-08-24	ECM7108 Explode diagram
HWD/SJ-ECM08-003	05/36	2013-08-24	ECM7108 Front end cover
HWD/SJ-ECM08-004-A	06/37	2013-06-18	ECM Rear cover
HWD/SJ-ECM08-004-B	07/38	2013-08-24	ECM mounted on top of the rear cover
HWD/SJ-ECM08-005	08/39	2013-06-18	Bearing end cover
HWD/SJ-ECM08-006	09/40	2012-02-02	ECM7108 Front frame
HWD/SJ-ECM08-007	10/41	2012-02-02	ECM7108 Rear frame
HWD/SJ-ECM08-008	11/42	2012-02-02	Wind wane fixing seat
HWD/SJ-ECM08-009	12/43	2012-02-02	Holzer element fixing seat

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Drawing No	Page	Date	Description
HWD/SJ-ECM08-010	13/44	2013-11-28	Bearing cover
HWD/SJ-ECM08-011	14/45	2012-02-02	Pin
HWD/SJ-ECM08-012	15/46	2013-07-27	Sealing ring
HWD/SJ-ECM08-013-A	16/47	2012-02-02	Two core sheathed power lines
HWD/SJ-ECM08-013-B	17/48	2012-02-02	Three core sheathed power lines
HWD/SJ-ECM08-014	18/49	2013-08-24	ECM7108 Plastic magnetic rotor
HWD/SJ-ECM08-015	19/50	2012-02-02	ECM7108 Rotating shaft
HWD/SJ-ECM08-016	20/51	2012-02-02	Stator core
HWD/SJ-ECM08-017	21/52	2012-02-02	Fan cover
HWD/SJ-ECM08-018	22/53	2012-02-02	Rubber head
HWD/SJ-ECM08-019	23/54	2012-02-02	Flat gasket
HWD/SJ-ECM08-020	24/55	2012-02-02	ECM motor label
HWD/SJ-ECM08-020-B	25/56	2013-11-28	Ex label
HWD/SJ-ECM08-021	26/57	2013-03-22	Winding diagram
HWD/SJ-ECM08-022	27/58	2013-05-09	Waterproof connector
HWD/SJ-ECM08-023	28/59	2013-06-18	Compression nut
HWD/SJ-ECM08-024	29/60	2013-05-22	Gasket
HWD/SJ-ECM08-025	30/61	2013-06-18	Line sets
HWD/SJ-ECM08-026	31/62	2013-05-22	Rubber stopper
HWD/SJ-ECM08-027	32/63	2013-12-06	Lock nut
HWD/SJ-ECM08-028	33/64	2013-08-24	Conical gasket
HWD/SJ-ECM12-001	67/76	2013-11-28	ECM7112 assembly diagram
HWD/SJ-ECM12-002	68/77	2013-08-24	ECM7112 Explode diagram
HWD/SJ-ECM12-003	69/78	2013-08-24	ECM7112 Front end cover
HWD/SJ-ECM12-004	70/79	2012-02-02	ECM7112 Front frame
HWD/SJ-ECM12-005	71/80	2012-02-02	ECM7112 Rear frame
HWD/SJ-ECM12-006	72/81	2012-02-02	ECM7112 Plastic magnetic rotor
HWD/SJ-ECM12-007	73/82	2012-02-02	ECM7112 Rotating shaft
HWD/SJ-ECM12-008	74/83	2012-02-02	Foot bracket
HWD/SJ-ECM12-009	75/84	2013-11-28	Ex label
HWD/SJ-ECM20-001	87/96	2013-11-28	ECM7120 assembly diagram
HWD/SJ-ECM20-002	88/97	2013-08-24	ECM7120 Explode diagram
HWD/SJ-ECM20-003	89/98	2013-08-24	ECM7120 Front end cover
HWD/SJ-ECM20-004	90/99	2013-11-28	ECM7120 Front frame
HWD/SJ-ECM20-005	91/100	2013-11-28	ECM7120 Rear frame
HWD/SJ-ECM20-006	92/101	2013-08-24	ECM7120 Rotor
HWD/SJ-ECM20-007	93/102	2013-08-24	ECM7120 Rotating shaft
HWD/SJ-ECM20-008	94/103	2012-04-27	Foot bracket
HWD/SJ-ECM20-009	95/104	2013-11-28	Ex label
HWD/JS-ECM-001	113	2013-08-24	ECM motor non-metallic materials (Cover)Data Sheet
HWD/JS-ECM-002	114	2013-08-24	ECM motor non-metallic materials(Waterproof connector)Data Sheet
HWD/JS-ECM-003	115	2013-08-24	ECM motor non-metallic materials(Sealing ring)Data Sheet
HWD/JS-ECM-004	116	2013-11-28	ECM motor non-metallic materials(Terminals)Data Sheet
HWD/JS-ECM-005	117	2013-11-28	ECM motor non-metallic materials(Bearing cover)Data Sheet
HWD/JS-ECM-006	118	2013-03-02	ECM motor to calculate the single radial clearance

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Drawing No	Page	Date	Description
HWD/JS-ECM-007	119	2014-03-21	ECM motor non-metallic materials(Encapsulated Materials)Data Sheet
-	120-121	2013-03-22	ECM7108 220V technical BOM table (two-wire)
-	122-123	2013-03-22	ECM7108 220V technical BOM table (three-wire)
-	124-125	2013-03-22	ECM7112 220V technical BOM table (two-wire)
-	126-127	2013-03-22	ECM7112 220V technical BOM table (three-wire)
-	128-129	2013-08-24	ECM7120 220V technical BOM table (two-wire)
-	130-131	2013-08-24	ECM7120 220V technical BOM table (three-wire)
HWD/DZ-ECM71-010	132	2014-01-07	ECM series motor low pressure injection moulding process
HWD/DA-ECM71-007	133/134	2013-06-21	Clearances and creepage distances description(two-wire)
HWD/DA-ECM71-008	136/136	2013-06-21	Clearances and creepage distances description(three-wire)
HWD/DA-ECM71-009	137/138	2014-02-19	ECM series motor PCB encapsulated area description(two-wire)
HWD/DA-ECM71-010	139/140	2014-02-19	ECM series motor PCB encapsulated area description(three-wire)
Q/WG J05061-2013	141	2013-09-03	ECM series motor voltage test process inspection of finished cards
HWD/DZ-ECM71-001	142/143	2012-08-16	ECM71xxA schematic(two-wire)
HWD/DZ-ECM71-002	144/145	2012-08-16	ECM71xxB schematic(three-wire)
HWD/DZ-ECM71-003	146/147	2012-09-12	pcb-ECM71xxA (two-wire)
HWD/DZ-ECM71-004	148/149	2012-09-12	pcb-ECM71xxB (three-wire)
HWD/DA-ECM71-011	150/151	2013-12-16	PCB Slotted diagram (two-wire)
HWD/DA-ECM71-012	152/153	2013-12-16	PCB Slotted diagram (three-wire)
HWD/DA-ECM71-013	154/155	2014-01-07	Description of creepage on top layer for ECM control board(two-wire)
HWD/DA-ECM71-014	156/157	2014-01-07	Description of creepage on bottom for ECM control board(two-wire)
HWD/DA-ECM71-015	158/159	2014-01-07	Description of creepage on top layer for ECM control board(three-wire)
HWD/DA-ECM71-016	160/161	2014-01-07	Description of creepage on bottom for ECM control board(three-wire)

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