



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX KGS 18.0001X** issue No.: **0** Certificate history:

Status: **Current**

Date of Issue: **2018-01-25** Page 1 of 3

Applicant: **HIGEN Motor Co., Ltd.**  
57, Gongdan-ro 473 bun-gil, Seongsan-gu, Changwon-si,  
Gyeongsangnam-do,  
Korea, Republic of

Equipment: **Three Phase Induction Motor (355 Frame) / Model : TB3\*355M\*\*\*\*\*FC\*\*\*\*/\*\***  
Optional accessory:

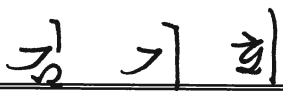
Type of Protection: **Ex tb**

Marking: **Ex tb IIIB or IIIC T125°C Db, IP65 or IP66**  
**Tamb : -20 °C ~ +50 °C**

Approved for issue on behalf of the IECEx Certification Body: **Gi-hoi. Kim**

Position: **General Manager**

Signature:  
(for printed version)

  
2018.01.25

Date:

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 the Official IECEx Website.

Certificate issued by:

**Korea Gas Safety Corporation**  
1390 Wonjung-ro,  
Maengdong-myeon,  
Eumseong-gun,  
Chungcheongbuk-do  
KOREA 369-811  
Korea, Republic of





# IECEX Certificate of Conformity

Certificate No: IECEx KGS 18.0001X Issue No: 0  
Date of Issue: 2018-01-25 Page 2 of 3  
Manufacturer: **HIGEN Motor Co., Ltd.**  
57, Gongdan-ro 473 bun-gil, Seongsan-gu, Changwon-si, Gyeongsangnam-do,  
Korea, Republic of

Additional Manufacturing location(s):

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 electrical apparatus 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 : 2011** Explosive atmospheres - Part 0: General requirements  
Edition:6.0  
**IEC 60079-31 : 2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

*This Certificate **does not** indicate compliance with electrical 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 Report:

KR/KGS/ExTR18.0001/00

### Quality Assessment Report:

KR/KGS/QAR08.0002/06



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

#### General Specifications

Three-phase asynchronous motors series 355 supplied by mains or by inverter.

IEC frame sizes : 355 Frame

Maximum rated voltage : 11 000 V

Rated Frequency : 50 / 60 Hz

Methods of cooling (IC CODE) : TEFC(IC411)

Nominal power : 150 ~ 520 kW

Number of poles : 4, 6, 8, 10 Poles

Duty type : S1

Speed : 600 ~ 1800 rpm

Ingress Protection Code : IP65 or IP66

※ This equipment has been considered to meet at IP65 or IP66 degrees in accordance with IEC 60529 and IEC 60034-5.

#### Enclosure

Dust ignition protection motors. The motors are made of grey cast iron, steel with separate compartments; motor enclosure and terminal box. The rotor is supported by a pedestal mounted anti-friction bearings at both ends.

#### Cooling Method

TEFC : External fan is attached to the shaft end for the circulation of air around the enclosure.

\* Duty Types : TEFC(S1)

#### Terminal Box

The enclosure consists of a cast iron or a steel cover with secure bolts. Terminal box is connected to the frame and bolt. The cover is a removable structure.

#### Thermal Motor Protection

The motors supplied by inverter shown the rating data on a supplementary plate and shall be provided, inside the stator winding, with PTC or PT 100 thermal detectors for temperature control.

#### Auxiliaries

The motors can be equipped with auxiliary devices (heaters, thermal detectors, etc.).

#### SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Use only certified cable glands and blanking elements.

#### Annex:

[Annex to IECEx KGS 18.0001X Issue 0.pdf](#)



Annex to  
IECEX KGS 18.0001X Issue 0



Applicant : HIGEN Motor Co., Ltd.  
Address : 57, Gongdan-ro 473 bun-gil, Seongsan-gu, Changwon-si,  
Gyeongsangnam-do, Korea  
Electrical Apparatus : Three Phase Induction Motor (355 Frame)

[Description]

1. Nomenclature

T	B	3	*	355	M	**	***	FC	****	/	**
a	b	c	d	e	f	g	h	i	j		k

- a : T: Dust ignition protection
- b : Equipment protection level, A : Zone 20, B : Zone 21, C : Zone 22
- c : Three phase 1 speed
- d : Dust subdivisions, A : IIIA, B : IIIB, C : IIIC
- e : Frame number
- f : Frame length
- g : Number of poles, 02 : 2 Poles, 04 : 4 Poles, 06 : 6 Poles, 08 : 8 Poles, 10 : 10 Poles
- h : Mounting, B3\*, B5\*, B35
- i : Ventilation, FC : TEFC, NV : TENV, AO : TEAO
- j : Voltage & Frequency

2. Duty Type : S1

3. Methods of Cooling : TEFC (IC411)

4. Service Factor : 1,0 ~ 1,15

5. Insulation Class : F



6. Output

355 Frame Output Table				
Pole (P)	Output (kW)	Speed (rpm)	Frequency (Hz)	Voltage (V)
4	315	1500	50	3000
		1500	50	3300
		1800	60	3300
		1500	50	6000
		1500	50	6600
		1800	60	6600
		1800	60	7200
		1500	50	11000
		1800	60	11000
	350	1500	50	3300
		1800	60	3300
		1500	50	6000
		1800	60	6600
		1800	60	7200
		1800	60	11000
	420	1500	50	3300
		1800	60	3300
		1800	60	6600
		1800	60	7200
	450	1500	50	3000
		1500	50	3300
		1800	60	3300
		1500	50	6000
		1500	50	6600
		1800	60	6600
		1800	60	7200
	520	1800	60	3300
1800		60	6600	
1800		60	7200	



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355 Frame Output Table

Pole (P)	Output (kW)	Speed (rpm)	Frequency (Hz)	Voltage (V)
6	250	1000	50	3000
		1000	50	3300
		1200	60	3300
		1000	50	6000
		1000	50	6600
		1200	60	6600
		1200	60	7200
		1000	50	11000
		1200	60	11000
	300	1000	50	3300
		1200	60	3300
		1000	50	6000
		1000	50	6600
		1200	60	6600
		1200	60	7200
	360	1000	50	3000
		1000	50	3300
		1200	60	3300
		1000	50	6000
		1000	50	6600
		1200	60	6600
		1200	60	7200
	420	1200	60	3300
		1200	60	6600
1200		60	7200	



355 Frame Output Table				
Pole (P)	Output (kW)	Speed (rpm)	Frequency (Hz)	Voltage (V)
8	220	750	50	3000
		750	50	3300
		900	60	3300
		750	50	6000
		750	50	6600
		900	60	6600
		900	60	7200
		750	50	11000
		900	60	11000
	240	750	50	3000
		750	50	3300
		900	60	3300
		750	50	6000
		750	50	6600
		900	60	6600
		900	60	7200
		900	60	11000
	280	900	60	3300
		900	60	6600
		900	60	7200



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355 Frame Output Table				
Pole (P)	Output (kW)	Speed (rpm)	Frequency (Hz)	Voltage (V)
10	150	600	50	3000
		600	50	3300
		720	60	3300
		600	50	6000
		600	50	6600
		720	60	6600
		720	60	7200
		600	50	11000
		720	60	11000
	180	600	50	3000
		600	50	3300
		720	60	3300
		600	50	6000
		600	50	6600
		720	60	6600
		720	60	7200
		720	60	11000
	220	720	60	3300
		720	60	6600
		720	60	7200