

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 02ATEX2138** Issue Number: **2**

(4) Equipment: **Three-phases asynchronous cage motors series Sg 100... and KSSKg 100....**

(5) Manufacturer: **Fabryka Maszyn Elektrycznych Indukta SA**

(6) Address: **ul. M. Grazynskiego 22, 43-300 Bielsko-Biala, Poland**

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

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.

The examination and test results are recorded in confidential test report number 210919000-3.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2006
EN 61241-1 : 2004

EN 60079-7 : 2007

EN 61241-0 : 2006

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

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:



II 2 G Ex e II T3
II 2 D Ex tD T125 °C IP6X

This certificate is issued on 5 June 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.



C.G. van Es
Certification Manager



Page 1/3

© Integral publication of this certificate and adjoining reports is allowed. This Certificate may only be reproduced in its entirety and without any change.

KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 customer@kema.com www.kema.com Registered Arnhem 09085396

Experience you can trust.

(13) SCHEDULE**(14) to EC-Type Examination Certificate KEMA 02ATEX2138****Issue No. 2****(15) Description**

Three-phases asynchronous cage motors series Sg 100... and KSSKg 100....
Construction according to EC-Type Examination Certificate KEMA 02ATEX2135 U.

Ambient temperature range -40 °C ... +40 °C.

The maximum surface temperature of the connection housing is referred to the maximum ambient temperature of 40 °C.

Electrical data

Motor type	...g 100L-2-T3	...g 100L-4A-T3
Rated output (kW)	2,4	2,2
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	4,8	5,2
Rated frequency (Hz)	50	50
Power factor	0,88	0,80
Rated speed (rpm)	2905	1425
Insulation class	F	F
I_A/I_N	8,3	5,9
t_E for T3 (s)	6	9

Motor type	...g 100L-4B-T3	...g 100L-6-T3
Rated output (kW)	3	1,5
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	6,9	4,1
Rated frequency (Hz)	50	50
Power factor	0,81	0,73
Rated speed (rpm)	1415	945
Insulation class	F	F
I_A/I_N	5,75	4,5
t_E for T3 (s)	9	17

Any voltage from 190 V up to and including 690 V is allowed if the electrical and thermal load are equal to those of the tested motor (a lower or the same current- and flux density).

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2138**

Issue No. 2

Installation instructions

The degree of protection of at least IP54 to EN 60034-5 is only achieved if certified cable entries and blanking elements for unused openings are used that are suitable for the application and correctly installed.

The motor shall be provided with a three-phases inverse-delay overload protective device that not only monitors the motor current but also disconnects the stalled motor within the above mentioned times t_E .

The motor shall only be used for continuous service, involving easy and infrequent starts which do not produce appreciable additional heating.

The built-in winding PTC thermistors (DIN 44 081 or 44 082 140 °C) or KTY 84-1... sensors in combination with a protective device shall be installed in the motor circuits in such a way that operation of the PTC thermistors or KTY84-1... sensors leads to switching-off of the motor.

For use in the presence of combustible dust:

The degree of protection of at least IP6X to EN 60529 is only achieved if the certified cable entries and blanking elements provide a degree of protection of at least IP6X to EN 60529.

Routine tests

Each motor shall be subjected to the dielectric strength test of EN 60034-1 clause 8 using a voltage of 1000 V + twice the rated voltage with a minimum of 1500 V during 60 seconds or as an alternative voltage of 120% of (1000 V + twice the rated voltage) during 1 second between the windings under test and the frame of the motor, with the core and the windings not under test connected to the frame.

Motors rated more than 5kW are tested in accordance with EN 60034-1, clause 9.2, using a voltage of 120% of (1000 V + twice the rated voltage) during 3-5 seconds.

(16) **Test Report**

KEMA No. 210919000-3.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 210919000-3.

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 02ATEX2147** Issue Number: **2**

(4) Equipment: **Three-phases asynchronous cage motors series Sg 180... and KSSKg 180...-T4.**

(5) Manufacturer: **Fabryka Maszyn Elektrycznych Indukta SA**

(6) Address: **ul. M. Grazynskiego 22, 43-300 Bielsko-Biala, Poland**

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

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.

The examination and test results are recorded in confidential test report number 210919000-12.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2006
EN 61241-1 : 2004

EN 60079-7 : 2007

EN 61241-0 : 2006

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

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:



II 2 G Ex e II T4
II 2 D Ex tD A21 IP6X T125 °C

This certificate is issued on 5 June 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.

C.G. van Es
Certification Manager



Page 1/3

° Integral publication of this certificate and adjoining reports is allowed. This Certificate may only be reproduced in its entirety and without any change.

KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 customer@kema.com www.kema.com Registered Arnhem 09085396

Experience you can trust.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2147**

Issue No. 3

(15) **Description**

Three-phases asynchronous cage motors series Sg 180... and KSSKg 180.-.-T4.
Construction according to EC-Type Examination Certificate KEMA 02ATEX2135 U.

Ambient temperature range -40 °C ... +40 °C.

The maximum surface temperature of the connection housing is referred to the maximum ambient temperature of 40 °C.

With an alternative terminal block the minimum ambient temperature for motor series Sg 180 is -20 °C.

Electrical data

Motor type	...g 180M-2-T4	...g 180L-4-T4
Rated output (kW)	10	11
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	17,4	19,3
Rated frequency (Hz)	50	50
Power factor	0,92	0,92
Rated speed (rpm)	2950	1465
Insulation class	F	F
I_A/I_N	8,5	5,8
t_E for T4 (s)	14,0	7,0

Any voltage from 190 V up to and including 690 V is allowed if the electrical and thermal load are equal to those of the tested motor (a lower or the same current- and flux density).

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2147**

Issue No. 3

Installation instructions

The degree of protection of at least IP54 to EN 60034-5 is only achieved if certified cable entries and blanking elements for unused openings are used that are suitable for the application and correctly installed.

The motor shall be provided with a three-phases inverse-delay overload protective device that not only monitors the motor current but also disconnects the stalled motor within the above mentioned times t_E .

The motor shall only be used for continuous service, involving easy and infrequent starts which do not produce appreciable additional heating.

The built-in winding PTC thermistors (DIN 44 081 or 44 082 140 °C) or KTY 84-1... sensors in combination with a protective device shall be installed in the motor circuits in such a way that operation of the PTC thermistors or KTY84-1... sensors leads to switching-off of the motor.

For use in the presence of combustible dust:

The degree of protection of at least IP6X to EN 60529 is only achieved if the certified cable entries and blanking elements provide a degree of protection of at least IP6X to EN 60529.

Routine tests

Each motor shall be subjected to the dielectric strength test of EN 60034-1 clause 8 using a voltage of 1000 V + twice the rated voltage with a minimum of 1500 V during 60 seconds or as an alternative voltage of 120% of (1000 V + twice the rated voltage) during 1 second between the windings under test and the frame of the motor, with the core and the windings not under test connected to the frame.

Motors rated more than 5kW are tested in accordance with EN 60034-1, clause 9.2, using a voltage of 120% of (1000 V + twice the rated voltage) during 3-5 seconds.

(16) **Test Report**

KEMA No. 210919000-12.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 210919000-12.

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

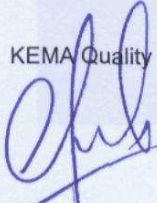
- (3) EC-Type Examination Certificate Number: **KEMA 02ATEX2146** Issue Number: **2**
- (4) Equipment: **Three-phases asynchronous cage motors series Sg 180... and KSSKg 180...-T3.**
- (5) Manufacturer: **Fabryka Maszyn Elektrycznych Indukta SA**
- (6) Address: **ul. M. Grazynskiego 22, 43-300 Bielsko-Biala, Poland**
- (7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.
- The examination and test results are recorded in confidential test report number 210919000-11.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- EN 60079-0 : 2006 EN 60079-7 : 2007 EN 61241-0 : 2006**
EN 61241-1 : 2004
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:



II 2 G Ex e II T3
II 2 D Ex tD A21 IP6X T125 °C

This certificate is issued on 5 June 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.


G.G. van Es
Certification Manager



Page 1/3

© Integral publication of this certificate and adjoining reports is allowed. This Certificate may only be reproduced in its entirety and without any change.

KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 customer@kema.com www.kema.com Registered Arnhem 09085396

Experience you can trust.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2146**

Issue No. 2

(15) **Description**

Three-phases asynchronous cage motors series Sg 180... and KSSKg 180.-.-T3.
Construction according to EC-Type Examination Certificate KEMA 02ATEX2135 U.

Ambient temperature range -40 °C ... +40 °C.

The maximum surface temperature of the connection housing is referred to the maximum ambient temperature of 40 °C.

With an alternative terminal block the minimum ambient temperature for motor series Sg 180 is -20 °C.

Electrical data

Motor type	...g 180M-2-T3	...g 180M-4-T3
Rated output (kW)	18,5	18,5
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	31,8	33
Rated frequency (Hz)	50	50
Power factor	0,92	0,89
Rated speed (rpm)	2945	1470
Insulation class	F	F
I_A/I_N	8,25	7,9
t_E for T3 (s)	13,0	5,0

Motor type	...g 180L-4-T3	...g 180L-6-T3
Rated output (kW)	22	13,5
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	38,3	26,6
Rated frequency (Hz)	50	50
Power factor	0,90	0,82
Rated speed (rpm)	1465	980
Insulation class	F	F
I_A/I_N	7,7	6,7
t_E for T3 (s)	5,0	8,0

Any voltage from 190 V up to and including 690 V is allowed if the electrical and thermal load are equal to those of the tested motor (a lower or the same current- and flux density).

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2146**

Issue No. 2

Installation instructions

The degree of protection of at least IP54 to EN 60034-5 is only achieved if certified cable entries and blanking elements for unused openings are used that are suitable for the application and correctly installed.

The motor shall be provided with a three-phases inverse-delay overload protective device that not only monitors the motor current but also disconnects the stalled motor within the above mentioned times t_E .

The motor shall only be used for continuous service, involving easy and infrequent starts which do not produce appreciable additional heating.

The built-in winding PTC thermistors (DIN 44 081 or 44 082 140 °C) or KTY 84-1... sensors in combination with a protective device shall be installed in the motor circuits in such a way that operation of the PTC thermistors or KTY84-1... sensors leads to switching-off of the motor.

For use in the presence of combustible dust:

The degree of protection of at least IP6X to EN 60529 is only achieved if the certified cable entries and blanking elements provide a degree of protection of at least IP6X to EN 60529.

Routine tests

Each motor shall be subjected to the dielectric strength test of EN 60034-1 clause 8 using a voltage of 1000 V + twice the rated voltage with a minimum of 1500 V during 60 seconds or as an alternative voltage of 120% of (1000 V + twice the rated voltage) during 1 second between the windings under test and the frame of the motor, with the core and the windings not under test connected to the frame.

Motors rated more than 5kW are tested in accordance with EN 60034-1, clause 9.2, using a voltage of 120% of (1000 V + twice the rated voltage) during 3-5 seconds.

(16) **Test Report**

KEMA No. 210919000-11.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 210919000-11.

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

- (3) EC-Type Examination Certificate Number: **KEMA 02ATEX2145** Issue Number: **2**
- (4) Equipment: **Three-phases asynchronous cage motors series Sg 160... and KSSKg 160....**
- (5) Manufacturer: **Fabryka Maszyn Elektrycznych Indukta SA**
- (6) Address: **ul. M. Grazynskiego 22, 43-300 Bielsko-Biala, Poland**
- (7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.
- The examination and test results are recorded in confidential test report number 210919000-10.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- | | | |
|--------------------------|--------------------------|--------------------------|
| EN 60079-0 : 2006 | EN 60079-7 : 2007 | EN 61241-0 : 2006 |
| EN 61241-1 : 2004 | | |
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:



II 2 G Ex e II T4
II 2 D Ex tD A21 IP6X T125 °C

This certificate is issued 5 June 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.



C.G. van Es
Certification Manager



Page 1/4

© Integral publication of this certificate and adjoining reports is allowed. This Certificate may only be reproduced in its entirety and without any change.

KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 customer@kema.com www.kema.com Registered Arnhem 09085396

Experience you can trust.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2145**

Issue No. 2

(15) **Description**

Three-phases asynchronous cage motors series Sg 160 and KSSKg 160....
Construction according to EC-Type Examination Certificate KEMA 02ATEX2135 U.

Ambient temperature range -40 °C ... +40 °C.

The maximum surface temperature of the connection housing is referred to the maximum ambient temperature of 40 °C.

With an alternative terminal block the minimum ambient temperature for motor series Sg 160 is -20 °C.

Electrical data

Motor type	...g 160M-2A-T4	...g 160M-2B-T4	...g 160L-2-T4
Rated output (kW)	5	6	7,5
Rated voltage (V \pm 5 %)	400	400	400
Rated current (A)	9,2	10,7	13,1
Rated frequency (Hz)	50	50	50
Power factor	0,90	0,91	0,92
Rated speed (rpm)	2945	2950	2950
Insulation class	F	F	F
I_A/I_N	7,65	7,65	7,75
t_E for T4 (s)	8,0	7,0	8,0

Motor type	...g 160M-4-T4	...g 160L-4-T4
Rated output (kW)	6	7,5
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	11,3	13,8
Rated frequency (Hz)	50	50
Power factor	0,87	0,88
Rated speed (rpm)	1465	1465
Insulation class	F	F
I_A/I_N	7,25	7,6
t_E for T4 (s)	14,0	12,0

(13) SCHEDULE**(14) to EC-Type Examination Certificate KEMA 02ATEX2145****Issue No. 2**

Motor type	...g 160M-6-T4	...g 160L-6-T4
Rated output (kW)	5,5	7,0
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	11,2	13,6
Rated frequency (Hz)	50	50
Power factor	0,81	0,84
Rated speed (rpm)	965	970
Insulation class	F	F
I_A/I_N	6,65	7,50
t_E for T4 (s)	7,0	8,0

Any voltage from 190 V up to and including 690 V is allowed if the electrical and thermal load are equal to those of the tested motor (a lower or the same current- and flux density).

Installation instructions

The degree of protection of at least IP54 to EN 60034-5 is only achieved if certified cable entries and blanking elements for unused openings are used that are suitable for the application and correctly installed.

The motor shall be provided with a three-phases inverse-delay overload protective device that not only monitors the motor current but also disconnects the stalled motor within the above mentioned times t_E .

The motor shall only be used for continuous service, involving easy and infrequent starts which do not produce appreciable additional heating.

The built-in winding PTC thermistors (DIN 44 081 or 44 082 140 °C) or KTY 84-1... sensors in combination with a protective device shall be installed in the motor circuits in such a way that operation of the PTC thermistors or KTY84-1... sensors leads to switching-off of the motor.

For use in the presence of combustible dust:

The degree of protection of at least IP6X to EN 60529 is only achieved if the certified cable entries and blanking elements provide a degree of protection of at least IP6X to EN 60529.

Routine tests

Each motor shall be subjected to the dielectric strength test of EN 60034-1 clause 8 using a voltage of 1000 V + twice the rated voltage with a minimum of 1500 V during 60 seconds or as an alternative voltage of 120% of (1000 V + twice the rated voltage) during 1 second between the windings under test and the frame of the motor, with the core and the windings not under test connected to the frame.

Motors rated more than 5kW are tested in accordance with EN 60034-1, clause 9.2, using a voltage of 120% of (1000 V + twice the rated voltage) during 3-5 seconds.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2145**

Issue No. 2

(16) **Test Report**

KEMA No. 210919000-10.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 210919000-10.

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 02ATEX2144** Issue Number: **2**

(4) Equipment: **Three-phases asynchronous cage motors series Sg 160... and KSSKg 160....**

(5) Manufacturer: **Fabryka Maszyn Elektrycznych Indukta SA**

(6) Address: **ul. M. Grazynskiego 22, 43-300 Bielsko-Biala, Poland**

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

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.

The examination and test results are recorded in confidential test report number 210919000-9.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2006
EN 61241-1 : 2004

EN 60079-7 : 2007

EN 61241-0 : 2006

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

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

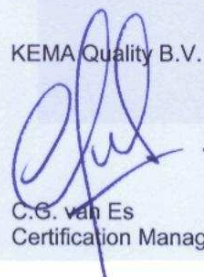
(12) The marking of the equipment shall include the following:



II 2 G Ex e II T3
II 2 D Ex tD A21 IP6X T125 °C

This certificate is issued on 5 June 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.



C.G. van Es
Certification Manager



Page 1/3

© Integral publication of this certificate and adjoining reports is allowed. This Certificate may only be reproduced in its entirety and without any change.

KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 customer@kema.com www.kema.com Registered Arnhem 09085396

Experience you can trust.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2144**

Issue No. 2

(15) **Description**

Three-phases asynchronous cage motors series Sg 160... and KSSKg 160....
Construction according to EC-Type Examination Certificate KEMA 02ATEX2135 U.

Ambient temperature range -40 °C ... +40 °C.

The maximum surface temperature of the connection housing is referred to the maximum ambient temperature of 40 °C.

With an alternative terminal block the minimum ambient temperature for motor series Sg 160 is -20 °C.

Electrical data

Motor type	...g 160M-2A-T3	...g 160L-2-T3	...g 160M-4-T3
Rated output (kW)	11	16	11
Rated voltage (V \pm 5 %)	400	400	400
Rated current (A)	20,1	28,3	21,1
Rated frequency (Hz)	50	50	50
Power factor	0,89	0,90	0,85
Rated speed (rpm)	2920	2940	1460
Insulation class	F	F	F
I_A/I_N	6,5	7,7	7,2
t_E for T3 (s)	5,6	7,0	9,0

Motor type	...g 160L-4-T3	...g 160M-6-T3	...g 160L-6-T3
Rated output (kW)	15	7,5	11
Rated voltage (V \pm 5 %)	400	400	400
Rated current (A)	28	15,7	22,0
Rated frequency (Hz)	50	50	50
Power factor	0,86	0,80	0,82
Rated speed (rpm)	1460	960	960
Insulation class	F	F	F
I_A/I_N	7,4	6,5	6,8
t_E for T3 (s)	8,0	10,0	8,0

Any voltage from 190 V up to and including 690 V is allowed if the electrical and thermal load are equal to those of the tested motor (a lower or the same current- and flux density).

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2144**

Issue No. 2

Installation instructions

The degree of protection of at least IP54 to EN 60034-5 is only achieved if certified cable entries and blanking elements for unused openings are used that are suitable for the application and correctly installed.

The motor shall be provided with a three-phases inverse-delay overload protective device that not only monitors the motor current but also disconnects the stalled motor within the above mentioned times tE.

The motor shall only be used for continuous service, involving easy and infrequent starts which do not produce appreciable additional heating.

The built-in winding PTC thermistors (DIN 44 081 or 44 082 140 °C) or KTY 84-1... sensors in combination with a protective device shall be installed in the motor circuits in such a way that operation of the PTC thermistors or KTY84-1... sensors leads to switching-off of the motor.

For use in the presence of combustible dust:

The degree of protection of at least IP6X to EN 60529 is only achieved if the certified cable entries and blanking elements provide a degree of protection of at least IP6X to EN 60529.

Routine tests

Each motor shall be subjected to the dielectric strength test of EN 60034-1 clause 8 using a voltage of 1000 V + twice the rated voltage with a minimum of 1500 V during 60 seconds or as an alternative voltage of 120% of (1000 V + twice the rated voltage) during 1 second between the windings under test and the frame of the motor, with the core and the windings not under test connected to the frame.

Motors rated more than 5kW are tested in accordance with EN 60034-1, clause 9.2, using a voltage of 120% of (1000 V + twice the rated voltage) during 3-5 seconds.

(16) **Test Report**

KEMA No. 210919000-9.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 210919000-9.

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

- (3) EC-Type Examination Certificate Number: **KEMA 02ATEX2143** Issue Number: 2
- (4) Equipment: **Three-phases asynchronous cage motors series Sg 132... and KSSKg 132....**
- (5) Manufacturer: **Fabryka Maszyn Elektrycznych Indukta SA**
- (6) Address: **ul. M. Grazynskiego 22, 43-300 Bielsko-Biala, Poland**
- (7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.
- The examination and test results are recorded in confidential test report number 210919000-8.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- | | | |
|--------------------------|--------------------------|--------------------------|
| EN 60079-0 : 2006 | EN 60079-7 : 2007 | EN 61241-0 : 2006 |
| EN 61241-1 : 2004 | | |
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:



II 2 G Ex e II T4
II 2 D Ex tD A21 IP6X T125 °C

This certificate is issued on 5 June 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.



C.G. van Es
Certification Manager



(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2143**

Issue No. 2

(15) **Description**

Three-phases asynchronous cage motors series Sg 12... and KSSKg 132....
Construction according to EC-Type Examination Certificate KEMA 02ATEX2135 U.

Ambient temperature range -40 °C ... +40 °C.

The maximum surface temperature of the connection housing is referred to the maximum ambient temperature of 40 °C.

With an alternative terminal block the minimum ambient temperature for motor series Sg 132 is -20 °C.

Electrical data

Motor type	...g 132S-2A-T4	...g 132S-2B-T4	...g 132S-4-T4
Rated output (kW)	2,5	3,5	3,0
Rated voltage (V \pm 5 %)	400	400	400
Rated current (A)	4,6	6,4	6
Rated frequency (Hz)	50	50	50
Power factor	0,91	0,92	0,85
Rated speed (rpm)	2930	2935	1465
Insulation class	F	F	F
I_A/I_N	7,5	8,0	7,7
t_E for T4(s)	16	11	8

Motor type	...g 132M-4-T4	...g 132S-6-T4
Rated output (kW)	4	2,2
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	7,7	5,1
Rated frequency (Hz)	50	50
Power factor	0,87	0,78
Rated speed (rpm)	1460	960
Insulation class	F	F
I_A/I_N	7,4	5,9
t_E for T4 (s)	7	11

(13) SCHEDULE**(14) to EC-Type Examination Certificate KEMA 02ATEX2143****Issue No. 2**

Motor type	...g 132M-6A-T4	...g 132M-6B-T4
Rated output (kW)	2,8	4
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	6,0	8,2
Rated frequency (Hz)	50	50
Power factor	0,80	0,83
Rated speed (rpm)	960	960
Insulation class	F	F
I_A/I_N	6,5	7,0
t_E for T4(s)	12	5,5

Any voltage from 190 V up to and including 690 V is allowed if the electrical and thermal load are equal to those of the tested motor (a lower or the same current- and flux density).

Installation instructions

The degree of protection of at least IP54 to EN 60034-5 is only achieved if certified cable entries and blanking elements for unused openings are used that are suitable for the application and correctly installed.

The motor shall be provided with a three-phases inverse-delay overload protective device that not only monitors the motor current but also disconnects the stalled motor within the above mentioned times t_E .

The motor shall only be used for continuous service, involving easy and infrequent starts which do not produce appreciable additional heating.

The built-in winding PTC thermistors (DIN 44 081 or 44 082 140 °C) or KTY 84-1... sensors in combination with a protective device shall be installed in the motor circuits in such a way that operation of the PTC thermistors or KTY84-1... sensors leads to switching-off of the motor.

For use in the presence of combustible dust:

The degree of protection of at least IP6X to EN 60529 is only achieved if the certified cable entries and blanking elements provide a degree of protection of at least IP6X to EN 60529.

Routine tests

Each motor shall be subjected to the dielectric strength test of EN 60034-1 clause 8 using a voltage of 1000 V + twice the rated voltage with a minimum of 1500 V during 60 seconds or as an alternative voltage of 120% of (1000 V + twice the rated voltage) during 1 second between the windings under test and the frame of the motor, with the core and the windings not under test connected to the frame.

Motors rated more than 5kW are tested in accordance with EN 60034-1, clause 9.2, using a voltage of 120% of (1000 V + twice the rated voltage) during 3-5 seconds.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2143**

Issue No. 2

(16) **Test Report**

KEMA No. 210919000-8.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 210919000-8.

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 02ATEX2142** Issue Number: **2**

(4) Equipment: **Three-phases asynchronous cage motors series Sg 132... and KSSKg 132...**

(5) Manufacturer: **Fabryka Maszyn Elektrycznych Indukta SA**

(6) Address: **ul. M. Grazynskiego 22, 43-300 Bielsko-Biala, Poland**

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

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.

The examination and test results are recorded in confidential test report number 210919000-7.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2006
EN 61241-1 : 2004

EN 60079-7 : 2007

EN 61241-0 : 2006

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

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:



II 2 G Ex e II T3
II 2 D Ex tD A21 IP6X T125 °C

This certificate is issued on 5 June 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.



C.G. van Es
Certification Manager



Page 1/4

® Integral publication of this certificate and adjoining reports is allowed. This Certificate may only be reproduced in its entirety and without any change.

KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 customer@kema.com www.kema.com Registered Arnhem 09085396

Experience you can trust.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2142**

Issue No. 2

(15) **Description**

Three-phases asynchronous cage motors series Sg 132... and KSSKg 132....
Construction according to EC-Type Examination Certificate KEMA 02ATEX2135 U.

Ambient temperature range -40 °C ... +40 °C.

The maximum surface temperature of the connection housing is referred to the maximum ambient temperature of 40 °C.

With an alternative terminal block the minimum ambient temperature for motor series Sg 132 is -20 °C.

Electrical data

Motor type	...g 132S-2A-T3	...g 132S-2B-T3	...g 132S-4-T3
Rated output (kW)	5,5	7	5,5
Rated voltage (V \pm 5 %)	400	400	400
Rated current (A)	10,4	12,7	11,1
Rated frequency (Hz)	50	50	50
Power factor	0,90	0,91	0,84
Rated speed (rpm)	2915	2920	1455
Insulation class	F	F	F
I_A/I_N	7,1	7,7	6,8
t_E for T3 (s)	9	7	7

Motor type	...g 132M-4-T3	...g 132S-6-T3
Rated output (kW)	7,5	3
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	14,6	6,8
Rated frequency (Hz)	50	50
Power factor	0,86	0,80
Rated speed (rpm)	1450	945
Insulation class	F	F
I_A/I_N	7,0	5,3
t_E for T3 (s)	5	18

(13) SCHEDULE**(14) to EC-Type Examination Certificate KEMA 02ATEX2142****Issue No. 2**

Motor type	...g 132M-6A-T3	...g 132M-6B-T3
Rated output (kW)	4	5,5
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	8,5	11,6
Rated frequency (Hz)	50	50
Power factor	0,82	0,82
Rated speed (rpm)	950	950
Insulation class	F	F
I_A/I_N	6,1	6,4
t_E for T3 (s)	14	8

Any voltage from 190 V up to and including 690 V is allowed if the electrical and thermal load are equal to those of the tested motor (a lower or the same current- and flux density).

Installation instructions

The degree of protection of at least IP54 to EN 60034-5 is only achieved if certified cable entries and blanking elements for unused openings are used that are suitable for the application and correctly installed.

The motor shall be provided with a three-phases inverse-delay overload protective device that not only monitors the motor current but also disconnects the stalled motor within the above mentioned times t_E .

The motor shall only be used for continuous service, involving easy and infrequent starts which do not produce appreciable additional heating.

The built-in winding PTC thermistors (DIN 44 081 or 44 082 140 °C) or KTY 84-1... sensors in combination with a protective device shall be installed in the motor circuits in such a way that operation of the PTC thermistors or KTY84-1... sensors leads to switching-off of the motor.

For use in the presence of combustible dust:

The degree of protection of at least IP6X to EN 60529 is only achieved if the certified cable entries and blanking elements provide a degree of protection of at least IP6X to EN 60529.

Routine tests

Each motor shall be subjected to the dielectric strength test of EN 60034-1 clause 8 using a voltage of 1000 V + twice the rated voltage with a minimum of 1500 V during 60 seconds or as an alternative voltage of 120% of (1000 V + twice the rated voltage) during 1 second between the windings under test and the frame of the motor, with the core and the windings not under test connected to the frame.

Motors rated more than 5kW are tested in accordance with EN 60034-1, clause 9.2, using a voltage of 120% of (1000 V + twice the rated voltage) during 3-5 seconds.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2142**

Issue No. 2

(16) **Test Report**

KEMA No. 210919000-7.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 210919000-7.

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 02ATEX2142** Issue Number: **2**

(4) Equipment: **Three-phases asynchronous cage motors series Sg 132... and KSSKg 132...**

(5) Manufacturer: **Fabryka Maszyn Elektrycznych Indukta SA**

(6) Address: **ul. M. Grazynskiego 22, 43-300 Bielsko-Biala, Poland**

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

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.

The examination and test results are recorded in confidential test report number 210919000-7.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2006
EN 61241-1 : 2004

EN 60079-7 : 2007

EN 61241-0 : 2006

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

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:



II 2 G Ex e II T3
II 2 D Ex tD A21 IP6X T125 °C

This certificate is issued on 5 June 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.



C.G. van Es
Certification Manager



Page 1/4

® Integral publication of this certificate and adjoining reports is allowed. This Certificate may only be reproduced in its entirety and without any change.

KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 customer@kema.com www.kema.com Registered Arnhem 09085396

Experience you can trust.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2142**

Issue No. 2

(15) **Description**

Three-phases asynchronous cage motors series Sg 132... and KSSKg 132....
Construction according to EC-Type Examination Certificate KEMA 02ATEX2135 U.

Ambient temperature range -40 °C ... +40 °C.

The maximum surface temperature of the connection housing is referred to the maximum ambient temperature of 40 °C.

With an alternative terminal block the minimum ambient temperature for motor series Sg 132 is -20 °C.

Electrical data

Motor type	...g 132S-2A-T3	...g 132S-2B-T3	...g 132S-4-T3
Rated output (kW)	5,5	7	5,5
Rated voltage (V \pm 5 %)	400	400	400
Rated current (A)	10,4	12,7	11,1
Rated frequency (Hz)	50	50	50
Power factor	0,90	0,91	0,84
Rated speed (rpm)	2915	2920	1455
Insulation class	F	F	F
I_A/I_N	7,1	7,7	6,8
t_E for T3 (s)	9	7	7

Motor type	...g 132M-4-T3	...g 132S-6-T3
Rated output (kW)	7,5	3
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	14,6	6,8
Rated frequency (Hz)	50	50
Power factor	0,86	0,80
Rated speed (rpm)	1450	945
Insulation class	F	F
I_A/I_N	7,0	5,3
t_E for T3 (s)	5	18

(13) SCHEDULE**(14) to EC-Type Examination Certificate KEMA 02ATEX2142****Issue No. 2**

Motor type	...g 132M-6A-T3	...g 132M-6B-T3
Rated output (kW)	4	5,5
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	8,5	11,6
Rated frequency (Hz)	50	50
Power factor	0,82	0,82
Rated speed (rpm)	950	950
Insulation class	F	F
I_A/I_N	6,1	6,4
t_E for T3 (s)	14	8

Any voltage from 190 V up to and including 690 V is allowed if the electrical and thermal load are equal to those of the tested motor (a lower or the same current- and flux density).

Installation instructions

The degree of protection of at least IP54 to EN 60034-5 is only achieved if certified cable entries and blanking elements for unused openings are used that are suitable for the application and correctly installed.

The motor shall be provided with a three-phases inverse-delay overload protective device that not only monitors the motor current but also disconnects the stalled motor within the above mentioned times t_E .

The motor shall only be used for continuous service, involving easy and infrequent starts which do not produce appreciable additional heating.

The built-in winding PTC thermistors (DIN 44 081 or 44 082 140 °C) or KTY 84-1... sensors in combination with a protective device shall be installed in the motor circuits in such a way that operation of the PTC thermistors or KTY84-1... sensors leads to switching-off of the motor.

For use in the presence of combustible dust:

The degree of protection of at least IP6X to EN 60529 is only achieved if the certified cable entries and blanking elements provide a degree of protection of at least IP6X to EN 60529.

Routine tests

Each motor shall be subjected to the dielectric strength test of EN 60034-1 clause 8 using a voltage of 1000 V + twice the rated voltage with a minimum of 1500 V during 60 seconds or as an alternative voltage of 120% of (1000 V + twice the rated voltage) during 1 second between the windings under test and the frame of the motor, with the core and the windings not under test connected to the frame.

Motors rated more than 5kW are tested in accordance with EN 60034-1, clause 9.2, using a voltage of 120% of (1000 V + twice the rated voltage) during 3-5 seconds.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2142**

Issue No. 2

(16) **Test Report**

KEMA No. 210919000-7.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 210919000-7.

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

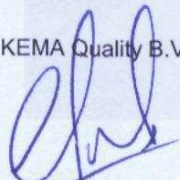
- (3) EC-Type Examination Certificate Number: **KEMA 02ATEX2141** Issue Number: **2**
- (4) Equipment: **Three-phases asynchronous cage motors series Sg 112... and KSSKg 112....**
- (5) Manufacturer: **Fabryka Maszyn Elektrycznych Indukta SA**
- (6) Address: **ul. M. Grazynskiego 22, 43-300 Bielsko-Biala, Poland**
- (7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.
- The examination and test results are recorded in confidential test report number 210919000-6.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- | | | |
|--------------------------|--------------------------|--------------------------|
| EN 60079-0 : 2006 | EN 60079-7 : 2007 | EN 61241-0 : 2006 |
| EN 61241-1 : 2004 | | |
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:



II 2 G Ex e II T4
II 2 D Ex tD A21 IP6X T125 °C

This certificate is issued on 5 June 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.



C.G. van Es
Certification Manager



Page 1/3

* Integral publication of this certificate and adjoining reports is allowed. This Certificate may only be reproduced in its entirety and without any change.

KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 customer@kema.com www.kema.com Registered Arnhem 09085396

Experience you can trust.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2141**

Issue No. 2

(15) **Description**

Three-phases asynchronous cage motors series Sg 112... and KSSKg 112....
Construction according to EC-Type Examination Certificate KEMA 02ATEX2135 U.

Ambient temperature range -40 °C ... +40 °C.

The maximum surface temperature of the connection housing is referred to the maximum ambient temperature of 40 °C.

Electrical data

Motor type	...g 112M-2-T4	...g 112M-4-T4	...g 112M-6-T4
Rated output (kW)	2	2,4	1,6
Rated voltage (V \pm 5 %)	400	400	400
Rated current (A)	3,7	4,9	3,9
Rated frequency (Hz)	50	50	50
Power factor	0,91	0,84	0,73
Rated speed (rpm)	2915	1450	970
Insulation class	F	F	F
I_A/I_N	7,95	7,9	6,7
t_E for T4 (s)	15	8	12

Any voltage from 190 V up to and including 690 V is allowed if the electrical and thermal load are equal to those of the tested motor (a lower or the same current- and flux density).

Installation instructions

The degree of protection of at least IP54 to EN 60034-5 is only achieved if certified cable entries and blanking elements for unused openings are used that are suitable for the application and correctly installed.

The motor shall be provided with a three-phases inverse-delay overload protective device that not only monitors the motor current but also disconnects the stalled motor within the above mentioned times t_E .

The motor shall only be used for continuous service, involving easy and infrequent starts which do not produce appreciable additional heating.

The built-in winding PTC thermistors (DIN 44 081 or 44 082 140 °C) or KTY 84-1... sensors in combination with a protective device shall be installed in the motor circuits in such a way that operation of the PTC thermistors or KTY84-1... sensors leads to switching-off of the motor.

For use in the presence of combustible dust:

The degree of protection of at least IP6X to EN 60529 is only achieved if the certified cable entries and blanking elements provide a degree of protection of at least IP6X to EN 60529.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2141**

Issue No. 2

Routine tests

Each motor shall be subjected to the dielectric strength test of EN 60034-1 clause 8 using a voltage of 1000 V + twice the rated voltage with a minimum of 1500 V during 60 seconds or as an alternative voltage of 120% of (1000 V + twice the rated voltage) during 1 second between the windings under test and the frame of the motor, with the core and the windings not under test connected to the frame.

Motors rated more than 5kW are tested in accordance with EN 60034-1, clause 9.2, using a voltage of 120% of (1000 V + twice the rated voltage) during 3-5 seconds.

(16) **Test Report**

KEMA No. 210919000-6.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 210919000-6.

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 02ATEX2140** Issue Number: 2

(4) Equipment: **Three-phases asynchronous cage motors series Sg 112... and KSSKg 112....**

(5) Manufacturer: **Fabryka Maszyn Elektrycznych Indukta SA**

(6) Address: **ul. M. Grazynskiego 22, 43-300 Bielsko-Biala, Poland**

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

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.

The examination and test results are recorded in confidential test report number 210919000-5.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2006
EN 61241-1 : 2004

EN 60079-7 : 2007

EN 61241-0 : 2006

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

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:



II 2 G Ex e II T3
II 2 D Ex tD A21 IP6X T125 °C

This certificate is issued on 5 June 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.



C.G. van Es
Certification Manager



Page 1/3

© Integral publication of this certificate and adjoining reports is allowed. This Certificate may only be reproduced in its entirety and without any change.

KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 customer@kema.com www.kema.com Registered Arnhem 09085396

Experience you can trust.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2140**

Issue No. 2

(15) **Description**

Three-phases asynchronous cage motors series Sg 112... and KSSKg 112....
Construction according to EC-Type Examination Certificate KEMA 02ATEX2135 U.

Ambient temperature range -40 °C ... +40 °C.

The maximum surface temperature of the connection housing is referred to the maximum ambient temperature of 40 °C.

Electrical data

Motor type	...g 112M-2-T3	...g 112M-4-T3	...g 112M-6-T3
Rated output (kW)	4	4	2,2
Rated voltage (V \pm 5 %)	400	400	400
Rated current (A)	7,5	8,3	5,1
Rated frequency (Hz)	50	50	50
Power factor	0,91	0,85	0,77
Rated speed (rpm)	2875	1430	960
Insulation class	F	F	F
I_A/I_N	6,5	6,9	5,9
t_E for T3 (s)	8	7	19

Any voltage from 190 V up to and including 690 V is allowed if the electrical and thermal load are equal to those of the tested motor (a lower or the same current- and flux density).

Installation instructions

The degree of protection of at least IP54 to EN 60034-5 is only achieved if certified cable entries and blanking elements for unused openings are used that are suitable for the application and correctly installed.

The motor shall be provided with a three-phases inverse-delay overload protective device that not only monitors the motor current but also disconnects the stalled motor within the above mentioned times t_E .

The motor shall only be used for continuous service, involving easy and infrequent starts which do not produce appreciable additional heating.

The built-in winding PTC thermistors (DIN 44 081 or 44 082 140 °C) or KTY 84-1... sensors in combination with a protective device shall be installed in the motor circuits in such a way that operation of the PTC thermistors or KTY84-1... sensors leads to switching-off of the motor.

For use in the presence of combustible dust:

The degree of protection of at least IP6X to EN 60529 is only achieved if the certified cable entries and blanking elements provide a degree of protection of at least IP6X to EN 60529.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2140**

Issue No. 2

Routine tests

Each motor shall be subjected to the dielectric strength test of EN 60034-1 clause 8 using a voltage of 1000 V + twice the rated voltage with a minimum of 1500 V during 60 seconds or as an alternative voltage of 120% of (1000 V + twice the rated voltage) during 1 second between the windings under test and the frame of the motor, with the core and the windings not under test connected to the frame.

Motors rated more than 5kW are tested in accordance with EN 60034-1, clause 9.2, using a voltage of 120% of (1000 V + twice the rated voltage) during 3-5 seconds.

(16) **Test Report**

KEMA No. 210919000-5.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 210919000-5.

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 02ATEX2139** Issue Number: **2**

(4) Equipment: **Three-phases asynchronous cage motors series Sg 100... and KSSKg 100....**

(5) Manufacturer: **Fabryka Maszyn Elektrycznych Indukta SA**

(6) Address: **ul. M. Grazynskiego 22, 43-300 Bielsko-Biala, Poland**

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

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.

The examination and test results are recorded in confidential test report number 210919000-4.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2006
EN 61241-1 : 2004

EN 60079-7 : 2007

EN 61241-0 : 2006

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

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

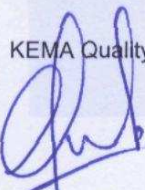
(12) The marking of the equipment shall include the following:



II 2 G Ex e II T4
II 2 D Ex tD T125 °C IP6X

This certificate is issued on 5 June 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.



C.G. van Es
Certification Manager

Page 1/3



© Integral publication of this certificate and adjoining reports is allowed. This Certificate may only be reproduced in its entirety and without any change.

KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 customer@kema.com www.kema.com Registered Arnhem 09085396

Experience you can trust.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2139**

Issue No. 2

(15) **Description**

Three-phases asynchronous cage motors series Sg 100... and KSSKg100....
Construction according to EC-Type Examination Certificate KEMA 02ATEX2135 U.

Ambient temperature range -40 °C ... +40 °C.

The maximum surface temperature of the connection housing is referred to the maximum ambient temperature of 40 °C.

Electrical data

Motor type	...g 100L-2-T4	...g 100L-4A-T4
Rated output (kW)	1,5	1,5
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	3,0	3,3
Rated frequency (Hz)	50	50
Power factor	0,91	0,83
Rated speed (rpm)	2900	1430
Insulation class	F	F
I_A/I_N	7,8	6,2
t_E for T4 (s)	5,5	10

Motor type	...g 100L-2-T4	...g 100L-4A-T4
Rated output (kW)	1,5	1,5
Rated voltage (V \pm 5 %)	400	400
Rated current (A)	3,0	3,3
Rated frequency (Hz)	50	50
Power factor	0,91	0,83
Rated speed (rpm)	2900	1430
Insulation class	F	F
I_A/I_N	7,8	6,2
t_E for T4 (s)	5,5	10

Any voltage from 190 V up to and including 690 V is allowed if the electrical and thermal load are equal to those of the tested motor (a lower or the same current- and flux density).

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX2139**

Issue No. 2

Installation instructions

The degree of protection of at least IP54 to EN 60034-5 is only achieved if certified cable entries and blanking elements for unused openings are used that are suitable for the application and correctly installed.

The motor shall be provided with a three-phases inverse-delay overload protective device that not only monitors the motor current but also disconnects the stalled motor within the above mentioned times t_E .

The motor shall only be used for continuous service, involving easy and infrequent starts which do not produce appreciable additional heating.

The built-in winding PTC thermistors (DIN 44 081 or 44 082 140 °C) or KTY 84-1... sensors in combination with a protective device shall be installed in the motor circuits in such a way that operation of the PTC thermistors or KTY84-1... sensors leads to switching-off of the motor.

For use in the presence of combustible dust:

The degree of protection of at least IP6X to EN 60529 is only achieved if the certified cable entries and blanking elements provide a degree of protection of at least IP6X to EN 60529.

Routine tests

Each motor shall be subjected to the dielectric strength test of EN 60034-1 clause 8 using a voltage of 1000 V + twice the rated voltage with a minimum of 1500 V during 60 seconds or as an alternative voltage of 120% of (1000 V + twice the rated voltage) during 1 second between the windings under test and the frame of the motor, with the core and the windings not under test connected to the frame.

Motors rated more than 5kW are tested in accordance with EN 60034-1, clause 9.2, using a voltage of 120% of (1000 V + twice the rated voltage) during 3-5 seconds.

(16) **Test Report**

KEMA No. 210919000-4.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 210919000-4.