



# IECEx Certificate of Conformity

Certificate No.: IECEx INE 14.0068X

Issue No.: 0

Page 1 of 8

Annexe: IECEx INE 14.0068X-00\_Annex.pdf

## **GENERAL DESCRIPTION**

Three-phase squirrel cage induction motors in flameproof enclosure type ASA and E2-ASA frame size 63 – 355; these motors get the Ingress protection IP66 according to EN/IEC 60034-5

The motors can be manufactured with two terminal boxes. When two terminal boxes are provided, the main terminal box is intended for motor supply, while the additional terminal box is intended for connecting the protective or monitoring devices.

In standard version the motors are design to ambient temperature range of -20°C to +40°C, however this range can be increase until -55°C to +60°C. This range can be limited depending on the certified component and/or equipment used.

The motors can use the certified components below :

Line bushing, types 07-91...-.../..., IECEx EPS 13.0045U; this component can be used for motor sizes up to 250 at ambient temperature -55°C to 60°C; and it can be used for motor sizes 280 to 355 at ambient temperature -30°C to +60°C (with cable bushing usable at pressure until 47,3 bar with minimum operating temperature at -55°C); and it can be used for motor sizes 280 to 355 at ambient temperature -40°C to +60°C (with cable bushing usable at pressure until 48,6 bar with minimum operating temperature at -60°C).

Conductor bushings, type 8174/...-...-...-..., IECEx PTB 06.0081U (IEC 60079-0 : 2004, IEC 60079-1 : 2001); this component is certified according to IEC 60079-0 Edition: 4.0 and IEC 60079-1 Edition: 5.0, however there is no applicable technical differences for this component. This component can be used for motor sizes up to 250, they are not usable for sizes over 250. Concerning the operating temperatures of this component, it depends on the type of cable used, a complete list is available on the CoC IECEx PTB 06.0081U.

Conductor sealing bushings type TP..., IECEx CES 10.0003U. This component can be used for motor sizes up to 250, they are not usable for sizes over 250. Concerning the operating temperatures of this component, it can be used for minimal ambient temperature of -50°C for standard version and of -20°C for bushings made of carbon steel.

Type MK 3 Range of Terminal Strips IECEx SIR 05.0036U (IEC 60079-0 : 2004, IEC 60079-7 : 2001); this component is certified according to IEC 60079-0 Edition: 4.0 and IEC 60079-7 Edition: 3.0, however there is no applicable technical differences for this equipment. This component is limited to a use at a minimal ambient temperature of -50°C.



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 14.0068X

Issue No.: 0

Page 2 of 8

Annexe: IECEX INE 14.0068X-00\_Annex.pdf

These motors can be produced in four designs :

1/ Standard motors types ASA and E2-ASA frame size 63-355 defined above. With ingress protection IP66.

2/ Motors used as forced ventilation unit types ASA-VF – and E2-ASA-VF :

The denomination of the motors with forced ventilation (cooling) is ASA-VF – motors with efficiency IE1, respectively E2-ASA-VF when the motors efficiency comply with IE2 requirements. Ingress protection IP66.

3/ Motors used with electromagnetic brake, types ASAF – and E2-ASAF, :

The denomination of the motors with electromagnetic brake is ASAF – motors with efficiency IE1, respectively E2-ASAF when the motors efficiency comply with IE2 requirements.

The flameproof motors frame size 63-280 can be fitted with VIS II spring-applied flameproof brakes, mounted on the drive-end side of the motor. The brake is an independent unit mounted on the drive-end motor flange, outside of motor flameproof enclosure.

The VIS II electromagnetic brakes are IECEX certified : IECEX INE 11.0037X

Ingress protection IP66, maximum ambient temperature range can be reduced in accordance with certificate IECEX INE 11.0037X:

-50°C to 55°C or 60°C for the electromagnetic brake type VIS II 63 to VIS II 200 (depending on temperature class, see certificate IECEX INE 11.0037X)

-20°C to 55°C or 60°C for electromagnetic brake type VIS II 250 and VIS II 280 (depending on temperature class, see certificate IECEX INE 11.0037X)

-20°C to 55°C for Group I



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 14.0068X

Issue No.: 0

Page 3 of 8

Annexe: IECEX INE 14.0068X-00\_Annex.pdf

4/ Motors used with encoders, types ASAen – and E2-ASAen :

The denomination of the motors with encoder is ASAen – motors with efficiency IE1, respectively E2-ASAen when the motors efficiency comply with IE2 requirements.

The flameproof motors frame size 132-355 can be fitted with IECEX certified flameproof encoders, mounted on the non-drive end side of the motor :

- Encoder type 8.7000\*\*\*, 8.7014\*\*\*, 8.7053\*\*\*, 8.7063\*\*\*, 8.7058\*\*\* and 8.7068\*\*\*, IECEX PTB 13.0026X.
- Encoder type 8.7100..., 8.7114..., 8.7153..., 8.7158..., 8.7163..., 8.7168..., IECEX IBE 14.0023X.
- Encoder type 8.71XX, IECEX IBE 15.0019X.
- Encoder type 8.70XX, IECEX IBE 15.0020X
- Encoder type REXM, IECEX ITS 10.0014X
- Encoder type 2REX, IECEX ITS 10.0015X
- Encoder \*\*\*78E Mining, IECEX ITS 15.0060X
- Encoder \*\*\*78E, IECEX ITS 15.0061X
- Encoder type GAUX or GEUX or NAUX or NEUX or CAUX or CEUX or PAUX or PEUX, IECEX LCIE 13.0030X

Ingress protection reduced to IP6X with encoders certified IECEX PTB 13.0026X, IECEX ITS 10.0014X, IECEX ITS 10.0015X and IECEX LCIE 13.0030X.

Ingress protection reduced at IP65 with encoders certified IECEX IBE 15.0020X or IECEX IBE 15.0019X

No Ingress protection with encoders certified IECEX IBE 14.0023X.

Maximum ambient temperature range reduced to -20°C to +40°C or -40°C to +60°C (see certificate IECEX PTB 13.0026X, IECEX IBE 14.0023X, IECEX IBE 15.0019X, IECEX IBE 15.0020X, IECEX ITS 10.0014X, IECEX ITS 10.0015X, IECEX ITS 15.0060X, IECEX ITS 15.0061X and IECEX LCIE 13.0030X for more details).



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 14.0068X

Issue No.: 0

Page 4 of 8

Annexe: IECEX INE 14.0068X-00\_Annex.pdf

## **PARAMETERS RELATING TO THE SAFETY**

Ratings :

- Motors :

Voltage : 500 V in case of frame sizes 63 - 90  
690 V in case of frame sizes 100 – 355

Power : 0,09 to 400 kW

Frequency: 50 Hz or 60 Hz

Speed : up to 3000 rpm

- The parameters relating to the safety are complemented by those described into the certificates of conformities of encoders and/or electromagnetic brake, when relevant.

## **MARKING :**

Marking has to be readable and indelible; it has to include the following indications:

**1 – For versions with junction box protected by flameproof enclosure, for group II, gas explosive atmosphere :**

- UMEB S.A
- 104A, Timisoara Blvd., district 6  
Bucharest, Romania
- ASA... or E2-ASA... (\*)
- IECEX INE 14.0068X
- (Serial number)
- Ex d IIC T5 or T4 or T3 Gb (\*\*)
- IP(\*\*\*)
- Tamb = (\*\*\*\*)
- **WARNING : DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT (\*\*\*\*\*)**



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 14.0068X

Issue No.: 0

Page 5 of 8

Annexe: IECEX INE 14.0068X-00\_Annex.pdf

## 2 – For versions with junction box protected by increased safety for group II, gas explosive atmosphere :

- UMEB S.A
- 104A, Timisoara Blvd., district 6  
Bucharest, Romania
- ASA... or E2-ASA... (\*)
- IECEX INE 14.0068X
- (Serial number)
- Ex d e IIC T5 or T4 or T3 Gb (\*\*)
- IP(\*\*\*)
- Tamb = (\*\*\*\*)
- **WARNING** : DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT (\*\*\*\*)

## 3 – For versions protected for group III, dust explosive atmosphere :

- UMEB S.A
- 104A, Timisoara Blvd., district 6  
Bucharest, Romania
- ASA... or E2-ASA... (\*)
- IECEX INE 14.0068X
- (Serial number)
- Ex tb IIIC T100°C or T135°C or T200°C Db (\*\*)
- IP(\*\*\*)
- Tamb = (\*\*\*\*)
- **WARNING** : DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT (\*\*\*\*)



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 14.0068X

Issue No.: 0

Page 6 of 8

Annexe: IECEX INE 14.0068X-00\_Annex.pdf

#### 4 – For versions with junction box protected by flameproof enclosure for group I :

- UMEB S.A
- 104A, Timisoara Blvd., district 6  
Bucharest, Romania
- ASA... or E2-ASA... (\*)
- IECEX INE 14.0068X
- (Serial number)
- Ex d I Mb
- IP(\*\*\*)
- Tamb = (\*\*\*\*)
- **WARNING** : DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT (\*\*\*\*\*)

#### 5 – For versions with junction box protected by increased safety for group I :

- UMEB S.A
- 104A, Timisoara Blvd., district 6  
Bucharest, Romania
- ASA... or E2-ASA... (\*)
- IECEX INE 14.0068X
- (Serial number)
- Ex d e I Mb
- IP(\*\*\*)
- Tamb = (\*\*\*\*)
- **WARNING** : DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT (\*\*\*\*\*)

Marking may be carried out in the language of the country of use.

The protective system or equipment has also to carry the marking normally stipulated by its construction standards.



# IECEx Certificate of Conformity

Certificate No.: IECEx INE 14.0068X

Issue No.: 0

Page 7 of 8

Annexe: IECEx INE 14.0068X-00\_Annex.pdf

(\*) ASA... and E2-ASA... for standard versions  
ASA-VF... and E2-ASA-VF... for versions with forced ventilation  
ASAF... and E2-ASAF... for versions with electromagnetic brake  
ASAen... and E2-ASAen... for versions with encoders  
The dots are replaced by a codification according to the manufacturing variations described in the manufacturer's documents.

(\*\*) :T5 (or T100°C) to T3 (or T200°C), in accordance with the table 8 of the manufacturer technical description TD 63 / 2015 Revision 0, and in accordance with the maximum class temperature of the encoders or electromagnetic brake when relevant.

Or

In case of motor for specific use, without cooling fan or motor in an air flow or motors designed to be supplied by frequency converter, the motors are fitted with thermal protection devices (PTC temperature sensor, Bimetallic thermal sensors or PT 100 (RTD) thermometric resistors) in the stator winding. With a view to keep the motor outside temperature within the values allowed by the temperature class, they are calibrated to cut off the motor supply at the winding temperature :

- maximum 90 °C for Group II motors with temperature class T5
- maximum 130 °C for motors Group II with temperature class T4
- maximum 150 °C for motors Group II with temperature class T3
- maximum 145 °C for Group I motors

In addition, the motors can be provided with thermistors or PT100 in the bearing sites, in order to disconnect the motor supply at maximum 90 °C for Group II motors with temperature class T5 and at maximum 120 °C for the other motors.

(\*\*\*) : IP66 or IP65 or IP6X or nothing depending on version of motor and certified equipment use.

(\*\*\*\*) : If different from -20°C to +40°C, in the range of -55°C to +60°C

(\*\*\*\*\*) :The warnings can be complemented by the warnings bellow :

In case of motors fitted with PTC, PT100, bimetallic sensors to ensure the temperature class:  
„WARNING – WINDING PROTECTED WITH PTC / PT100 / BIMETALLIC SENSORS”

In case of forced-ventilated motors supplied from frequency converters:  
„WARNING – START THE MOTOR ONLY AFTER THE FORCED VENTILATION UNIT”

In case of flameproof motors with electromagnetic brakes:  
„WARNING – DO NOT SUPPLY THE MOTOR IF THE BRAKE IS NOT ENERGISED”



# IECEx Certificate of Conformity

Certificate No.: IECEx INE 14.0068X

Issue No.: 0

Page 8 of 8

Annexe: IECEx INE 14.0068X-00\_Annex.pdf

In case of motors with paint thickness above 0.2 mm, for gas group IIC:  
„WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS”

### ROUTINE EXAMINATIONS AND TESTS

Each example of the terminal boxes protected by increased safety must have successfully passed before delivery a dielectric strength test carried out on each circuit of the equipment as specified in the relevant standards in accordance with § 7.1 of the IEC 60079-7 standard. The voltage being applied during one minute.

In accordance with § 16.1 of the IEC 60079-1 standard, each apparatus defined above must have successfully passed before delivery an overpressure test, of a period comprised between 10 and 60 seconds under the values of the tables below:

For Ex d Junction boxes :

	Up to Tamb min -20°C	Up to Tamb min -55°C
Size 80 up to Size 132	12,2 bars	17 bars
Size 160 up to Size 250	13 bars	15,5 bars
Size 280 up to Size 355	14,1 bars	18,5 bars

For Motor frame :

	Up to Tamb min -20°C	Up to Tamb min -55°C
Up to Size 71	14,1 bars	15,8 bars
Size 80 up to Size 132	11,8 bars	20 bars
Size 160 up to Size 250	13,7 bars	19,1 bars

	Up to Tamb min -20°C	Up to Tamb min -30°C	Up to Tamb min -40°C	Up to Tamb min -50°C	Up to Tamb min -55°C
Size 280 up to Size 355	33,15 bars	45,4 bars	48,1 bars	50,7 bars	52,2 bars