



1 UK Type Examination Certificate

2 **Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1**

3 Type Examination **TUV SUD 23 UKEX 000024 X** Issue: i01
Certificate No.:

4 Product Three-phase asynchronous electric motors DELPHI series

5 Manufacturer MOTIVE S.r.l.

6 Address Via Le Ghiselle, 20 – 25014 Castenedolo (BS) - ITALY

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

8 TÜV SUD BABT Unlimited, Approved Body no.0168 in accordance with Regulation 42 of the Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016/1107 (as amended) certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in schedule 1 of the regulations.

The examination and test results are recorded in confidential report no. TR-722305814 (Delphi)

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN IEC 60079-0:2018 EN IEC 60079-7:2015/A1:2018 EN 60079-31:2014

Except in respect of those requirements listed at section 18 of the schedule to this certificate.

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

11 This TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall include the following:



**II 2G Ex eb IIC T4 Gb
II 2D Ex tb IIIC T135°C Db**

Tamb: -20° +40 °C



Alternative marking for IE3 series

**II 2G Ex eb IIC T3 Gb
II 2D Ex tb IIIC T135°C Db**

Tamb -20 +50 °C

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Issue Date: 15/03/2023

TUV SUD BABT Unlimited
Approved Body N° 0168

Frank Zhu

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This certificate has been issued in accordance with the TÜV SÜD Testing and Certification Regulations
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13 SCHEDULE TO UK TYPE EXAMINATION CERTIFICATE

14 CERTIFICATE NUMBER: TUV SUD 23 UKEX 000024 X Issue: i01

Certificate History

Issue	Description	Report rev	Issue Date
i01	First issue	0	15/03/2023

[15] Description of equipment:

DELPHI series asynchronous three-phases electric motors with aluminium or cast iron case

2 poles type:

56x-2, 63x-2, 71x-2, 80x-2, 90x-2, 100x-2, 112x-2, 132x-2, 160x-2, 180x-2, 200x-2, 225x-2, 250x-2, 280x-2, 315x-2, 355x-2

4 poles type:

56x-4, 63x-4, 71x-4, 80x-4, 90x-4, 100x-4, 112x-4, 132x-47, 160x-4, 180x-4, 200x-4, 225x-4, 250x-4, 280x-4, 315x-4, 355x-4

6 poles type:

71x-6, 80x-6, 90x-6, 100x-6, 112x-6, 132x-6, 160x-6, 180x-6, 200x-6, 225x-6, 250x-6, 280x-6, 315x-6, 355x-6

8 poles type:

71x-8, 80x-8, 90x-8, 100x-8, 112x-8, 132x-8, 160x-8, 180x-8, 200x-8, 225x-8, 250x-8, 280x-8, 315x-8, 355x-8

The maximum ambient temperature can be 40°C or 50°C for IE3 Series with T3(200°C).

The motors are equipped inside of stator winding with thermal detectors for temperature control. Rating data are specified in the user manual.

The temperature monitoring device connected to the thermal protectors shall be ATEX certified to latest edition of the EN 50495

The thermal detectors are calibrated for an operation of:

- Max 130°C for temperature class T4/T135°C and T3/200°C

Rated characteristics

Characteristics	Value
Max Rated Voltage	720 V 50 Hz – 830 V 60 Hz
Poles number	2, 4, 6, 8
Max rated rotation speed	9000, 4500, 3000 2250 (56÷355)
Duty type	S1
Insulation class	F
Degree of protection	IP65
Ambient temperature	-20 / +40°C (-20 / +50°C)

Inverter supply:

Maximum working voltage: 720 V 50 Hz – 830 V 60 Hz

Maximum peak voltage: 2200 V

Frequency range: 0 ÷ 150 Hz

Maximum rated speed [rpm]: 9000, 4500, 3000 2250 (56÷355)

Duty: S1

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ALUMINIUM ASYNCHRONOUS THREE-PHASE MOTORS

2 poles			
KW	HP	voltage at 50Hz	Type
0,13	0,18	230/400	56B-2
0,18	0,25	230/400	63A-2
0,25	0,35	230/400	63B-2
0,37	0,5	230/400	63C-2
0,37	0,5	230/400	71A-2
0,55	0,75	230/400	71B-2
0,75	1	230/400	71C-2
0,75	1	230/400	80A-2
1,1	1,5	230/400	80B-2
1,5	2	230/400	80C-2
1,5	2	230/400	90S-2
2,2	3	230/400	90L-2
3	4	230/400	100L-2
4	5,5	230/400	100LB-2
4	5,5	230/400	112M-2
4	5,5	400/690	112M-2*
5,5	7,5	230/400	132SA-2
5,5	7,5	400/690	132SA-2*
7,5	10	230/400	132SB-2
7,5	10	400/690	132SB-2*
9,2	12,5	230/400	132MA-2
9,2	12,5	400/690	132MA-2*
11	15	400/690	132MB-2*

4 poles			
KW	HP	voltage at 50Hz	Type
0,06	0,09	230/400	56A-4
0,09	0,12	230/400	56B-4
0,13	0,18	230/400	63A-4
0,18	0,25	230/400	63B-4
0,25	0,35	230/400	63C-4
0,25	0,35	230/400	71A-4
0,37	0,5	230/400	71B-4
0,55	0,75	230/400	71C-4
0,55	0,75	230/400	80A-4
0,75	1	230/400	80B-4
1,1	1,5	230/400	80C-4
1,1	1,5	230/400	90S-4
1,5	2	230/400	90L-4
2,2	3	230/400	90LB-4
2,2	3	230/400	100LA-4
3	4	230/400	100LB-4
4	5,5	230/400	112M-4
4	5,5	400/690	112M-4*
5,5	7,5	230/400	112MB-4
5,5	7,5	230/400	132S-4
5,5	7,5	400/690	132S-4*
7,5	10	230/400	132M-4
7,5	10	400/690	132M-4*
9,2	12,5	230/400	132MB-4
11	15	400/690	132MC-4*

6 poles			
KW	HP	voltage at 50Hz	Type
0,18	0,25	230/400	71A-6
0,25	0,35	230/400	71B-6
0,37	0,5	230/400	80A-6
0,55	0,75	230/400	80B-6
0,75	1	230/400	90S-6
1,1	1,5	230/400	90L-6
1,5	2	230/400	100L-6
2,2	3	230/400	112M-6
3	4	230/400	132S-6
4	5,5	230/400	132MA-6
4	5,5	400/690	132MA-6*
5,5	7,5	230/400	132MB-6
5,5	7,5	400/690	132MB-6*

8 poles			
KW	HP	voltage at 50Hz	Type
0,13	0,18	230/400	71B-8
0,18	0,25	230/400	80A-8
0,25	0,37	230/400	80B-8
0,37	0,5	230/400	90S-8
0,55	0,75	230/400	90L-8
0,75	1	230/400	100LA-8
1,1	1,5	230/400	100LB-8
1,5	2	230/400	112M-8
2,2	3	230/400	132S-8
3	4	230/400	132M-8

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CAST IRON ASYNCHRONOUS THREE-PHASE MOTORS

2 poles			
KW	HP	voltage at 50Hz	Type
11	15	400/690	160MA-2
15	20	400/690	160MB-2
18,5	25	400/690	160L-2
22	30	400/690	180M-2
30	40	400/690	200LA-2
37	50	400/690	200LB-2
45	60	400/690	225M-2
55	75	400/690	250M-2
75	100	400/690	280S-2
90	125	400/690	280M-2
110	150	400/690	315S-2
132	180	400/690	315MA-2
160	215	400/690	315LA-2
200	270	400/690	315LB-2
250	335	400/690	355M-2
315	423	400/690	355L-2

4 poles			
KW	HP	voltage at 50Hz	Type
11	15,00	400/690	160M-4
15	20,00	400/690	160L-4
18,5	25,00	400/690	180M-4
22	30,00	400/690	180L-4
30	40,00	400/690	200L-4
37	50,00	400/690	225S-4
45	60,0	400/690	225M-4
55	75,00	400/690	250M-4
75	100,00	400/690	280S-4
90	120	400/690	280M-4
110	150,0	400/690	315S-4
132	180,0	400/690	315M-4
160	220	400/690	315LA-4
200	270	400/690	315LB-4
250	335	400/690	355M-4
315	423	400/690	355L-4

6 poles			
KW	HP	voltage at 50Hz	Type
7,5	10	400/690	160M-6
11	15	400/690	160L-6
15	20	400/690	180L-6
18,5	25	400/690	200LA-6
22	30	400/690	200LB-6
30	40	400/690	225M-6
37	50	400/690	250M-6
45	60	400/690	280S-6
55	75	400/690	280M-6
75	100	400/690	315S-6
90	125	400/690	315MA-6
110	150	400/690	315LA-6
132	180	400/690	315LB-6
160	220	400/690	355MA-6
200	270	400/690	355MB-6
250	335	400/690	355L-6

8 poles			
KW	HP	voltage at 50Hz	Type
4	5,5	400/690	160MA-8
5,5	7,5	400/690	160MB-8
7,5	10	400/690	160L-8
11	15	400/690	180L-8
15	20	400/690	200L-8
18,5	25	400/690	225S-8
22	30	400/690	225M-8
30	40	400/690	250M-8
37	50	400/690	280S-8
45	60	400/690	280M-8
55	75	400/690	315S-8
75	100	400/690	315M-8
90	125	400/690	315L-8
110	150	400/690	315LB-8
132	180	400/690	355MA-8
160	220	400/690	355MB-8
200	270	400/690	355L-8
250	335	400/690	355LB-8

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Warning label

“READ MANUAL FOR CONVERTER PARAMETERS”

[16] Test Report reference number: TR-722305814 (Delphi motor)

Routine Tests:

Dielectric test as for EN IEC 60079-7:2015/A1:2018 clause 7.1

[17] Specific Conditions of Use:

- Parameters for inverter are not written on the label on equipment. Read manual for Information
- The motors are equipped inside of stator winding with thermal detectors for temperature control. Rating data are specified in the user manual. The temperature monitoring device connected to the thermal protectors shall be ATEX certified to latest edition of the EN 50495

[18] Essential Health and Safety Requirements:

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports

[19] Drawings and Documents:

Listed documents (TUV ITALIA protocol no. 722228711 + 722305814)

Title:	Description:	Pages:	Rev:	Date:
-	Addendum DELPHI Ex	19	10	-
DELPHI	DELPHI Technical manual	81	21	-
DELPHI - Design Technical Data_Rev.00	DELPHI - Design Technical Data	2	-	-
-	Minimum distance windings	1	1	28/01/2021
-	DELPHI_dati_prestazionali	6	17	05/2020
80_DELPHI2	VISTA IN SEZIONE DELPHI 80	1	1	04/08/2020
160L_DELPHI	VISTA IN SEZIONE DELPHI 160L	1	1	04/08/2020
280S_DELPHI	VISTA IN SEZIONE DELPHI 280S	1	1	04/08/2020
-	INSULATION DISTANCE ON TERMINAL BLOCK FROM SIZE 56 TO 355	1	0	23/04/2010
-	Interasse terminali morsettiere da 56 a 132 motori Delphi 2	1	0	30/06/2013
3PNTER0160-280	Insulation distance on terminal block size 160 to 280	1	0	30/04/2010
-	Insulation distance on terminal block size 315/355	1	0	30/04/2010
3PNFCV00000056	56 FAN COVER	1	0	11/01/2007
3PNFCV00000080	80 FAN COVER	1	0	11/01/2007
3PNFCV00000090	FAN COVER SIZE 90S-90L	1	3	17/09/2012
3PNFCV00000132	FAN COVER 132S-132M	1	2	28/10/2007
3PNFCV00000180	Fan Cover Size 180	1	8	22/02/2017
3PNFCV00000225	Fan cover size225	1	7	22/07/2017

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3PNFCV0000028 0	Fan cover size280	1	7	22/02/2017
3PNFCV0000035 5	FAN COVER SIZE 355	1	1	14/09/2018
3PNBCB063- 80ATDC	BASE CONNECTION BOX ATDC 63-80	1	3	14/09/2018
3PNBCB90- 100ATDC	BASE CONNECTION BOX ATDC 90-100	1	1	26/11/2012
3PNBCB112- 132ATD	BASE CONNECTION BOX ATDC 112/132	1	1	26/11/2012
3PNCCB063- 80ATDC	COVER CONNECRION BOX ATDC 63-80	1	0	01/04/2008
3PNCCB90- 100ATDC	COVER CONNECRION BOX ATDC 90-100	1	0	05/05/2008
3PNCCB112- 132ATD	COVER CONNECTION BOX ATDC 112-132	1	0	14/01/2009
-	Conductive fan painting process	1	-	-
-	Stator Production Process	1	1	-

A copy of the full documentation is kept confidentially at TÜV SÜD.