



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

Certificate No.: IECEx UL 18.0081X

Issue No: 0

Certificate history:

[Issue No. 0 \(2018-08-02\)](#)

Status: **Current**

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Date of Issue: **2018-08-02**

Applicant: **ABB Oy, Motors and Generators**
Strömbergin Puistotie 5A
P.O. Box 633
65101 VAASA
Finland

Equipment: **Asynchronous Motors - M3GP, M3DP, M3BP, M3BN, M3LP Motors Frame Sizes 71 to 450**

Optional accessory:

Type of Protection: **Increased Safety "ec", Dust Ignition Protection by Enclosure "tc, tb"**

Marking:

Ex ec IIC T3...T1 Gc,

Ex tc IIIC T100°C...T150°C Dc or Ex tb IIIC T100°C...T150°C Db

-40°C to +60°C (71-132 Frame Sizes)

-55°C to +80°C (160-450 Frame Sizes)

*Approved for issue on behalf of the IECEx
Certification Body:*

Lucy Frieders

Position:

Staff Engineer

*Signature:
(for printed version)*

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:

UL LLC
333 Pfingsten Road
Northbrook IL 60062-2096
United States of America





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Manufacturer: **ABB Oy, Motors and Generators**
Strömbergin Puistotie 5A
P.O. Box 633
65101 VAASA
Finland

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 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 : 2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-31 : 2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7 : 2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

*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:

[US/UL/ExTR18.0093/00](#)

Quality Assessment Report:

[FR/LCI/QAR08.0003/09](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

These electric motors are made of cast iron with squirrel cage rotors, foot and/or flange mounted for horizontal and vertical mounting and with frame sizes from 71 to 450.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Please see Annex for Conditions of Use.



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Additional information:

Annex:

[Annex to IECEx UL 18.0081X Issue 0.pdf](#)



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TYPE DESIGNATION

Nomenclature for type M3xx series:

M3xx	80	M	A	4
I	II	III	IV	V

- I - M3GP – Ex ec / Ex t motor
M3DP – Ex t motor
M3BP – Ex ec / Ex t motor
M3BN – Increased safety Ex ec / Ex t NEMA - motor
M3LP – Ex ec / Ex t water cooled
- II - Shaft height according to IEC 60072
- III - Mounting dimensions according to IEC 60072
- IV - Output (active iron length)
- V - Number of poles

PARAMETERS RELATING TO THE SAFETY

Maximum Power	See Table I
Maximum rpm	3600
Number of poles	2,4,6,8
Duty Rating	S1,S2 to S8, or S10
Insulation Class	F, H
Temperature Rise Class	B, F
Voltage Ratings	190-1000
Frequency Ratings, Hz	50,60 or variable frequency
Number of Phases	3



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Table I				
Maximum Power Rating for S1,S2 Duty Rating in kW				
Frame Size	2 pole	4 pole	6 pole	8 pole
71	0,55	0,37	0,25	0,12
80	1,1	0,75	0,55	0,25
90	2,2	1,5	1,1	0,55
100	3	3	1,5	1,1
112	4	4	2,2	1,5
132	7,5	7,5	5,5	3
160	30	27	17	8,6
180	43	34	21	12,7
200	52	42	34	21
225	73	67	42	34
250	99	98	52	42
280	185	185	125	85
315	288	288	185	125
355	620	575	400	275
400	780	740	630	440
450	1000	1100	900	710

MARKING

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

		ABB Oy, Motors and Generators Strömbergin puistie 5 A 65320 Vaasa, Finland				
CE 0081 IE2 IEC 60034-1						
3-Motor M3GP 180MLB 4 IMB3/IM1001 (2) 2018						
Ex tb IIIC T125 Db (3)						
1234567-2 (4)		(5)				
No. 3G1F1234567891 (6)		Ins.cl. F IP 65				
V	Hz	kW	r/min	A	cos φ	Duty
690 Y	50	22	1474	24.3	0.82	S1
400 D	50	22	1474	4.2	0.82	S1
415 D	50	22	1476	4.17	0.80	S1
IE2-92.2%(100%)-92.3%(75%)-91.4%(50%) (10)						
Prod.code 3GGP182420-ADK (7)						
DEMKO 18 ATEX 2077 X / IECEx UL 18.0081X (8)						
Manual: 3GZF500730-47 (9)						
6310/C3 6310/C3 273 kg						
		IEC 60034-1				

		ABB Oy, Motors and Generators Strömbergin puistie 5 A 65320 Vaasa, Finland				
CE IE2 IEC 60034-1						
3-Motor M3GP 180MLB 4 IMB3/IM1001 (2) 2018						
Ex ec IIC T3 Gc / Ex tc IIIB T125 Dc (3)						
1234567-1 (4)		(5)				
No. 3G1F1234567890 (6)		Ins.cl. F IP 55				
V	Hz	kW	r/min	A	cos φ	Duty
690 Y	50	22	1474	24.3	0.82	S1
400 D	50	22	1474	4.2	0.82	S1
415 D	50	22	1476	4.17	0.80	S1
IE2-92.2%(100%)-92.3%(75%)-91.4%(50%) (10)						
Prod.code 3GGP182420-ADK (7)						
DEMKO 18 ATEX 2076 X / IECEx UL 18.0081X (8)						
Manual: 3GZF500730-47 (9)						
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ABB Oy, Motors Vaasa, Finland					
CONVERTER SUPPLY					
VALID FOR 380–415V FWP 50Hz					
3 ~ Motor					
No					
MIN. SWITCHING FREQ. FOR PWM CONV. 3 kHz					
$I = 1,5 \times I_n$ $t_{OL} = 10s$ $t_{cool} = 10min$					
DTC-CONTROL					
f [Hz]	5	20	45	50	60
T/Tn [%]	75	90	100	92	76
PWM-CONTROL					
f [Hz]	5	20	45	50	60
T/Tn [%]	70	85	95	87	71
PTC 150°C DIN 44081/-82					
ABB IEC 60034-1					

ROUTINE EXAMINATIONS AND TESTS

Each pieces of equipment defined above has to have successfully passed; before delivery:

- Routine dielectric strength tests according to IEC 60079-7 cl. 7.1 are required.



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SPECIFIC CONDITIONS OF USE

- The ambient temperature range for frame sizes 71 to 132 is -40°C to +60°C.
- The ambient temperature range for frame sizes 160 to 450 is -55°C to +80°C.
- Potential electrostatic charging hazard, see instructions.
- For Group III motors, drain holes must be closed.
- The manufacturer's instructions for use with a converter shall be followed.
- Where an auxiliary apparatus is fitted that is not covered by this certificate the installer and/or user, as appropriate, must ensure that it is suitable for the conditions of use and that it does not invalidate this certification.

The following additional previous editions of Standards noted under the "Standards" section of this certificate where applied to integral Components as itemized below. There are no significant safety related changes between these previous editions and the editions noted under the "Standards" section.	
Cable glands: Type C2, C6	IEC 60079-0:2011 Ed 6 IEC 60079-1:2007 Ed 6 IEC 60079-31:2008 Ed 1 IEC 60079-7:2006 Ed 4
Blanking Element VD07	IEC 60079-0:2011 Ed 6 IEC 60079-31:2013 Ed 2 IEC 60079-7:2015 Ed 5
Cable gland ADE	IEC 60079-0:2011 Ed 6 IEC 60079-1:2007 Ed 6 IEC 60079-15:2010 Ed 4 IEC 60079-31:2008 Ed 1 IEC 60079-7:2006 Ed 4
Stopping plug Ex d	IEC 60079-31:2013 Ed 2 IEC 60079-0:2007 Ed 5 IEC 60079-1:2007 Ed 6 IEC 60079-15:2005 Ed 3 IEC 60079-31:2008 Ed 1 IEC 60079-7: 2006 Ed 7
Aux. terminal box with terminals DTS Xbxxx(A)-yyy	IEC 60079-0:2011 Ed 6 IEC 60079-11:2006 Ed 5 IEC 60079-31:2008 Ed 1 IEC 60079-7:2006 Ed 4
PT 100 in winding	IEC 60079-0:2011 Ed 6 IEC 60079-7:2006 Ed 4
Cable conduit system XESX conduit and EXPQ/EXBQ fittings	IEC 60079-0:2011 Ed 6 IEC 60079-31:2008 Ed 1 IEC 60079-7: 2006 Ed 4
Anticondensation heater: RSV	IEC 60079-0:2011 Ed 6 IEC 60079-7:2006 Ed 4
Dome head stopping plug	IEC 60079-0:2011 Ed 6 IEC 60079-31:2008 Ed 1 IEC 60079-7:2006 Ed 4



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LIST OF CERTIFIED COMPONENTS

Components certificate	Type	Certificate
Cable glands: Type C2, C6	Ex e IIC Gb Ex tb IIIC Db	IECEx IMQ 14.0005X
Blanking Element VD07-xxxx	Ex eb IIC Gb Ex tb IIIC Db	IECEx VTT 15.0017X
Cable gland ADE	Ex db IIC Ex eb IIC Ex tb IIIC Ex db I Ex eb I	IECEx INE 12.0025X
Stopping plug Ex d	Ex d IIC Gb Ex e IIC Gb Ex d I Mb Ex e I MB	IECEx SIR 09.0131X
Aux Terminals: 264-120	Ex e IIC Gb	IECEx PTB 04.0003U
Aux. terminal box with terminals DTS Xbxxx(A)-yyy	Exe IIC Gb/ Ex tb IIIC Db	IECEx LCI 11.0046X
PT 100 in winding	Ex e II Gb	IECEx OBAC 15.0002U
Cable conduit system XESX conduit and EXPQ/EXBQ fittings	Ex e IIC Gb Ex tb IIIC Db	IECEx BAS 08.0001X
Anticondensation heater: RSV	Ex e II	IECEx SIR10.0151U
Dome head stopping plug	Ex db eb I Mb/ Ex db eb IIC Gb/ Ex tb IIIC Db	IECEx BAS 08.0108X