



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 INE 15.0060X Issue No: 1 Certificate history:
Status: **Current** Page 1 of 4 Issue No. 1 (2017-01-20)
Date of Issue: **2017-01-20** Issue No. 0 (2016-06-23)
Applicant: **PARKER HANNIFIN MANUFACTURING France SAS**
4 boulevard Eiffel
21604 LONGVIC
France
Equipment: **Servomotors type EX3, EX4, EX6 and EX8**
Optional accessory:
Type of Protection: **db and tb**
Marking:
Ex db IIB T4 Gb
Ex tb IIIC T135°C Db

Approved for issue on behalf of the IECEx
Certification Body:

Thierry HOUEIX

Position:

Ex Certification Officer

Signature:
(for printed version)



Date:

2017-01-20

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](http://www.iecex.com).

Certificate issued by:

INERIS
Institut National de l'Environnement Industriel
et des Risques, BP n2
Parc Technologique ALATA
France



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Manufacturer: **PARKER HANNINFIN MANUFACTURING France SAS**
4 boulevard Eiffel
21604 LONGVIC
France

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements

Edition:6.0

IEC 60079-1 : 2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"

Edition:7.0

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

Edition:2

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[FR/INE/ExTR15.0057/01](#)

Quality Assessment Report:

[FR/INE/QAR15.0006/01](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Parker EX3-EX4-EX6-EX8 servomotors are AC brushless electric motors.

Combined with servodrives, they provide a large number of diversified tasks : servo-controls, machines tools kinematic, accurate positioning, etc.

EX3 servomotors are available with a single active part of 45 mm.

EX4 servomotors are presented in 2 various sizes, EX420 with an active part of 52 mm and EX430 with an active part of 77 mm.

EX6 servomotors are presented in 2 various sizes, EX620 with an active part of 60 mm and EX630 with an active part of 90 mm.

EX8 servomotors are presented in 3 various sizes, EX820 with an active part of 60 mm, EX840 with an active part of 120 mm and EX860 with an active part of 180mm.

EX3-EX4-EX6 servomotors are available in a gas version or a gas/dust version, without brake or with a brake as option.

All size offer the ingress protection IP64 or IP65 according to IEC 60034-5 standard.

CONDITIONS OF CERTIFICATION: YES as shown below:

The gap and length of flameproof joints should be in accordance with those indicated in clause 4.4.1 of instructions.

The screws used for the assembly of the various parts of explosion-proof enclosures must have a yieldstress higher or equal to:

- 80 daN/mm² for EX3
- 70 daN/mm² for EX4 and EX6

- Minimal property class 12.9 for EX8



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

ISSUE 01:

Adding of new size : EX8

Possibility to paint the external frame (reference of paint : LECHLER LS182 + LS100)

Annex:

[IECEX INE 15.0060X-01_Annex.pdf](#)



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PARAMETERS RELATING TO THE SAFETY

EX3 servomotors:

Supply voltage of the associated servodrive	24V DC	48V DC	230V AC single-phase / three-phases	400V three-phases
Continuous supply voltage (V)	24±10%	48±10%	310±10%	550±10%
Output frequency (Hz)	0 to 700	0 to 700	0 to 700	0 to 700
Permanent current into one phase (Â/Arms)	17/12 Max	17/12 Max	7.5/5.3 Max	4/2.8 Max
Maximum current into one phase (Â/Arms)	34/24 Max	34/24 Max	15/10.6 Max	8/5.6 Max
Maximum permanent power of the motor (W)	250 Max	500 Max	1900 Max	1800 Max

EX4 servomotors:

Supply voltage of the associated servodrive	24V DC	48V DC	230V single-phase / three phases	400V three-phases
Continuous supply voltage (V)	24±10%	48±10%	310±10%	550±10%
Output frequency (Hz)	0 to 600	0 to 600	0 to 600	0 to 600
Permanent current into one phase (Â/Arms)	17/12 Max	17/12 Max	14/9.8 Max	8/5.6 Max
Maximum current into one phase (Â/Arms)	34/24 Max	34/24 Max	28/19.8 Max	16/11.3 Max
Maximum permanent power of the motor (W)	200 Max	400 Max	3400 Max	3400 Max



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EX6 servomotors:

Supply voltage of the associated servodrive	230V single-phase/ three-phases	400V three-phases
Continuous supply voltage (V)	310±10%	550±10%
Output frequency (Hz)	0 to 500	0 to 500
Permanent current into one phase (\hat{A} /Arms)	25/17.7 Max	16/11.3 Max
Maximum current into one phase (\hat{A} /Arms)	50/35.3 Max	32/22.6 Max
Maximum permanent power of the motor (W)	6000 Max	6000 Max

EX8 servomotors :

Supply voltage of the associated servodrive	230V single-phase/ three-phases	400V three-phases
Continuous supply voltage (V)	310±10%	550±10%
Output frequency (Hz)	0 to 500	0 to 500
Permanent current into one phase (\hat{A} /Arms)	100/70.7 Max	50/35.3 Max
Maximum current into one phase (\hat{A} /Arms)	200/141.4 Max	100/70.7 Max
Maximum permanent power of the motor (W)	10 000 Max	10 000 Max

Thermo-fuse triggering threshold: 130°C 0/-5°C

Thermo-switch triggering threshold: 125°C ± 5°C



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MARKING

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

- PARKER
- 4 bd Eiffel
FR-21600 Longvic
- EX3.. or EX4.. or EX6..or EX8..
- (Serial number)
- IECEx INE 15.0060X
- Ex db IIB T4 Gb
IP64 or IP65
- Ex tb IIIC T135°C Db
IP65
- T° amb: -20°C to (** see table below)
- T° cable: (* see table below)
- **WARNING: DO NOT OPEN WHEN ENERGIZED**
- U = ...V
I = ...A
- Protective equipment: Drive agreement with the technical documentation.
- For details on cable entries: Please refer to the technical manual

* T° cable:

Type	Without derating of the Maximum permanent power of the motor			With derating of -20% of the Maximum permanent power of the motor				With derating of -55% of the Maximum permanent power of the motor			
	Ta = 27°C	Ta = 32°C	Ta = 40°C	Ta = 35°C	Ta = 39°C	Ta = 41°C	Ta = 50°C	Ta = 45°C	Ta = 46°C	Ta = 49°C	Ta = 60°C
EX3	/	/	/	/	/	/	/	/	/	/	/
EX4	/	/	/	/	/	/	89°C	/	/	/	91°C
EX6	/	85°C	93°C	/	84°C	86°C	95°C	/	81°C	84°C	95°C
EX8	/	/	88°C	/	/	82°C	91°C	/	/	83°C	94°C

ROUTINE EXAMINATIONS AND TESTS

In accordance with clause 16.2 of the IEC 60079-1 standard, the equipment defined above is exempted of routine test in due to the fact it has undergone a static type test at 4 times the reference pressure under:

- EX3: 11.48 x 4 = 45.92 bar
- EX4: 11.95 x 4 = 47.80 bar
- EX6: 7.31 x 4 = 29.24 bar
- EX8: 36.78 x 4 = 147.12 bar