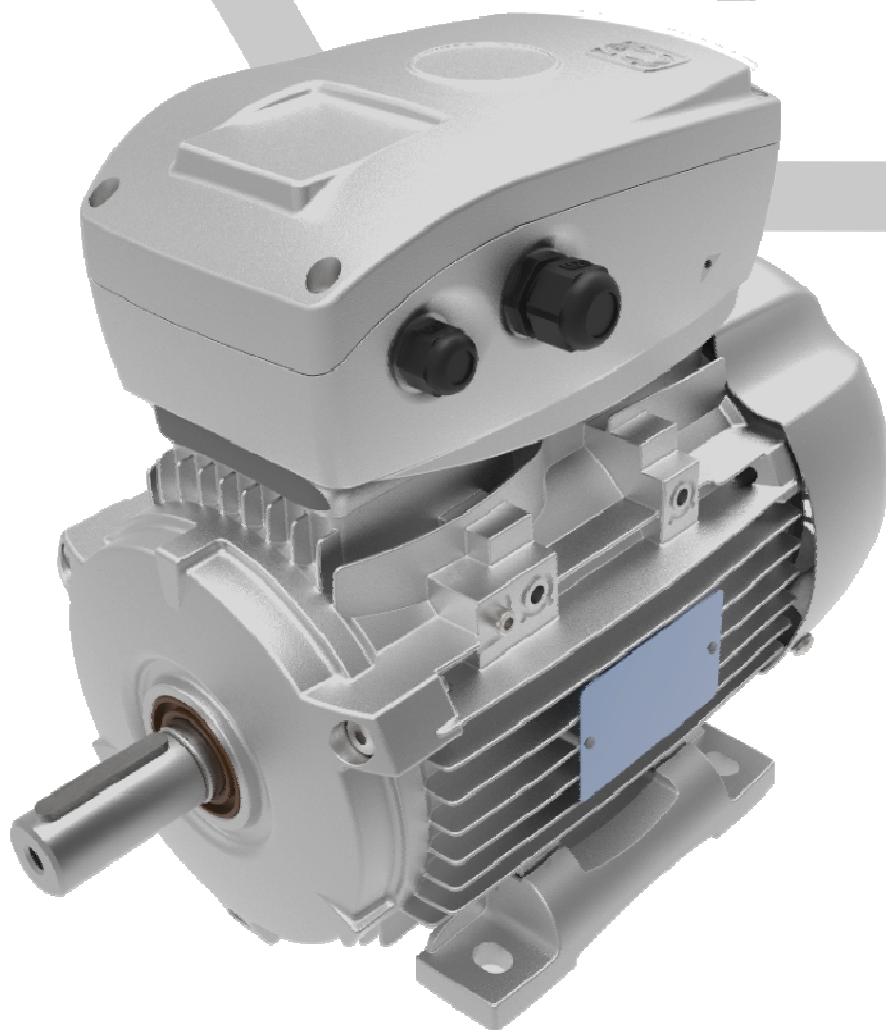


motive

manual addendum

# NANO EX





**II 2D Ex tb IIIC T135°C Db**  
**Tamb : -20 +40 °C**

### Reference list

Norm (last issue)	Title
Dir. 2014/34/UE	Equipment and Protective systems intended for use in Potentially Explosive Atmospheres. Safety requirements
EN 60079-31	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
EN60079-0	Explosive atmospheres - Part 0: Equipment - General requirements

### Field of application

The person authorized to do the work is responsible for the zones sharing.  
He must follow the norms EN 60079-31 and EN60079-14 (whenever their application is possible).

### Conformity declaration

The conformity declaration reported in this addendum, is the document that testifies the product conformity to the Directive 2014/34/UE.







The validity of such certificate is related to the respect of the instructions specified in the use and maintenance manual, together with the following additional instructions.

### Additional instructions

The present addendum instruction manual is relevant to the use of variable speed drives, equipped with electric motor (if included in the purchase agreement), suitable to be installed in an explosion danger area only dust 21-22 (ATEX) for what concerns the specific instructions for the electric motor, reference should be made to the relevant manual released by the manufacturer of the motor, which is enclosed to the instruction manual.

- All the equipment shall be properly earthed. The efficiency of the earth connections shall be checked in the final installation.
- All the electric motors and gearboxes shall be properly earthed. The efficiency of the earth connection shall be checked in the final installation.
- The User is responsible for a "verification dossier" to show compliance of electrical equipment and installations. Refer IEC EN 60079-14 Electric connections must exclusively be carried out by specialized and skilled staff in compliance with current standards; more specifically EN 60079-14 and EN 60079-17. Following the EN 60079-14 an armoured cable is necessary or other mechanical protection.
- The eventual dust deposits mustn't have a thickness > 5mm.

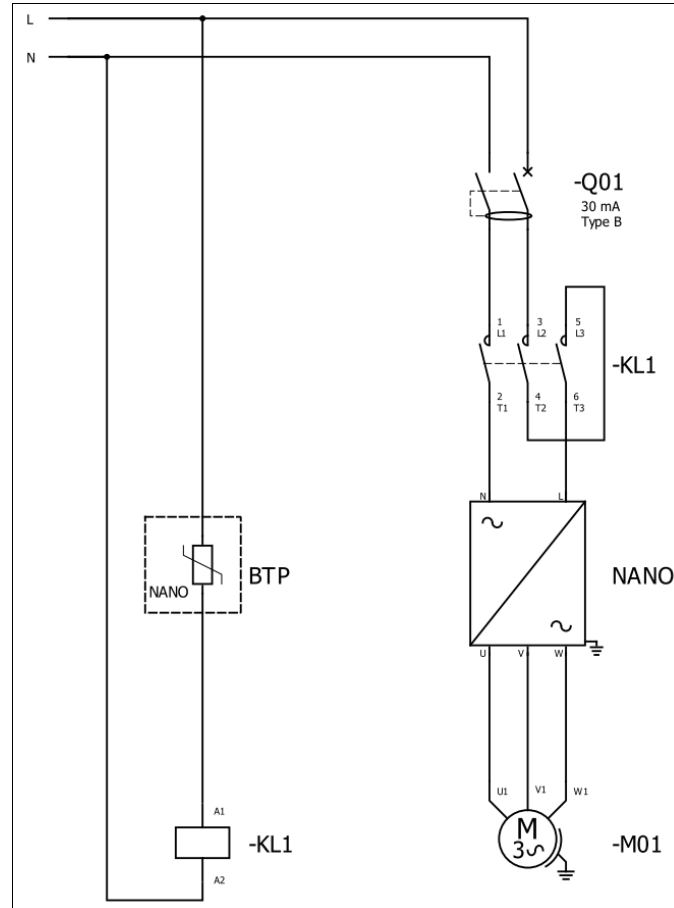
## External devices connection

	<p>AC single phase power supply</p>	<p>Use the power supply within the limits allowed by the inverter.</p>
	<p>▼ Earth leakage circuit breaker (differential)</p>	<p>Automatic differential switch with <math>I_{\Delta n}=30\text{mA}</math>, <b>type B</b>. Type B differential switches are recommended for use with drives and inverters, since they recognize a continuous fault current with a low ripple rate.</p>
	<p>▼ Line contactor</p>	<p>Useful to switch off the power supply if commanded by a safety circuit. Not to be used to start the system. Type AC1.</p>
	<p>▼ Protection fuses</p>	<p>A fuse is a protection against short circuits. Instead, a magneto-thermal switch would be an overload protection based on absorbed current, but this protection is already incorporated in NANO Ex.</p>
	<p>▼ Line choke (Reactor)</p>	<p>Useful for improving the power factor limiting the harmonics in line, or in the vicinity of large power systems (transformation cabins). Compulsory when the distance between motor and inverter (see wall mounting system) is higher than 50mt.</p>
	<p>▼ Motoinverter</p>	<p>The direct connection with the motor cancels the need for shielded cables compared to a conventional inverter. In case of using NANO Ex not on board, use shielded cables and, if the distance to the motor exceeds 25mt, use a reactor in series.</p>

- The breaking short circuit devices paired with this range must be at least 10KA, if installed in public power grid. When connecting to a power grid from a transformer substation dedicated, you must know the value declared by the supplier of the line and use suitable equipment.

- It's mandatory, for the category 2D/3D, connect the bimetallic temperature probe [BTP) to an external protection device upstream (for example a power line contactor) that switches off the inverter to avoid overheating of it which could generate improper use.

This probe has two terminals for connection located inside the inverter.



### Grounding connections

- Yellow/green ground wire of the main supply cable to connect to one of four screws used to fix the inverter to the motor.
- Ensure ground connection of the motor inverter with total resistance of less than 100 milliohm.

### Warnings labels

- To clean with wet or antistatic cloth only.
- Do not open IP65 boxes when energized.

## PECULIAR FEATURES OF NANO Ex VARIABLE SPEED DRIVES



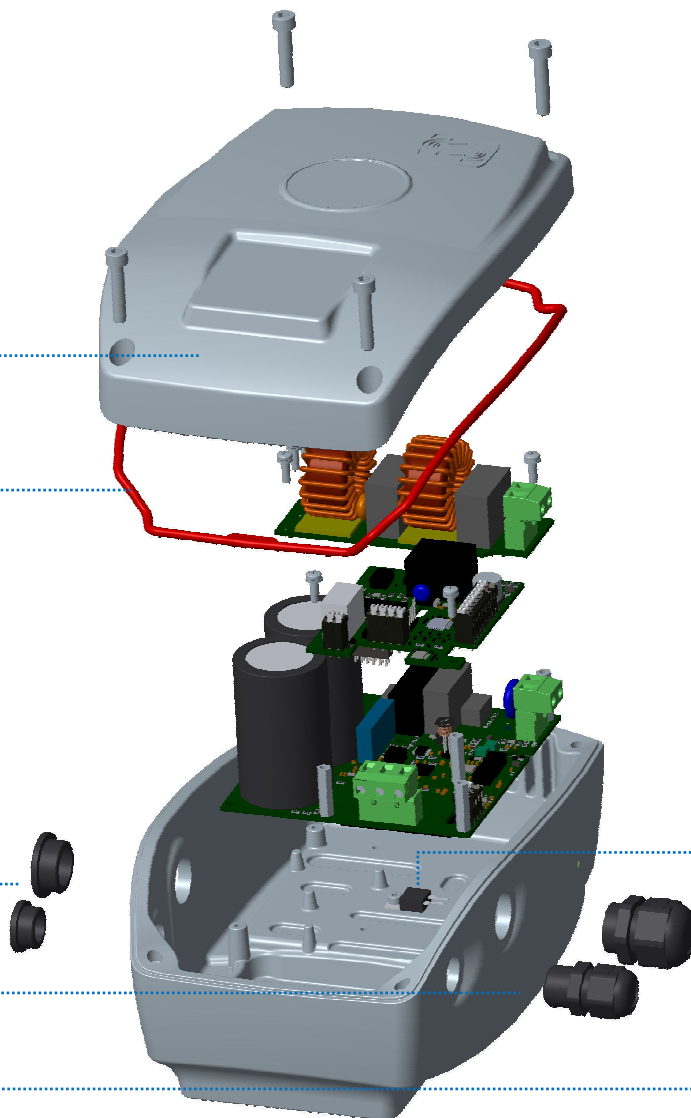
User manual + addendum

Limited surface temperature

Dust exclusion IP65 with silicon shock absorbing gasket

Certified anti-pulling cable glands and caps

Bimetallic temperature probe (only for category 2D)



## PLATE

Producer's mark



**motive**

Via Le Ghiselle 20 - Castenedolo (BS)  
www.motive.it



2 6 3 2

Notified Body Number

MADE IN ITALY

Type denomination

**NANO-2.2kW**

Electrical characteristics

$V_{IN} = 1X (115-240) Vac$   
 $f_{IN} = 50/60 Hz$   
 $I_{1max} = 10A$



II 2D Ex tb IIIC T135°C Db  
Tamb : -20 +40 °C

Protection against dust

IP65

Year of manufacture : 2019

Production year



N° 1905N01911

Serial number

## NANO Ex CLASSIFICATION

For DUST **D**

<b>CE</b>	<b>Ex</b>	<b>II</b>	<b>2</b>	<b>D</b>	<b>Ex</b>	<b>tb</b>	<b>IIIC</b>	<b>T135°C</b>	<b>Db</b>
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

①	CE marking
②	ATEX code for prevention of explosion
③	Surface industries
④	An area where explosive atmospheres may be present, in the form of a flammable cloud of dust in the air, during normal operations (Zone 21)
⑤	Protection against dust combustion
⑥	Explosion protection: International
⑦	Enclosure protection
⑧	For non-conductive dust such as flour, grain, wood and plastic
⑨	Maximum surface temperature of 135°C
⑩	Extended level of protection in flammable dust atmospheres



**Motive s.r.l.**  
Via Le Ghiselle, 20  
25014 Castenedolo (BS)  
Tel.: +39 030 2677087  
Fax: +39 030 2677125  
motive@motive.it  
www.motive.it

## Declaration of EU Conformity

Motive srl based in Castenedolo (BS) - Italy

declares as manufacturer, under its own exclusive responsibility, that its range of variable speed drives:

### NEO, NANO

complies with the following directives and standards:

- EC Directive **2014/34/EU**: concerning “*equipment and Protective systems intended for use in Potentially Explosive Atmospheres*”

Marking:



**II 2D Ex tb IIIC T135°C Db**  
**Tamb=-20 +40 °C**

**Certificate Number (edit by ALBARUBENS, Notified Body Number 2632): AR19ATEX067**  
**System Certificate Number (edit by TÜV Italia, Notified Body Number 0948): TÜV IT 21 ATEX 021 Q**

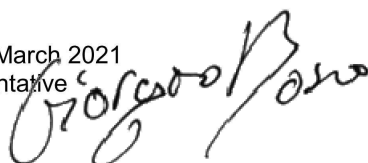
as in accordance to the European Standards:

- **EN IEC 60079-0:2018** Explosive atmospheres – Part 0: Equipment – General requirements
- **EN 60079-31:2014** Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t”

The machines are supplied without electrical connections to the control panels or any pneumatic and hydraulic supply connections.

It is therefore forbidden to use them until the plant into which they are incorporated has been declared as compliant with the provisions of the Machinery Directive **2006/42/EC** and Directive **2014/34/EU** and plant's analysis was not done as compliant with Directive **99/92/EC**.

Castenedolo, 19<sup>th</sup> March 2021  
The legal Representative







your value certified

albarubens



Notified Body n. 2632  
Organismo Notificato n. 2632

1

[1]

## EU-TYPE EXAMINATION CERTIFICATE

CERTIFICATO DI ESAME UE DEL TIPO

2

[2] **ELECTRICAL EQUIPMENT Intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU-ATEX Annex III/Module B**  
APPARECCHIO ELETTRICO Inteso per l'uso in Atmosfera Potenzialmente Esplosiva - Direttiva 2014/34/EU-ATEX Annex III/Module B

[3] **EU-TYPE EXAMINATION CERTIFICATE n.:** **AR19ATEX067**  
CERTIFICATO DI ESAME UE DEL TIPO n.:

[4] **ELECTRICAL EQUIPMENT:** **NEO series Variable Frequency Drives:**  
APPARECCHIO ELETTRICO: **NEO 3KW - NEO 4KW - NEO 5.5KW - NEO 11KW - NEO 22KW**

**NANO series Variable Frequency Drives:**  
**NANO 0.75kW - NANO 2.2kW**

[5] **MANUFACTURER:** **Motive srl**  
CONSTRUTTORE:

[6] **ADDRESS:** **Via Le Ghiselle, 20**  
INDIRIZZO: **25014 Castenedolo (BS) - ITALY**

[7] **This ELECTRICAL EQUIPMENT and any variation is specified in the schedule to this certificate and the documents therein referred to.**  
Questo APPARECCHIO ELETTRICO e le varianti sono descritte nell'allegato al presente certificato e nei documenti ivi richiamati.

[8] **Albarubens srl, Notified Body No. 2632, in accordance with Article 17 of the Directive 2014/34/EU-ATEX of the European Parliament and of the Council, dated 26 February 2014, certifies that this ELECTRICAL EQUIPMENT 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 Annex II to the Directive.**

**The examination and test results are recorded in confidential report MOD 7.4.1 - ID: 3635**

Albarubens srl, Organismo Notificato n. 2632, in conformità all'art. 17 della Direttiva 2014/34/UE-ATEX del Parlamento Europeo e del Consiglio, datata 26 Febbraio 2014, certifica che questo APPARECCHIO ELETTRICO è conforme ai Requisiti Essenziali di Sicurezza e Salute per il progetto e la fabbricazione di prodotti destinati ad essere utilizzati in atmosfere potenzialmente esplosive, definiti nell'Allegato II della Direttiva. I risultati dell'esame e dei test sono descritti nel rapporto confidenziale MOD 7.4.1 - ID: 3635

[9] **Compliance with the Essential Health and Safety Requirements has been assured by compliance with the technical standards:**  
La conformità ai Requisiti Essenziali di Sicurezza e Salute è assicurata dalla conformità alle norme tecniche:

**EN 60079-0:2012+A11:2013 - EN 60079-31:2014**

**except in respect of those requirements listed at item 18 of the Schedule.**  
tranne nel caso dei requisiti elencati al punto 18 dell'Allegato.

[10] **If the symbol 'X' is placed after the certificate number, it indicates that the ELECTRICAL EQUIPMENT is subject to the Specific Conditions of Use specified in the next chapter 17.**

Il simbolo 'X', se presente dopo il numero di certificato, indica che questo APPARECCHIO ELETTRICO è soggetto a Condizioni Speciali per l'Uso, specificate nel seguente punto 17.

[11] **This EU-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified ELECTRICAL EQUIPMENT. Further requirements of the Directive apply to the manufacturing process and supply of product. These are not covered by this certificate.**

Questo CERTIFICATO DI ESAME UE DEL TIPO è relativo soltanto al progetto ed alla costruzione di questo APPARECCHIO ELETTRICO. Ulteriori requisiti di questa Direttiva si applicano al processo di fabbricazione e fornitura di questo prodotto. Questi requisiti non sono oggetto del presente certificato.

[12] **The marking of the ELECTRICAL EQUIPMENT shall include the following:**  
Questo APPARECCHIO ELETTRICO deve riportare i seguenti contrassegni:

**II 2D Ex tb IIIC T135°C Db**  
**Tamb: -20 +40 °C**

Saronno (Italy), 21 Jun 2019

3



PRD N° 257 B

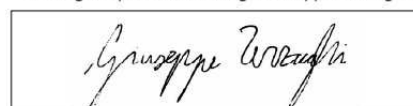
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC  
Signatory of EA, IAF and ILAC Mutual Recognition Agreements



Digital signature

Giuseppe Terzaghi  
Firmato digitalmente da  
Giuseppe Terzaghi  
Data: 2019.06.24  
16:30:36 +02'00'

**ALBARUBENS srl**  
The legal representative: ing. Giuseppe Terzaghi



Verify validity and authenticity of this certificate on the website: <https://www.albarubens.it/authentication.php> (Password: NFPIH9)

4

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JOB: 19/0079 - ID: 3635

Albarubens srl - Via G. Ferrari 21/N - 21047 Saronno (VA) - Italy - Reg. VA-286283 - Tax code IT 02767050129 - Paid-up capital €100.000,00  
[www.albarubens.it](http://www.albarubens.it) - [info@albarubens.it](mailto:info@albarubens.it) - tel: +39 02 96248530 - fax: +39 02 700523656 - Document automatically generated by the Albarubens WebApp 1.87





Italia

# NOTIFICATION

- [1] **PRODUCT QUALITY ASSURANCE NOTIFICATION**  
 [2] **Equipment or Protective System or Component intended for use in potentially explosive atmospheres Directive 2014/34/EU**

[3] Notification number:

**TÜV IT 21 ATEX 021 Q**

[4] Equipment or Component as listed: Electric Motor, Frequency Converter

Protection concepts: "e" and "t"

[5] Manufacturer: MOTIVE S.r.l.  
Via Le Ghiselle, 20  
I-25014 Castenedolo (BS) - ITALIA

[6] Sites audited: identical

[7] TÜV Italia, notified body no. 0948 in accordance with the Council Directive 2014/34/EU of 26 February 2014, notifies that the manufacturer has a product quality assurance system which complies to Annex VII of the Directive.

[8] This notification is based on audit report no. R 21 EX 015 issued on 02.03.2021

This notification can be withdrawn if the manufacturer no longer satisfies the requirement of Annex VII.

Results of periodical re-assessment of the quality system are a part of this notification.

[9] This notification is valid until <01.03.2024> and can be withdrawn if the Manufacturer does not satisfy the production quality assurance re-assessment.

[10] According to Article 16 paragraph 3 of the Directive 2014/34/EU the CE marking shall be followed by the identification no. 0948 identifying the notified body involved in the production control stage.

This notification may only be reproduced in its entirety and without any change.

First issue date: 26.03.2021

Issue date: 26.03.2021



PRD N° 081B

Membro degli Accordi di Mutuo Riconoscimento  
EA, IAF e ILAC  
Signatory of EA, IAF and ILAC Mutual  
Recognition Agreements



**TÜV Italia S.r.l.**  
**Notified Body N° 0948**


  
**Alberto Carelli**

**Industry Service - Real Estate & Infrastructure**  
**Managing Director**

TÜV Italia has been authorized by Italian government to operate as notified body for the certification of equipment or protective system intended for use in potentially explosive atmospheres. This document is not valid without official signature and logo. The internal reference code is 72223318

page 1 of 2

PEX-01-M011\_r10 del 07/08/2018

TÜV Italia • Gruppo TÜV SÜD • Via Carducci 125, Pal. 23 • 20099 Sesto San Giovanni (MI) • Italia • www.tuvsud.com/it 

CERTIFICAT

CERTIFICADO

СЕРТИФИКАТ

認證證書

CERTIFICATE

ZERTIFIKAT