

## Specification for Approval

Product Name: 320W Linear Non-isolated Driver

Product Model: N7-320M260A12 ☒  
N7-320V260 ☒

Rev: A.1

Address: XiLiSongbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China

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Web Site: <http://www.mosopower.com>

| Prepared By | Checked By | Approved By |
|-------------|------------|-------------|
|             |            |             |

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| CUSTOMER AUTHORIZED SIGNATURE                                                   |            |             |
|---------------------------------------------------------------------------------|------------|-------------|
| Tested By                                                                       | Checked By | Approved By |
|                                                                                 |            |             |
| (Company seal)Return one copy to MOSO with approved signature and company seal. |            |             |

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## Description

The N7 series is specifically designed for industrial lighting applications, non-isolated design, operating in constant current with high power factor and a universal input voltage range of 90~305Vac. With 0-10V/PWM/ resistance dimming. The compact housing and high efficiency allow the drivers to operate with high reliability, while featuring input surge, output over voltage, short circuit and over temperature protection.



## Product Features

- Universal input voltage: 90~305Vac;
- Constant current design, Efficiency up to 96%;
- 3-in-1 dimmable: 0~10V / PWM / Resistor;
- Output and dimming signal isolating;
- Dim-to-off without afterglow (optional);
- Standby Power Consumption: <0.5W;
- High surge protection: DM: 6KV, CM: 10KV;
- 12V/0.2A auxiliary power supply (optional);
- Protections: SCP / OVP / OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty.

## Application

Linear high bay light  
 Flood light  
 Wall light  
 Shoebox light

## Models

| Model Number                 | Input Voltage Range (Vac) | MAX Output Power (W) | Output Voltage Range (Vdc) | Output Current Adjustable Range (A) | Default Current(A) | Eff. (Typ.) <sup>[2]</sup> | PF(Typ.) | THD(Typ.) |
|------------------------------|---------------------------|----------------------|----------------------------|-------------------------------------|--------------------|----------------------------|----------|-----------|
| N7-320M260A12 <sup>[1]</sup> | 90~305                    | 320                  | 180~260                    | 1.04~1.48                           | 1.33               | 96%                        | 0.97     | 10%       |
| N7-320V260                   | 90~305                    | 320                  | 180~260                    | 1.04~1.48                           | 1.33               | 96%                        | 0.97     | 10%       |

Notes:

[1]. Afterglow standard, without afterglow (optional);

[2]. All specifications are measured at 25°C ambient temperature, input voltage 230Vac, and the typical value tested at full load, if no specific note.

## Input Specifications

| Parameter                       | Min    | Typ.    | Max    | Notes                                                 |
|---------------------------------|--------|---------|--------|-------------------------------------------------------|
| Input Voltage Range             | 90Vac  | -       | 305Vac |                                                       |
| Rated Input voltage             | 100Vac | -       | 277Vac | Refer to Output Power vs. Input Voltage Curve         |
| Input Frequency AC              | 47Hz   | 50/60Hz | 63Hz   |                                                       |
| Max Input Current               | -      | -       | 3.8A   | 120Vac & 100% load                                    |
| Max Input Power                 | -      | -       | 380W   | 120Vac & 100% load                                    |
| Leakage Current                 | -      | -       | 0.70mA | IEC 60598-1; 240Vac/50Hz                              |
| Leakage Current                 | -      | -       | 0.75mA | UL 8750; 277Vac/60Hz                                  |
| Inrush Current                  | -      | -       | 100A   | 230Vac, 100% load                                     |
| Standby Power Consumption       | -      | -       | 0.5W   | 230Vac, dimming off and auxiliary source without load |
| Power Factor (PF)               | 0.90   | 0.97    | -      | 120-277Vac, 50/60Hz, 80%-100% load                    |
| Total Harmonic Distortion (THD) | -      | 10%     | 20%    | 120-277Vac, 50/60Hz, 80%-100% load                    |
| MCB(B16)                        | -      | 4       | -      | 230Vac; 100%load                                      |

## Output Specifications

| Parameter                           | Min    | Typ. | Max    | Notes                                                                                      |
|-------------------------------------|--------|------|--------|--------------------------------------------------------------------------------------------|
| Output Voltage Range                | 180Vdc | -    | 260Vdc |                                                                                            |
| Open Circuit Voltage                | -      | -    | 310Vdc |                                                                                            |
| Output Current Range                | 1.04A  | -    | 1.48A  | Adjustable output current with potentiometer                                               |
| Full Power Current Range            | 1.23A  | -    | 1.48A  | $P=U_o \times I_o=320W$ , 100%load                                                         |
| Current Accuracy                    | -8%    | -    | +8%    |                                                                                            |
| Total Output Current Ripple (pk-pk) | -      | 10%  | 15%    | 20MHz BW full load & LED load the LED load ripple is slightly different for different LEDs |
| Startup Overshoot Current           | -      | -    | 10%    | 120-277Vac full load condition, LED load                                                   |
| Auxiliary Source Output Voltage     | 10.8V  | 12V  | 13.8V  |                                                                                            |
| Auxiliary Source Output Current     | -      | -    | 200mA  |                                                                                            |
| Line Regulation                     | -5%    | -    | +5%    | 25°C±10°C ambient temperature, input changes from 120Vac to 277Vac                         |
| Load Regulation                     | -5%    | -    | +5%    | Load varies from 70% to 100% with 230Vac Input at 25°C±10°C ambient temperature            |
| Turn-on Delay Time                  | -      | -    | 1.0s   | 120-277Vac, 100% load                                                                      |

## General Specifications

| Parameter                      | Min                                             | Typ.      | Max   | Notes                                                                                         |
|--------------------------------|-------------------------------------------------|-----------|-------|-----------------------------------------------------------------------------------------------|
| Efficiency@120Vac              | 92%                                             | 93.5%     | -     | 100% load, No load of auxiliary source                                                        |
| Efficiency@230Vac              | 93%                                             | 95%       | -     | 100% load, No load of auxiliary source                                                        |
| Efficiency@277Vac              | 93%                                             | 96%       | -     | 100% load, No load of auxiliary source                                                        |
| Mean Time Between Failure      | -                                               | 200Khours | -     | 25°C±10°C ambient temperature , 230Vac , 80% load condition (MIL-HDBK-217/SR-332)             |
| Lifetime                       | -                                               | 50Khours  | -     | 230Vac & 100% load, Tc 80°C , refer to lifetime vs. case temperature curve                    |
| Operating Temperature Ta       | -40°C                                           | -         | +50°C |                                                                                               |
| Operating Tc for Safety Tc_s   | -40°C                                           | -         | +90°C |                                                                                               |
| Operating Tc for Warranty Tc_w | -40°C                                           | -         | +80°C | 5-year warranty shell temperature, humidity: 10% to 95% RH                                    |
| Storage Temperature Ta         | -40°C                                           | -         | +85°C | Humidity: 5% to 100% RH                                                                       |
| Altitude                       | -60m                                            | -         | 4000m |                                                                                               |
| Over Temperature Protection Tc | 90°C                                            | 95°C      | 100°C | Decreases output current, returning to normal after over temperature is removed.              |
| Short Circuit Protection       | -                                               | -         | 15W   | Constant current mode. The output shall return to normal when the fault condition is removed. |
| Dimensions (L*W*H)             | 207*68*37mm                                     |           |       |                                                                                               |
| Net Weight                     | 970±50g/PCS                                     |           |       |                                                                                               |
| Package (L*W*H)                | 502*372*222mm; 15PCS/Ctn., Gross Weight: 16.3Kg |           |       |                                                                                               |

## Dimming

| Parameter                     | Min                    | Typ.  | Max                   | Notes                          |
|-------------------------------|------------------------|-------|-----------------------|--------------------------------|
| Absolute Maximum Voltage      | -                      | 10V   | 15V                   | On the Vdim (+) Pin            |
| Source Current on Vdim (+)Pin | -                      | 100uA | 200uA                 |                                |
| Dimming Range                 | 10% I <sub>o max</sub> | -     | 100% I <sub>set</sub> | I <sub>set</sub> = 1.04A-1.48A |
| Suggest Dimming Input 0-10V   | 0V                     | -     | 10V                   |                                |
| Turn-on Voltage               | 1.0V                   | -     | 1.3V                  |                                |
| Turn-off Voltage              | 0.6V                   | -     | 1.0V                  |                                |
| PWM in High Level             | 9.7V                   | -     | 10.3V                 |                                |
| PWM in Low Level              | 0V                     | -     | 0.3V                  |                                |
| PWM in Frequency Range        | 1KHz                   | -     | 2KHz                  |                                |
| PWM in Duty Cycle             | 1%                     | -     | 99%                   |                                |
| Turn-on Duty Cycle            | 10%                    | -     | 13%                   |                                |
| Turn-off Duty Cycle           | 6%                     | -     | 10%                   |                                |
| Resistor Range                | 0                      | -     | 100KΩ                 |                                |

## Safety Specification

| Parameter                             | Min  | Typ.    | Max  | Notes                                                 |
|---------------------------------------|------|---------|------|-------------------------------------------------------|
| Dielectric Strength ( Input-Ground )  | -    | 1600Vac | -    | 60s , Current not exceeding 5mA                       |
| Dielectric Strength ( Input-Dimming ) | -    | 3000Vac | -    | 60s , Current not exceeding 5mA                       |
| Grounding Resistance                  | -    | -       | 0.1Ω | 25°C±10°C Ambient Temperature, pass 25A Current, 60s. |
| Insulation Resistance                 | 10MΩ | -       | -    | Input-PE, 500Vdc/60s/25°C                             |

## Safety Compliance

| Safety Category | Standards                        | Approved | Notes |
|-----------------|----------------------------------|----------|-------|
| CCC             | GB19510.1,GB19510.14             | √        |       |
| CE              | EN61347-1, EN61347-2-13, EN62493 | √        |       |
| ENEC            | EN61347-1, EN61347-2-13, EN62384 | √        |       |
| CB              | IEC61347-1, IEC61347-2-13        | √        |       |
| BIS             | IS 15885(PART 2/SEC 13)          |          |       |
| UL              | UL 8750                          | √        |       |
| CUL             | CSA C22.2 No.250.13              | √        |       |
| KC              | K61347-1, K61347-2-13            |          |       |
| PSE             | J61347-1, J61347-2-13            |          |       |
| SAA             | AS/NZS IEC 61347.2.13            | √        |       |
| SAA             | AS/NZS 61347.1                   | √        |       |

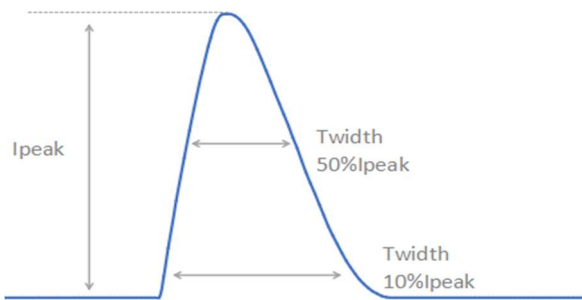
## EMC Compliance

| EMC Category         | Standards                  | Approved | Notes |
|----------------------|----------------------------|----------|-------|
| CCC                  | GB/T 17743, GB 17625.1     | √        |       |
| CE                   | EN 55015                   | √        |       |
| CE                   | EN 61000-3-2, EN 61000-3-3 | √        |       |
| CE                   | EN61000-4-2,3,4,5,6,11     | √        |       |
| CE                   | EN 61547                   | √        |       |
| KC                   | K61547                     |          |       |
| KC                   | K00015                     |          |       |
| PSE                  | J55015                     |          |       |
| FCC                  | FCC part 15                | √        |       |
| Surge Shock Immunity | ANSI/C82.77-5-2017         |          |       |
|                      | IEC/EN 61000-4-5           |          |       |
| Ringing Wave         | IEC/EN 61000-4-12          |          |       |
|                      | ANSI/IEEE C62.41.2         |          |       |

## RoHS

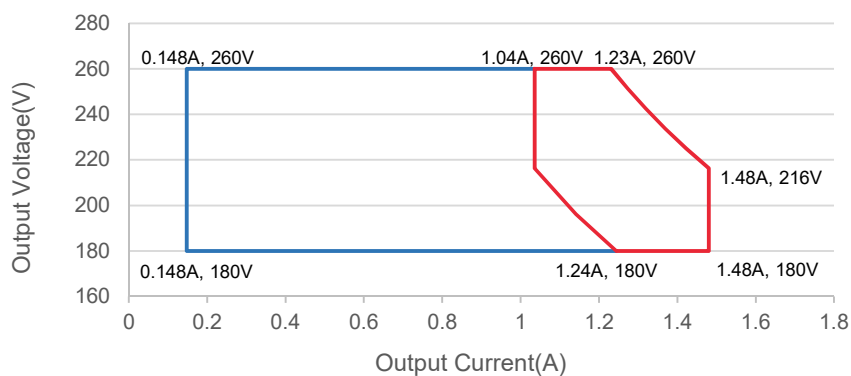
Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

## Inrush Current



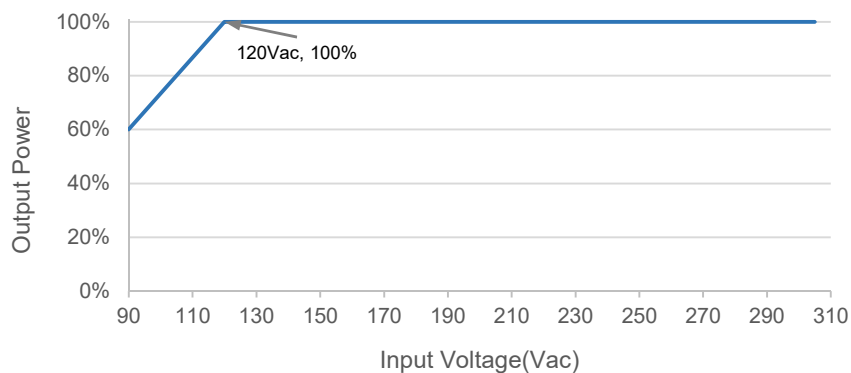
| $V_{in}$ | $I_{peak}$ | $T(@10\% \text{ of } I_{peak})$ | $T(@50\% \text{ of } I_{peak})$ |
|----------|------------|---------------------------------|---------------------------------|
| 230Vac   | 50A        | 1120 $\mu$ s                    | 560 $\mu$ s                     |

## Output Voltage vs. Output Current

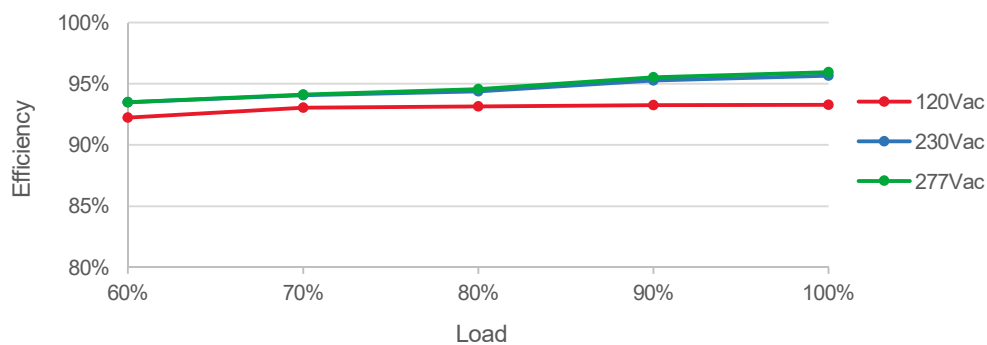


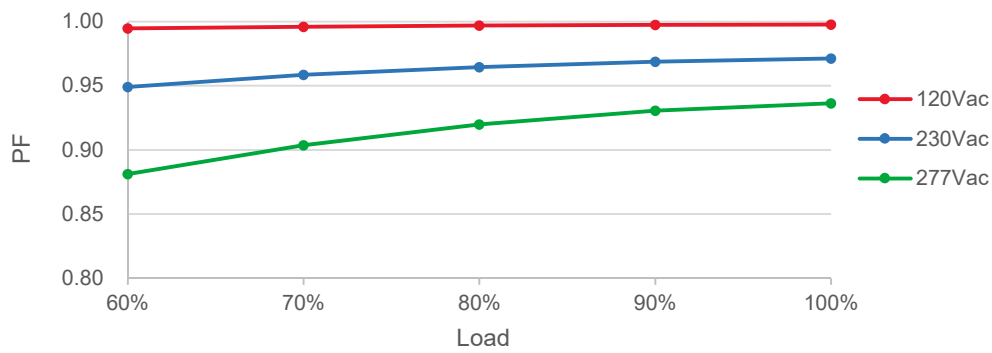
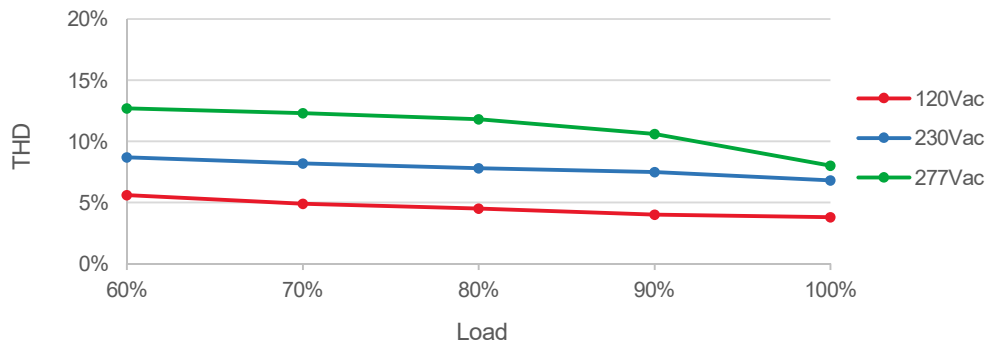
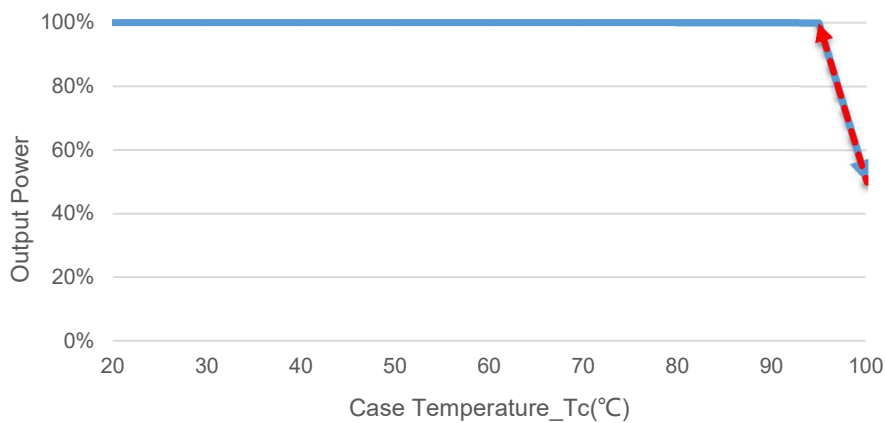
Red curve: good performance area

## Output Power vs. Input Voltage

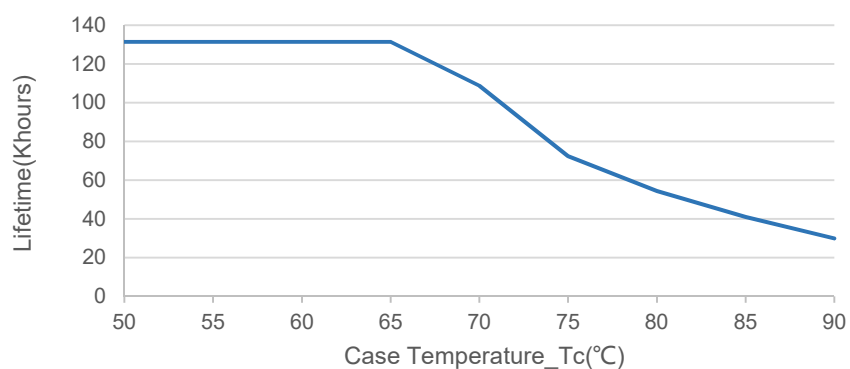


## Efficiency vs. Load

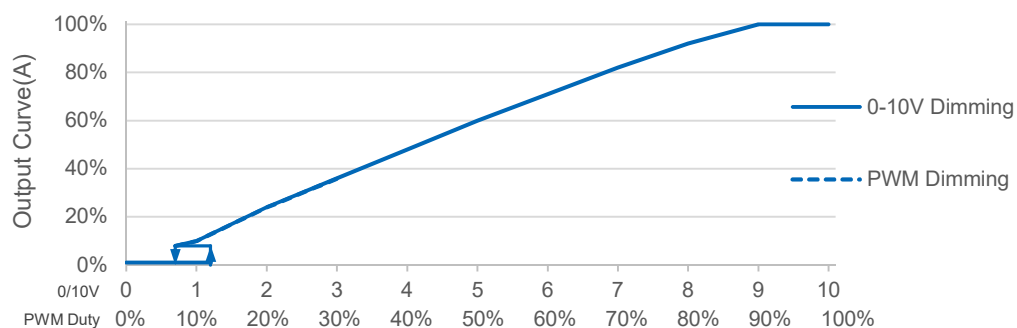


**PF vs. Load****THD vs. Load****Output Power vs. Case Temperature**

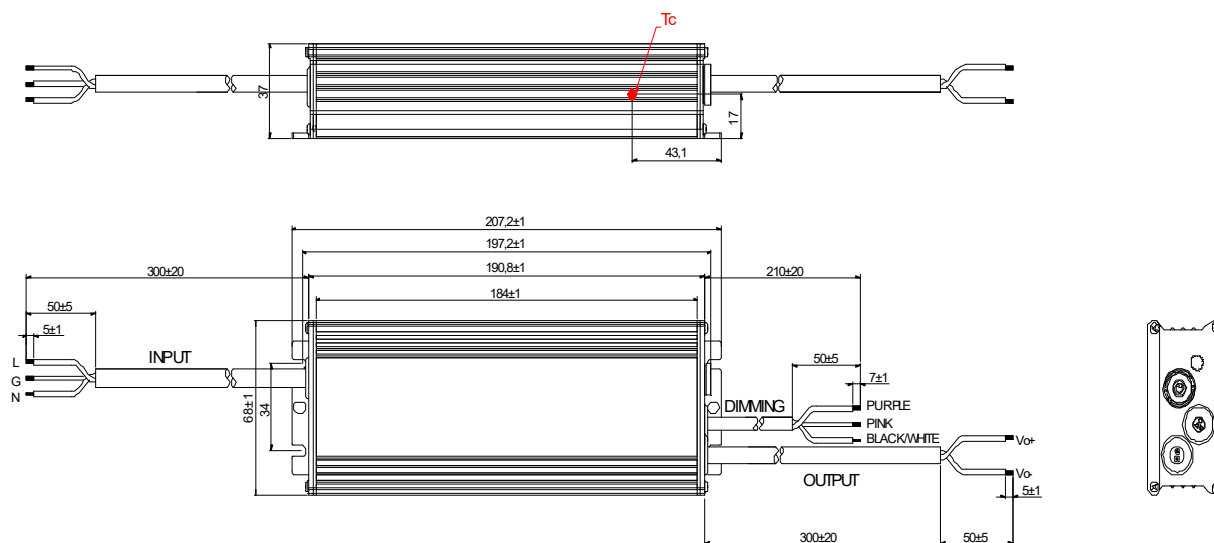
## Lifetime vs. Case Temperature



## 0-10V/PWM Dimming



## Mechanical Outline



## Specification

|             |                                                                            |                  |
|-------------|----------------------------------------------------------------------------|------------------|
| Input       | CCC+VDE 3x1.0mm <sup>2</sup> L=300±20mm L: Brown, N: Blue, G: Yellow/Green | CCC/CE           |
|             | UL SJOW 18AWG*3C L=300±20mm L: Black, N: White, G: Green                   | UL               |
| Output      | CCC+VDE 2x1.0mm <sup>2</sup> L=300±20mm Vo+: Brown, Vo-: Blue              | CCC/CE           |
|             | UL SJOW 18AWG*2C L=300±20mm Vo+: Red, Vo-: Black                           | UL               |
| Dimming&12V | UL 21996 22AWG*3C L=210±20mm DIM+:Purple, DIM-:Pink, 12V+:Black/White      | UL(for A12model) |

Version

|     |               |            |
|-----|---------------|------------|
| A.1 | First release | 2023-07-12 |
|     |               |            |
|     |               |            |
|     |               |            |
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