

Configuration of Valid Continuous Axis Current

Drives of type MDD 2000 can be used flexibly in various applications. To increase flexibility in applications with uneven distribution of the required continuous axis currents, it is possible to configure them differently from the default split. The parameter A-ICONT offers the option of configuring the permissible continuous axis current in milliamperes. The setting of the continuous axis current is limited by the following conditions:

- A-ICONT is less than or equal to the permissible peak current of the axis (maximum peak current defined by drive size / drive type).
- A-ICONT is less than or equal to the maximum current for which an IGBT power loss is defined.
- The sum of the IGBT power losses of all axes linked to A-ICONT values (incl. special value "-1") is less than the permitted total depending on drive size / drive type ($P_{\text{tot,maxD}}$).

Linear interpolation is used between the interpolation points in the following tables. The permissible limit values for each drive type are shown below, together with some example configurations for clarification.

Example Configurations

Three valid combinations of axle endurance currents are presented to illustrate this. The data used is shown in the tables in the following sections.

Drive Size 1-3 A/5 A/8 A Combination

A MDP2100-DDD-00 device is to be used for a three-axis application in which one axis significantly exceeds the typical continuous axis current.

- The highest continuous axle current (8 A) is less than the maximum peak current (15 A) of the device.
- The highest continuous axle current (8 A) is less than the maximum value in the power loss table (12 A).
- The sum of the power losses is less than 240 W. $P_{\text{tot}} = 54.3 \text{ W} + 73.0 \text{ W} + 103.8 \text{ W} = 231.1 \text{ W}$.

Drive Size 1-4 A/4 A/6 A Combination

A MDP2100-DDD-03 device is to be used for a three-axis application as a replacement for an MDD 100 device with two axes with 4A continuous current. A third axis, which was previously controlled with its own drive with 6 A continuous current, is also to be controlled with the MDD 2000.

- The highest continuous axis current (6 A) is less than the maximum peak current (15 A) of the device.
- The highest continuous axle current (6 A) is less than the maximum value in the power loss table (12 A).
- The sum of the power losses is less than 240 W. $P_{\text{tot}} = 63.4 \text{ W} + 63.4 \text{ W} + 82.9 \text{ W} = 209.7 \text{ W}$.

Drive Size 2-12 A/12 A/6 A Combination

A MDP2200-DDD-03 device is to be used for a three-axis application. Two axes have an increased continuous current requirement of 12 A, the third axis only requires 6 A continuous current.

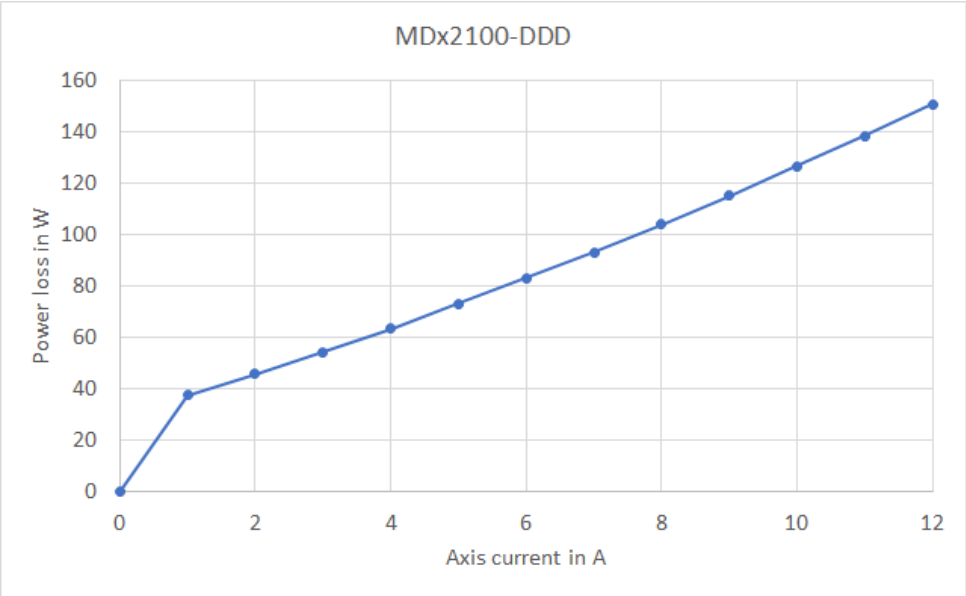
- The highest continuous axis current (12 A) is less than the maximum peak current (30 A) of the device.
- The highest continuous axis current (12 A) is less than the maximum value in the power loss table (18 A).
- The sum of the power losses is less than 480 W. $P_{\text{tot}} = 177.8 \text{ W} + 177.8 \text{ W} + 111.8 \text{ W} = 467.4 \text{ W}$.

Power Loss Tables

MDx2100-DDD-xx

The specified data applies to the following BG1 devices MDP2100-DDD-xx and MDD2100-DDD-xx. For devices of this type, the maximum power loss of the overall device is $P_{\text{tot,maxD}} = 240 \text{ W}$. The maximum peak current is 15 A.

continous axis current in Milliampere	power loss in Watt
0	0
1000	37.4
2000	45.6
3000	54.3
4000	63.4
5000	73.0
6000	82.9
7000	93.1
8000	103.8
9000	114.9
10000	126.4
11000	138.3
12000	150.7

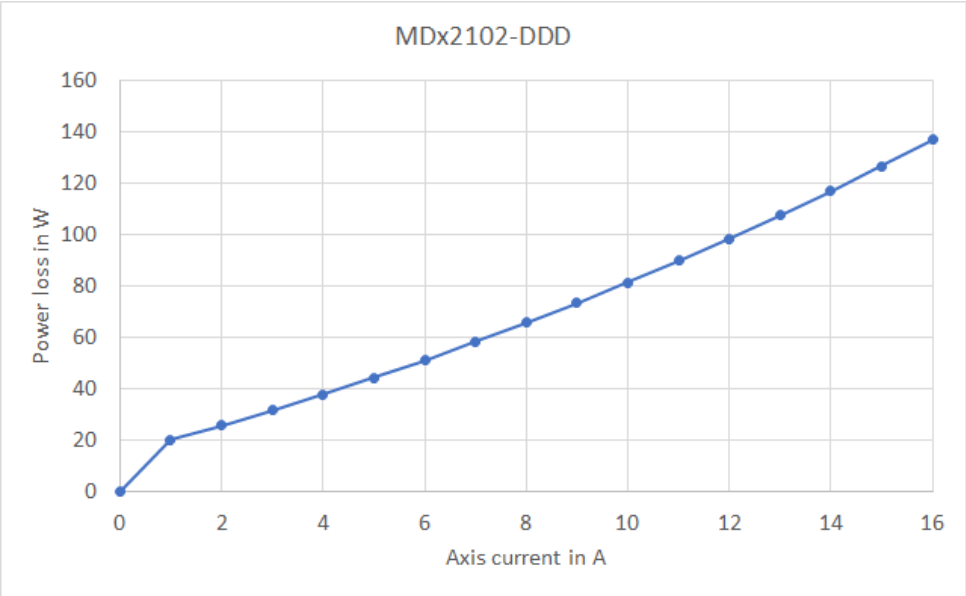


MDx2102-DDD-xx

The specified data applies to the following BG1 devices MDP2102-DDD-xx. For devices of this type, the maximum power loss of the overall device is $P_{\text{tot,maxD}} = 240 \text{ W}$. The maximum peak current is 15 A.

continous axis current in Milliampere	power loss in Watt
0	0
1000	20.3
2000	25.7
3000	31.5
4000	37.7
5000	44.3
6000	51.1

7000	58.2
8000	65.6
9000	73.3
10000	81.3
11000	89.7
12000	98.4
13000	107.4
14000	116.8
15000	126.6
16000	136.7



MDx2200-HHH-xx

The specified data applies to the following BG2 devices MDP2200-HHH-xx. For devices of this type, the maximum power loss of the overall device is $P_{\text{tot,maxD}} = 480 \text{ W}$. The maximum peak current is 30 A.

continous axis current in Milliampere	power loss in Watt
0	0
1000	62.8
2000	72.0
3000	81.6
4000	91.4
5000	101.5
6000	111.8

8000	133.1
10000	155.3
12000	177.8
14000	200.8
16000	224.6
18000	249.4

