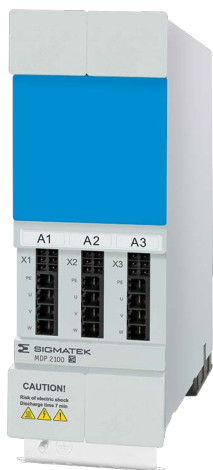


DIAS Drive

MDD 2000



The DIAS-Drive 2000 series contains the power/axis modules and axis modules for a power input voltage of 230/400/480 V AC. The system is currently available in 2 different sizes.

In the power/axis modules (MDP), as well as the axis modules (MDD), up to 3 servo amplifiers are integrated. With a power/axis module, several axis modules can be powered.

The DIAS-Drive 2000 is a complete servo drive system for the low to mid power range, which can also be used for applications high control performance. It is completely integrated into the LASAL design environment.

Available Models

Short Description	Type	Safety	Universal Encoder	UL Certified	Article Number
MDP2100-D-01	Power/axis module with 1 x 5/15 A	yes	yes	cULus	09-83-100-D-01
MDP2100-D-00	Power/axis module with 1 x 5/15 A	yes	no	cULus	09-83-100-D-0
MDP2102-DDD-03	Power/axis module with 3 x 7/15 A (230 V)	yes	yes	designed acc. to UL	09-83-102-DDD-03
MDP2100-DDD-03	Power/axis module with 3 x 5/15 A	yes	yes	cULus	09-83-100-DDD-03
MDD2100-DDD-03	Axis module with 3 x 5/15 A	yes	yes	cULus	09-84-100-DDD-03
MDP2200-L-01	Power/axis module with 1 x 20/60 A	yes	yes	designed acc. to UL	09-83-200-L-01
MDP2200-HHH-03	Power/axis module with 3 x 10/30 A	yes	yes	cULus	09-83-200-HHH-03
MDD2200-HHH-03	Axis module with 3 x 10/30 A	yes	yes	cULus	09-84-200-HHH-03
MDP2100-DDD-00	Power/axis module with 3 x 5/15 A	yes	no	cULus	09-83-100-DDD-00

MDP2200-HHH-00	Power/axis module with 3 x 10/30 A	yes	no	cULus	09-83-200-HHH-00
MDD2100-DDD-00	Axis module with 3 x 5/15 A	yes	no	cULus	09-84-100-DDD-00

DC-link Circuit

Module	MDP 2102	MDP/MDD 2100	MDP/MDD 2200	MDP/MDD 2300*
Intermediate circuit nominal voltage	1.3 kW 2.6 kW for 10 s	4 kW 8 kW for 10 s	9 kW 18 kW for 10 s	18 kW 36 kW for 10 s
Intermediate circuit nominal voltage	325 V			
Maximum DC-link voltage	430 V			
DC-link capacitance	1320 µF	330 µF (MDP) 495 µF (MDD)	660 µF	1155 µF
Maximum nominal DC-link current	4 A	7.1 A	16 A	t.b.d.

+24 V Auxiliary Voltage

Module	MDP/MDD 210X	MDP/MDD 2200	MDP/MDD 2300*
Rated input voltage	+24 V		
Input voltage range	+22-30 V SELV/PELV		
Current consumption per module	1 A + brake current		
Input capacitance	1 mF		
Maximum current via BCB	20 A		
Maximum cable length	30 m		

Axis/Motor Connection

Module	MDP/MDD 2100 MDP 2102	MDP/MDD 2200	MDP/MDD 2300*
Switching frequency	8 kHz		
Derating	2.5 %/°C over 45 °C (axis current and DC-link power are affected)		
Maximum output frequency	599 Hz		
Maximum cable length	30 m		
Module	Maximum number of drives	Continuous current/peak current for 1 s per axis	Maximum total current
MDP 2102	3	7/15 A	15 A
MDP2100-D-0x	1	5/15 A	5 A
MDP/MDD 2100	3	5/15 A	15 A
MDP/MDD 2200	3	10/30 A	30 A
MDP 2200-L-0x	1	20/60 A	20 A
MDP/MDD 2300*	3	A1: 30/90 A A2: 22/66 A	45 A

* in preparation

Safe/Capture Inputs

Type	Safe input (Input 1-4)	Capture input (Input 5-6)
Number	6	
Rated input voltage:	+24 V	
Input voltage range	+18-30 V	
Signal level	low: ≤ +5 V	low: ≤ +5 V, high ≥ +15 V
Switching threshold	typically +11 V	
Input current	typically 3.6 mA at +24 V	
Input delay	typically 0.5 ms at +24 V	typically 3 μs at +24 V

* in preparation

Signal Output for Cross-Circuit Detection

Module	MDP/MDD 210X	MDP/MDD 2200	MDP/MDD 2300*
Number	1x signal A per module 1x signal B per module		
Rated output voltage	+24 V		
Output voltage range	+22-30 V		
Output current	maximum 100 mA		
Short-circuit proof	yes		

Encoder Interface

Module	MDP/MDD 210X	MDP/MDD 2200	MDP/MDD 2300*
On-board	Maximum amount	3	
	Type	Hiperface DSL	
	Connection type	Single cable solution	
	Power supply	12 V	
Optional	Maximum amount	3	
	Type	Resolver/Sin-Cos/TTL/Hiperface/EnDAT 2.1/Tamagawa/BiSS-C	
	Voltages	5 V (with Remote Sensing)/9 V	
	Maximum cable length	30 m	

Power Supply

Modules	MDP 2102	MDP 2100	MDP 2200	MDP 2300*
Rated supply voltage	1x 230 V AC	3x 400 V AC		
Supply voltage range	1x 230 V AC ±10 %	3x 380-480 V AC ±10 %		
Over voltage category	III			
Power supply frequency	45-65 Hz			
Rated connection load	2.8 kVA	8.5 kVA	17.25 kVA	27.6 kVA
Input current	12 A	12 A	25 A	40 A
Inrush current	maximum 15 A	maximum 35 A		maximum 45 A
Neutral point	grounded			
Maximum permissible short-circuit current	5 kA			
Net	TN-S, TN-C-S (with grounded star point) IT (on request)			
Integrated power filter in compliance with EN 61800-3, category C3	yes			
Maximum fuse	Circuit breaker 16 AC characteristic (UL: Circuit Breaker UL 489 15 A)	Circuit breaker 25 A C Characteristic (UL: Circuit Breaker UL 489 25 A)		t.b.d.
	Fuse gG (gL) 16 A (UL: Class CC 15 A)	Fuse gG (gL) 25 A (UL: Class CC 25 A)		t.b.d.

Ballast Resistance

Module	MDP 2102	MDP 2100	MDP 2200	MDP 2300*
Internal braking resistor value	yes (25 Ω)			yes (20 Ω)
Peak output int./ext.	7.4 kW/12.3 kW	28.9 kW/28.9 kW	28.9 kW/36.1 kW	37 kW/48.1 kW
Continuous output int./ext.	50 W/500 W		200 W/1000 W	400 W/2000 W
Minimum permissible braking resistance (ext.)	15 Ω	25 Ω	20 Ω	15 Ω
Overload protection	yes			
Short circuit protection	yes			
Ground fault protection	no			
Maximum cable length	3 m			

Communication

Module	MDP/MDD 210X	MDP/MDD 2200	MDP/MDD 2300*
Bus	VARAN		

* in preparation

Motor Holding Brake

Module	MDP/MDD 210X	MDP/MDD 2200	MDP/MDD 2300*
Maximum continuous current	1.5 A		
Overload and short-circuit protection	yes		
Low-voltage monitor	yes		
Cable break monitor	yes		
Braking voltage reduction	yes (12-24 V)		

Mechanics

Module	MDP/MDD 210X	MDP/MDD 2200	MDP/MDD 2300*
Cooling	Air, cold-plate in preparation		
Backplane	none required		
Mounting position	vertical, hanging		
Clearance above and below	at least 3 cm		
Fan	yes, exchangeable		
Dimensions (W x H x D)	75 x 242 x 219 mm	150 x 242 x 219 mm	225 x 242 x 219 mm
Weight	3 kg	5.2 kg	7.2 kg

* in preparation

Environmental Conditions

Module	MDP/MDD 210X	MDP/MDD 2200	MDP/MDD 2300*
Storage temperature	-25 ... +70 °C		
Nominal environmental temperature	0 ... +45 °C		
Environmental temperature max.	0 ... +55 °C (with derating 2.5 %/°C above 45 °C)		
Humidity	maximum relative humidity 85 %, non-condensing		
Altitude	up to 1000 m above NN at rated values 1000-3000 m above NN with reduction by 1.5 % / 100 m (rated output current and rated input power affected)		
Operating conditions	pollution degree 2		
Vibration resistance	frequency: 5-150 Hz acceleration: 1 g amplitude: 0.075 mm (0.15 mm pp)		
Shock resistance	acceleration: 15 g		
Protection type	IP20		

Miscellaneous

Module	MDP/MDD 210X	MDP/MDD 2200	MDP/MDD 2300*
Normung	UL: see Available Models		
Approvals	CE, TÜV-Austria EG-type-examined		

* in preparation

Notes

