

DIAS Drive

MDD 2000



The DIAS-Drive 2000 series contains the power/axis modules and axis modules for a power input voltage of 400/480 V AC. The system is currently available in 3 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	Article Number
MDP2100-DDD-03	Power/axis module with 3 x 5/15 A	yes	yes	09-83-100-DDD-03
MDD2100-DDD-03	Axis module with 3 x 5/15 A	yes	yes	09-84-100-DDD-03
MDP2200-HHH-03	Power/axis module with 3 x 10/30 A	yes	yes	09-83-200-HHH-03
MDD2200-HHH-03	Axis module with 3 x 10/30 A	yes	yes	09-84-200-HHH-03

DC-link Circuit

Module	MDP/MDD 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	565 V		
Maximum DC-link voltage	430 V	850 V		
DC-link capacitance	1320 µF	330 µF	660 µF	1155 µF
Maximum current via DCB	40 A			

+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 210X	MDP/MDD 2200	MDP/MDD 2300
Maximum number of drives	3		
Switching frequency	8 kHz		
Derating	2,5 %/°C over 45 °C (axis current and DC-link power are affected)		
Continuous current/peak current for 1 s per axis	5/15 A	10/30 A	A1: 30/90 A A2: 22/66 A
Maximum total current	15 A	30 A	45 A
Maximum output frequency	599 Hz		
Maximum cable length	30 m		

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

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		

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	Line protection: 13 A Type C	Line protection: 25 A Type C	Line protection: 40 A Type C	
	Operating class gG (gL): 13 A	Operating class gG (gL): 25 A	Operating class gG (gL): 40 A	

Ballast Resistance

Module	MDP 2102	MDP 2100	MDP 2200	MDP 2300
Internal braking resistor value	yes (25 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		

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

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 in preparation		
Approvals	CE, TÜV-Austria EG-type-examined		

Notes

