

MBC2K

DC Motor Brake Controller 2KW 50A 24V to 110VDC



MBC2K is a device controlled by a microprocessor that can automatically insert a power resistor into the DC bus for braking a motor fed by the same DC bus through a motor drive.

The function of MBC2K is to dissipate the energy delivered by the motor in an external resistor thus damping the resulting overvoltage on the DC bus.

MBC2K can be connected to any DC bus between 24Vdc and 110Vdc.

■ Main Features

-] Universal input DC BUS 24...110Vdc
-] Braking current 50A
-] CPU controlled
-] Digital display interface
-] User settable braking threshold and hysteresis
-] Various integrated protections
-] Parallelable up to 4 units (8kW)

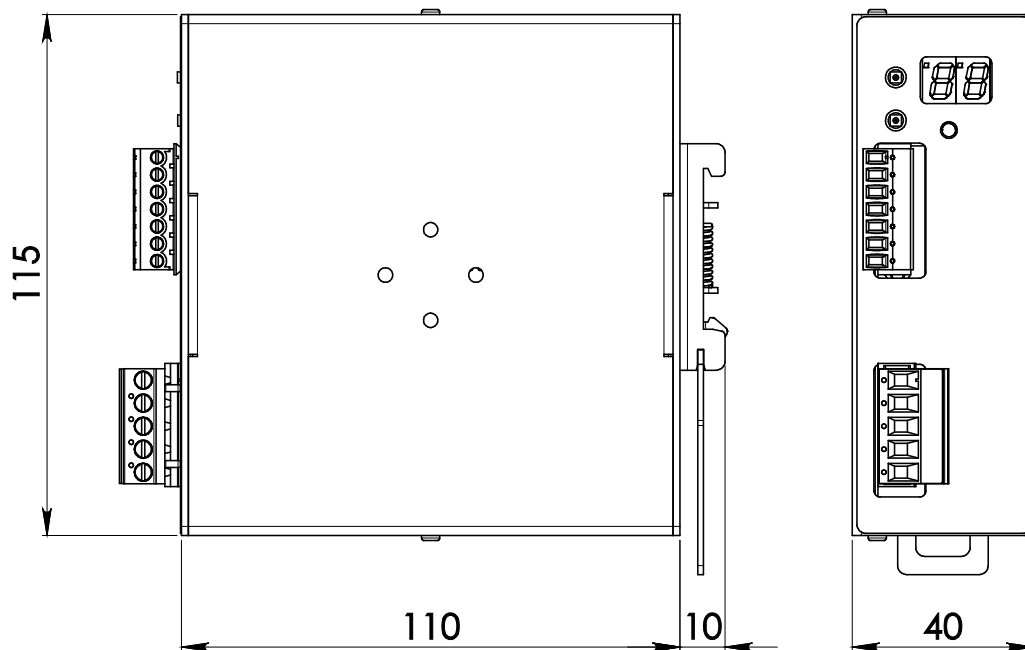
TECHNICAL DATA

TECHNICAL DATA	MBC2K	
Model type		
GENERAL DATA		
DC BUS Voltage range	24...110Vdc	
Maximum Braking current	50A for 1s	
Brake activation voltage	27...106Vdc, threshold adjustable in 20 steps	
Brake voltage hysteresis	3Vdc or 6Vdc settable	
Protections	<ul style="list-style-type: none">▪ Undervoltage on DC BUS \leq 22Vdc▪ Overvoltage on DC BUS $>$ 110Vdc▪ Brake resistor overtemperature (if the temperature sensor is present)▪ Brake resistor interrupted or not connected▪ Module internal overtemperature $>$ 90°C (194°F)▪ Short circuit: braking current $>$ 80A▪ Overload: braking time $>$ 1s	
Status Signals & User interface	<ul style="list-style-type: none">▪ 2x 7 segments LED displays▪ ALARM - red LED▪ SET/RESET and MENU - 2 programming keys▪ Dry contact (SPDT, 24Vdc / 1A)	
Parallel connection	Up to 4 units for increase a total braking power 8kW through synchronization bus (4 x 2kW braking resistors are needed)	
Dissipated power	< 20W	
Operating temperature	- 40°C...+ 70°C	
Derating	No derating	
Storage temperature	- 40°C...+ 80°C	
Humidity	5...95% r.H. non condensing	
Life time expectation	291'894h (33.3 years) at 25°C ambient full load	
MTBF	<ul style="list-style-type: none">▪ MIL-HDBK-217F	> 600'000h at 25°C ambient full load
Overvoltage category	<ul style="list-style-type: none">▪ EN50178	I
Pollution degree	<ul style="list-style-type: none">▪ IEC60664-1	2
Protection Class	<ul style="list-style-type: none">▪ Class	I
Input / ground isolation	0.75kVdc	
Safety Standards	<ul style="list-style-type: none">▪ UL508 (reference)▪ EN60950 (reference)▪ Using the MBC2K at voltage \geq 60Vdc is not classifiable as SELV	SELV used up to 60Vdc
EMC Emission	<ul style="list-style-type: none">▪ EN55011 (CISPR11)▪ EN55022 (CISPR22)	Class B Class B
EMC Immunity	<ul style="list-style-type: none">▪ EN61000-4-2▪ EN61000-4-3▪ EN61000-4-4▪ EN61000-4-5	Level 3 Level 3 Level 3 Level 1
Protection degree	<ul style="list-style-type: none">▪ EN60529	IP20
Vibration sinuosoidal	<ul style="list-style-type: none">▪ IEC 60068-2-6	(5-17.8Hz: \pm 1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)
Shock	<ul style="list-style-type: none">▪ IEC 60068-2-27	(30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total)
Connection Input DC BUS + PE	2.5mm ² , screw type pluggable (24...12AWG)	
Connection Output Brake resistor	2.5mm ² , screw type pluggable (24...12AWG)	
Connection signals	1.5mm ² , screw type pluggable (24...16AWG)	
Case material	Aluminum	
Weight	0.35kg	
Size (W x H x D)	40.0 x 115.0 x 110.0mm	
Notes:		
- For more details, performance and descriptions regarding all parameters not indicated in the above table, please refer to the user manual downloadable from www.nextys.com		
- Technical parameters are typical, measured in laboratory environment at 25°C and 48Vdc.		
- Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.		
- Data may change without prior notice in order to improve the product.		

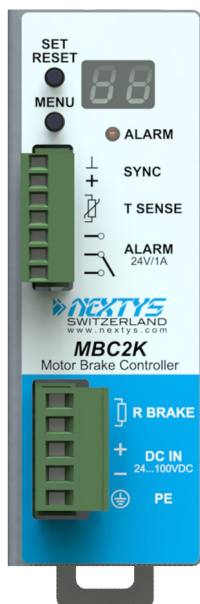
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DIMENSIONS



CONNECTION



Input / Output Connection:

- IN + = + Positive DC BUS
 - IN - = - Negative DC BUS
 - I = Earth ground
 - R BRAKE = connect to braking resistor
 - SYNC = connect to Sync BUS, used to parallel up to 4 units
 - T SENSE = used to connect the brake resistor temperature sensor
- ALARM: dry contact
- NO
 - NC
 - COM