

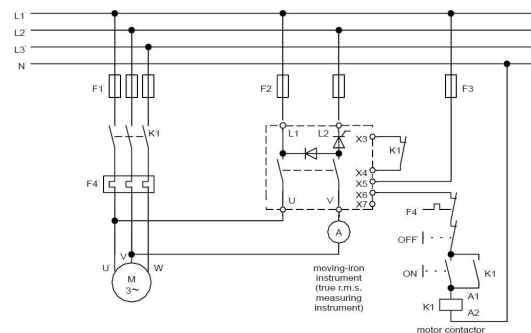
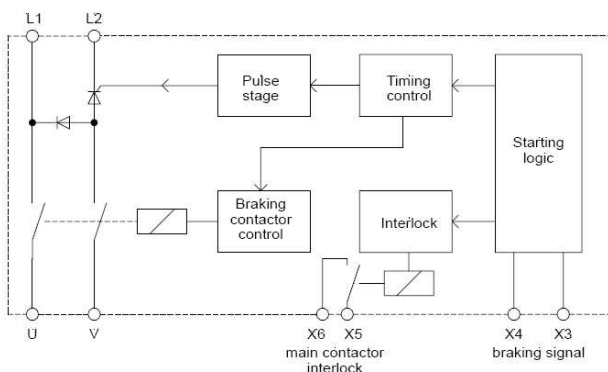


Braking Devices

BR 230-30L
BR 400-30L

Function	Features	Typical Applications
<ul style="list-style-type: none"> DC braking Control via motor contactor 2 separately adjustable parameters braking current, braking time Potential-free output for motor contactor interlocking during braking - loadable with 250V/6A 	<ul style="list-style-type: none"> DC braking with one-way rectification Suitable for all asynchronous motors Easy mounting, also for retrofitting into existing plants Wear-resistant and maintenance-free Integrated braking contactor For snap-mounting onto 35mm top-hat-rail Degree of protection IP 20 	<ul style="list-style-type: none"> Sawing machines Centrifuges Wood working machines Textile machines Conveying systems

Type	BR 230-30L	BR 400-30L
Mains Voltage	220/240 V +/- 10%, 50/60 Hz	380/415 V +/- 10%, 50/60 Hz
Power draw of the electronics	6 VA	
Motor rating	4,0 kW	7,5 kW
Rated device current	30 A	30 A
Max. braking frequency at braking time 5s	1/90s	1/90s
Back-up fuse high-speed	30 A	
Braking Voltage	0...110 V DC	0...220 VDC
Braking time, 4-stage adjustable	5s/ 8s/11s/14s (other times upon request)	
Contact rating	relay contact for motor contactor = 6A/250V~	
Delay time for reduction of residual e.m.f.	750 ms	750 ms
Min. cross-sectional area of connection cable	2,5mm ²	
Ambient / storage temperature	0°C ... 45°C / -25°C ... 75°C	
Dimension W x H x D	45 x 122 x 73 mm	
Weight	0,6 kg	
Order number	21801.23030	21801.40030
List price €		





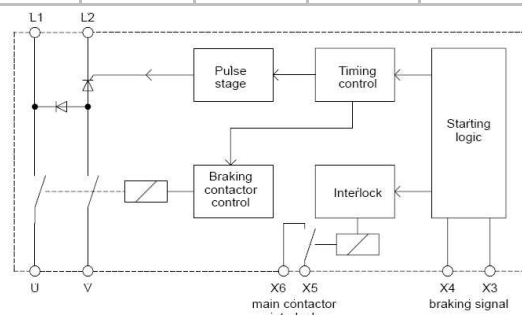
Braking Devices

BR 230-10 ... 600

BR 400-10 ... 600

Function	Features	Typical Applications
<ul style="list-style-type: none"> DC braking Control via motor contactor 2 separately adjustable parameters Braking current, braking time Potential-free output for motor contactor interlocking during braking - loadable with 250V/8A Potential-free output for braking contactor (devices from 40A on) - loadable with 250V/8A 	<ul style="list-style-type: none"> DC braking with one-way rectification Suitable for all asynchronous motors Easy mounting, also for retrofitting into existing plants Wear-resistant and maintenance-free Special voltages up to 600V (20A-devices) Special voltages up to 690V (devices from 40A on) Integrated braking contactor (devices up to 20A) For snap-mounting onto 35mm top-hat-rail (devices up to 20A) Degree of protection IP 20 (BR 230/400 - 10 ...20) Degree of protection IP 00 (BR 230/400 - 40 ...600) 	<ul style="list-style-type: none"> sawing machines centrifuges wood working machines textile machines conveying systems

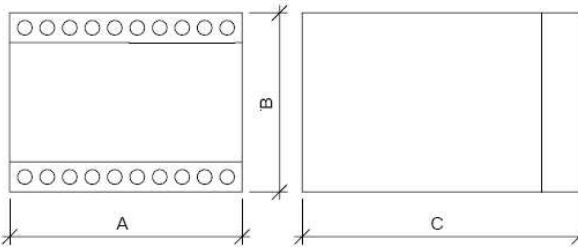
Type	230-10 400-10	230-20 400-20	230-40 400-40	230-60 400-60	230-100 400-100	230-200 400-200	230-400 400-400	230-600 400-600
Mains Voltage	BR 230 ... 220/240V ±10% 50/60Hz BR 400 ... 380/415V ±10% 50/60Hz					other voltages upon request		
Power draw of the electronics	6 VA							
Power unit	Control unit with integrated power unit			Control unit with separate power unit The power unit is not contact-protected and must become secured therefore suitable covers (not in the scope of supply)!				
Motor rating at 220/240 V	1,1 kW	3,0 kW	5,5 kW	7,5 kW	15 kW	30 kW	60 kW	95 kW
at 380/415 V	2,2 kW	5,5 kW	7,5 kW	15 kW	22 kW	55 kW	110 kW	160 kW
Rated device current	10 A	20 A	40 A	60 A	100 A	200 A	400 A	600 A
C.d.f. at max. braking current	20%	20%	15%	15%	15%	15%	15%	15%
Back-up fuse high-speed	SILIZED							
Braking Voltage	0 ... 130VDC at 220/240V 0 ... 220VDC at 380/415V							
Braking time	2 ... 15sec. (other times upon request)							
Contact rating	Relay contact for motor contactor = 6A/250V~ Contact for braking contactor = 6A/250V~							
Delay time for reduction of residual e.m.f.	250 ms	250 ms	600 ms	600 ms	1500 ms	1500 ms	1500 ms	1800 ms
Min. cross-sectional area of connection cable	1,5 mm ²	1,5 mm ²	2,5 mm ²	4 mm ²	10 mm ²	25 mm ²	50 mm ²	M10
Ambient / storage temperature	0 °C ... 45°C / -25°C ... 75°C							
Weight	0,5 kg	0,55 kg	2,4 kg	2,4 kg	2,55 kg	3,55 kg	7,6 kg	13,5 kg
Order number/	BR 230-	21600.	21600.	21600.	21600.	21600.	21600.	21600.
List price €		22010	22020	22040	22060	22100	22200	22400
	BR 400-	21600.	21600.	21600.	21600.	21600.	21600.	21600.
		38010	38020	38040	38060	38100	38200	38400



Bremsergeräte BR 230-10 ... 600, BR 400-10 ... 600

Dimensions:

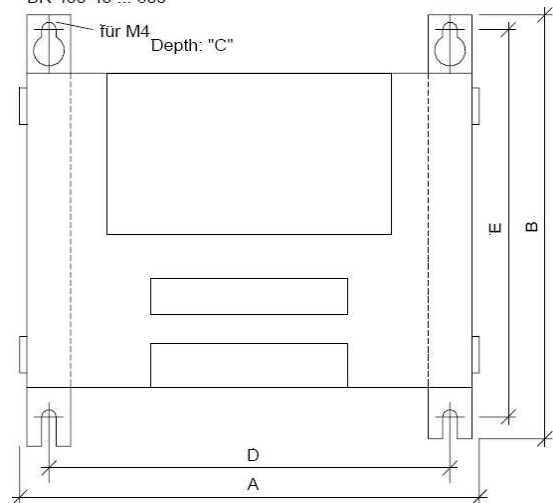
BR 230-10 ... 20
BR 400-10 ... 20



	A	B	C	D	E
BR ... - 10	100	73	120	-	-
BR ... - 20	100	73	120	-	-
BR ... - 40	175	200	172	146	185
BR ... - 60	175	200	172	146	185
BR ... - 100	175	200	172	146	185
BR ... - 200	175	240	172	146	225
BR ... - 400	315	240	172	286	225
BR ... - 600	315	450	211	260	415

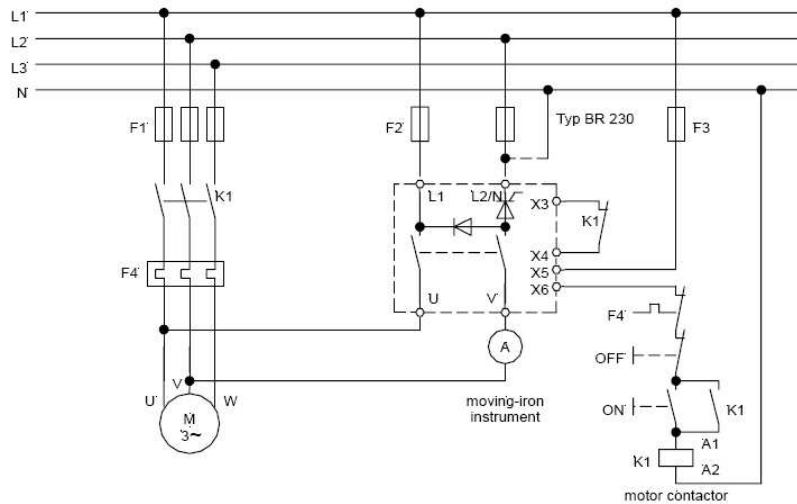
All dimensions in mm.

BR 230-40 ... 600
BR 400-40 ... 600

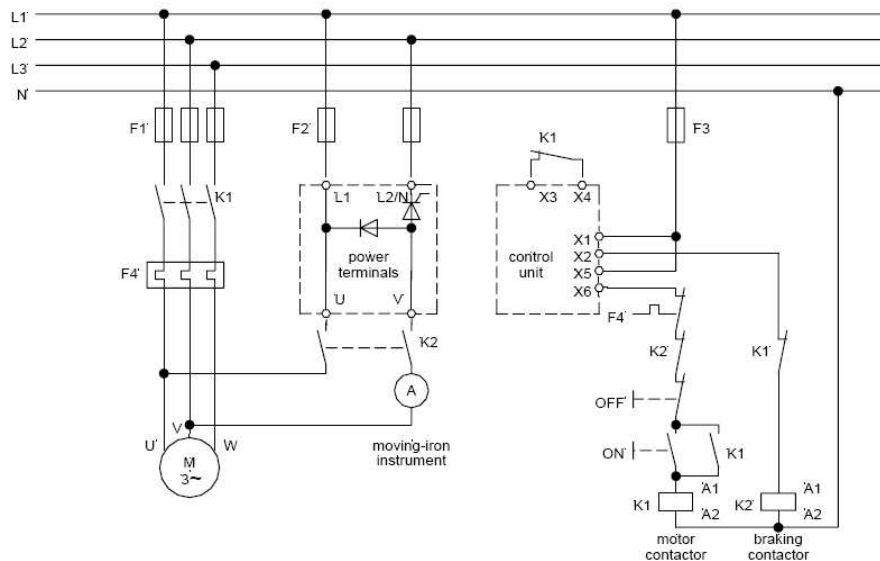


Connection Diagrams:

BR 230-10 ... 20
BR 400-10 ... 20



BR 230-40 ... 600
BR 400-40 ... 600



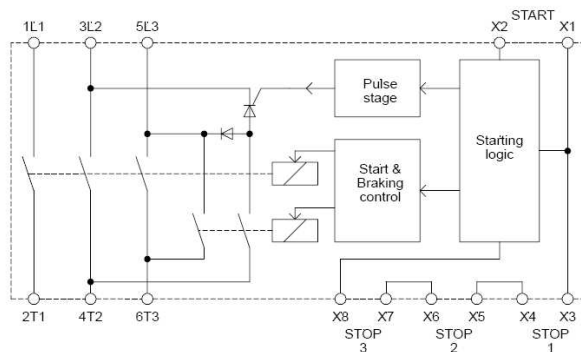


Braking Devices

BRMS ...

Function	Features	Typical Applications
<ul style="list-style-type: none"> • Motor contactor • DC braking • control via "START" / "STOP" buttons • Control via switch • 2 separately adjustable parameters • Braking current, braking time 	<ul style="list-style-type: none"> • Simple motor control with only a few elements • Motor contactor and DC-brake in a single device • Suitable for all asynchronous motors • Motor contactor with contact gap $\geq 3\text{mm}$, utilization category AC-3 • Easy mounting, also for retrofitting into existing plants • Operator's controls physically separated from load (24V extra-low voltage) • Connection of several "STOP" buttons possible (e.g., motor temperature switch) • For snap-mounting onto 35 mm top-hat rail • Degree of protection IP 20 	<ul style="list-style-type: none"> • sawing machines • centrifuges • vibrators

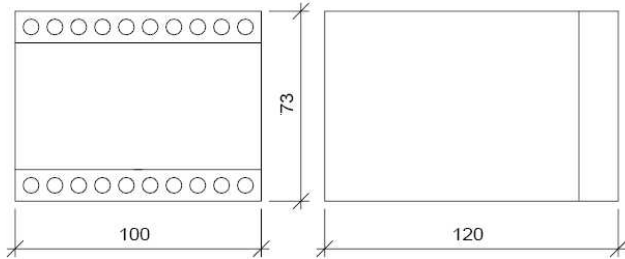
Type	400-2,2/15	230-1,5/15
Rated operational voltage 50/60Hz	3 x 380/415 V +/- 10%	1 x or 3 x 200/240 V +/-10 %
AC-3 rated operational power	2,2 kW	1,5 kW
Conventional enclosed thermal current $I_{th} = I_e$	16 A	
Max. braking current	3 s	15 A
at breaking time	10 s	12 A
Setting range of braking time	1 ... 10 s	
Braking frequency	1/ min.	
Delay time for reduction of residual e.m.f.	300 ms	
Ambient / Storage temperature	0°C ... 45°C / -25°C ... 75°C	
Dimension W x H x D	100 x 120 x 73 mm	
Weight	0,55 kg	
Order number	21700.38002	21700.23001
List price €		



Braking Devices BRMS ...

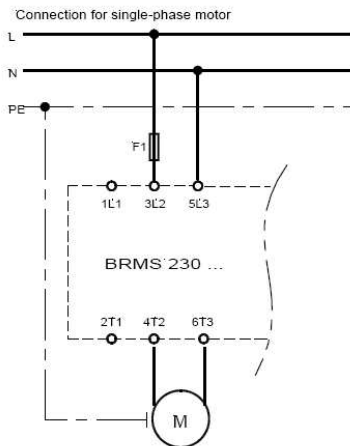
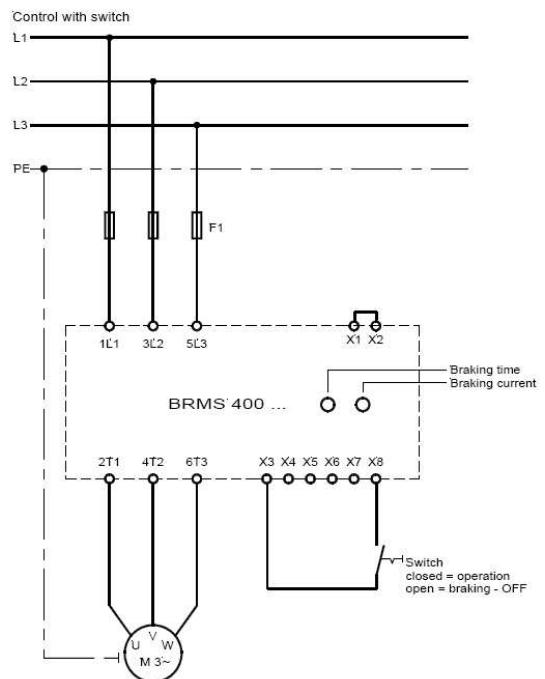
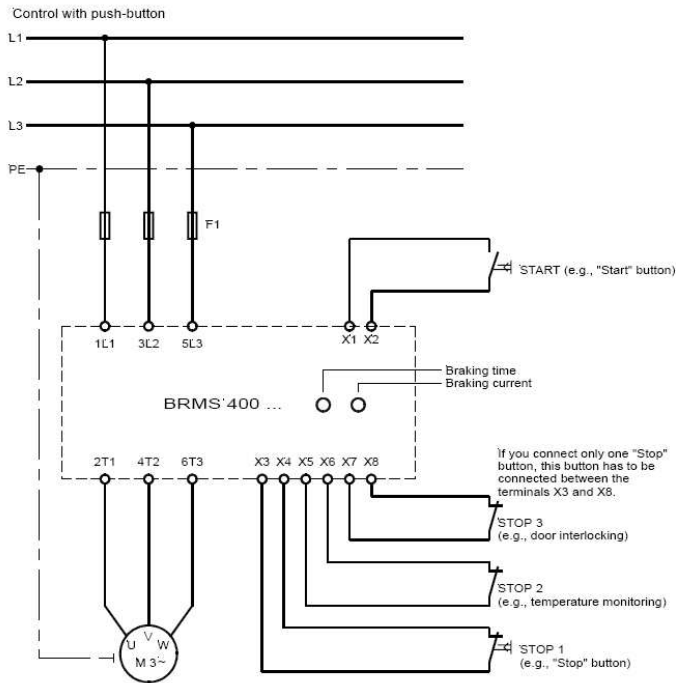
Dimensions:

BRMS 400 - ...
BRMS 230 - ...

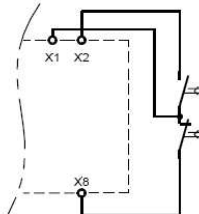


All dimensions in mm!

Connection Diagrams:



Connection "START/STOP" button with 3 conductors



Motor Protection and Fuses

If the braking current is higher than the motor nominal current, it is not possible to use a motor protecting switch as a motor protection, since it would break the circuit during braking.

Instead, it is possible to monitor the motor temperature.

If you want to protect the power electronics in the "BRMS", it is possible to use semiconductor fuses for F1. (Regarding their dimensioning, please mind the starting current of the motor)

EMC

The limit values for emitted interference according to the device standards do not rule out the possibility that receivers and susceptible electronic devices within a radius of 10m are subjected to interference.

If such interference, that is definitely to the operation of the braking devices "BRMS", occurs, the emitted interference can be reduced by taking appropriate measures.

Such measures are, e.g.:

To connect reactors (3mH) or a suitable mains filter in series the braking device, or to connect X-capacitors (0.15µF) in parallel to the supply voltage terminals.



Braking Devices

VersiBrake

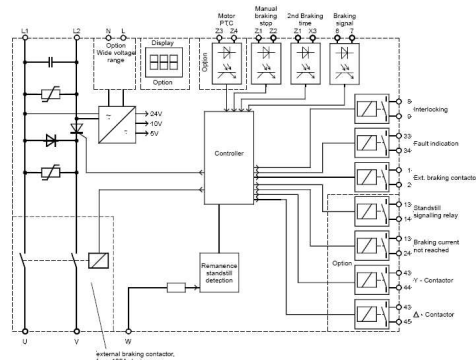
Function	Features	Typical Applications
<ul style="list-style-type: none"> Control via motor contactor Standstill- or time-dependent braking Signalling relay for exceeded braking times Braking current adjustments 0...100%, current control Automatic remanence time optimization Braking times 0.5 ... 320 s Temperature monitoring of heat sink Potential-free signalling and control outputs 	<ul style="list-style-type: none"> DC braking with one-way rectification Controlled by microcontroller Suitable for all asynchronous motors Easy mounting, also for retrofitting into existing plants Wear-resistant and maintenance-free Integrated braking contactor (devices up to 60A) Degree of protection IP 20 	<ul style="list-style-type: none"> sawing machines centrifuges wood working machines textile machines conveying systems

Type VB ...	230-25 400-25	230-40 400-40	230-60 400-60	230-100 400-100	230-200 400-200
Main Voltage	VB 230 ... 220/240V ±10% 50/60Hz		other voltages		
	VB 400 ... 380/415V ±10% 50/60Hz		upon request		
With braking current display	No	Yes			
Motor rating at 220/240 V	3,0 kW	5,5 kW	7,5 kW	15 kW	30 kW
at 380/415 V	5,5 kW	7,5 kW	15 kW	22 kW	55 kW
Rated device current	25 A	40 A	60 A	100 A	200 A
C.d.f. at max. braking current	8%	15%	15%	15%	15%
Ext. semiconductor fuse „high-speed“	SILIZED				
Braking voltage	0 ... 130VDC at 220/240V 0 ... 220VDC at 380/415V				
Braking times	max. 15s	0.5 .. 320s			
Contact rating of output relays	6 A / 250 VAC	3 A / 250 VAC 3 A / 30 VDC			
Delay time for reduction of residual e.m.f.	100 .. 2500 ms	Self-optimizing 200 .. 3100 ms		Self-optimizing 1600 .. 3100 ms	
Min. cross-sectional area of connection cable	1,5 mm ²	2,5 mm ²	4 mm ²	10 mm ²	25 mm ²
Ambient / storage temperature	0 °C ... 45°C / -25°C ... 75°C				
Weight	0,8 kg	2,1 kg	2,1 kg	2,1 kg	3,1 kg
Order number/	230 V	21900.	29700.	29700.	29700.
List price €		23025	23040	23060	23100
	400 V	21900.	29700.	29700.	29700.
		40025	40040	400060	40100
					40200

Options

- Star-delta starting control (P)
- Motor temperature monitoring (P)
- Standstill signalling relay (P)
- Braking current monitoring (P)
- Wide voltage range 200 – 690V (B)

Additional price for one option P/B 69,90 €
 Additional price for each other option P 24,70 €

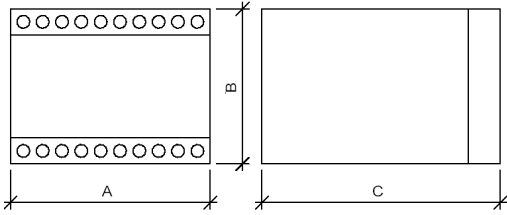


VB 40-200

Braking Devices VersiBrake

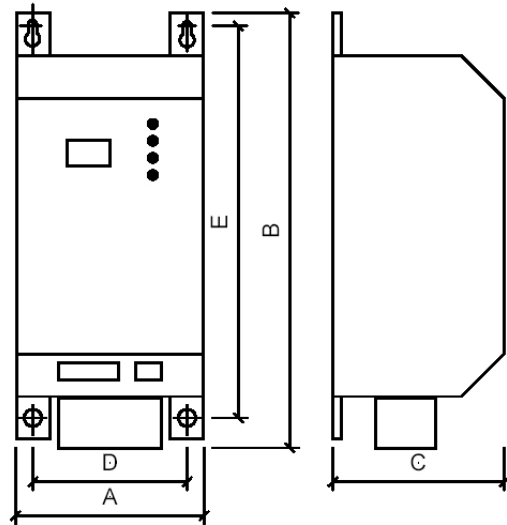
Dimensions:

VB 230-25, VB 400-25

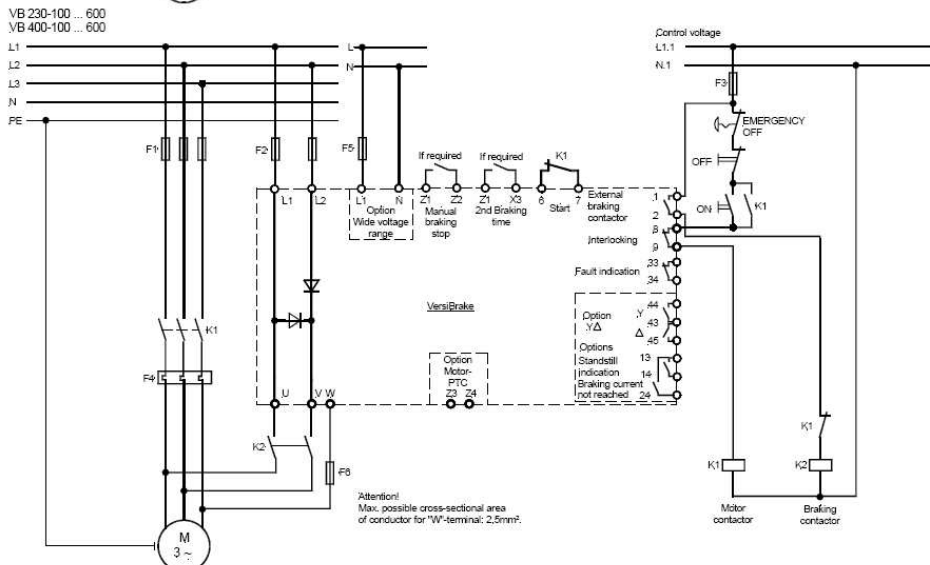
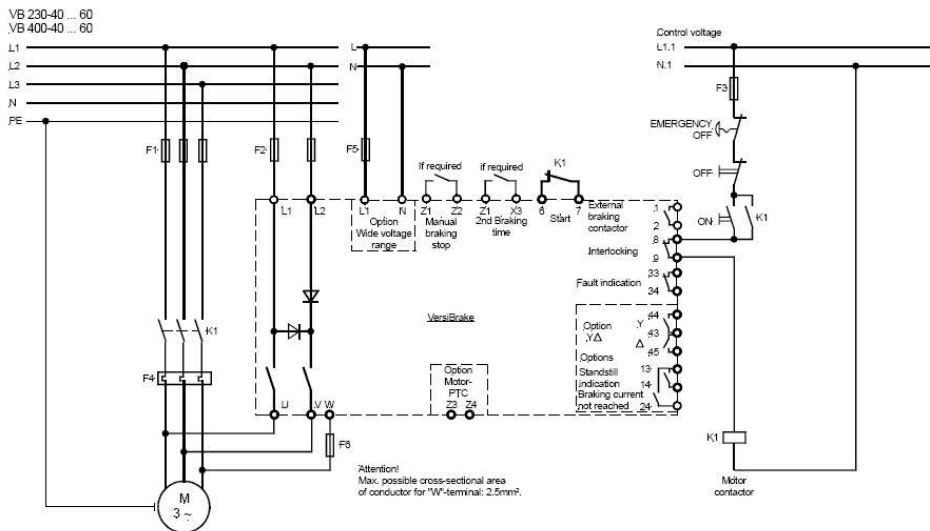


	A	B	C	D	E
VB ...- 25	100	73	120	-	-
VB ...- 40	110	242	140	86	226
VB ...- 60	110	242	140	86	226
VB ...-100	110	242	140	86	226
VB ...-200	110	247	155	80	226

VB 230-40 ... 200, VB 400-40 ... 200



Connection diagrams:





Breaking Device

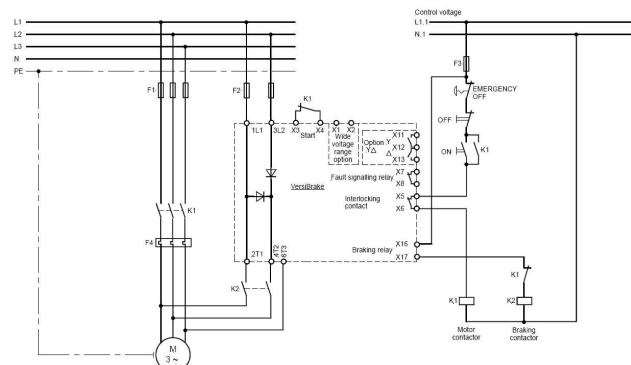
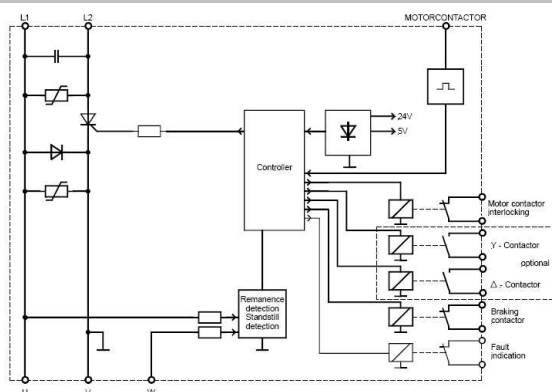
VersiBrake VB 230-36

VersiBrake VB 400-36

Function	Features	Typical Applications
<ul style="list-style-type: none"> Control via motor contactor Standstill detection Braking current limited to rated device current Remanence time optimization Braking current infinitely adjustable Potential-free output for motor contactor Interlocking during braking Potential-free output for fault signalling relay Potential-free output for braking contactor 	<ul style="list-style-type: none"> DC braking with one-way rectification Controlled by microcontroller Suitable for all asynchronous motors Easy mounting, also for retrofitting into existing plants Wear-resistant and maintenance-free Special voltages up to 575V (up to 480V) For snap-mounting onto 35mm top-hat-rail Degree of protection IP 20 <p>Options</p> <ul style="list-style-type: none"> Star-delta starting control (D) Wide voltage range with supply voltage 24 VAC or 230 VAC (B) Additional price: one option 68,00 €, two options 92,00 € 	<ul style="list-style-type: none"> Sawing machines Centrifuges Wood working machines Textile machines Conveying systems



Type	VB 230-36	VB 400-36
Mains voltage	VB 230 ... 220/240V ±10% 50/60Hz	other voltages upon request
Power draw of the electronics	6 VA	
Motor rating at 220/240 V	4,5 kW	
at 380/415 V	7,5 kW	
Rated current	36 A	
C.d.f. at max. braking current	5%	
Ext. semiconductor fuse „high-speed“	SILIZED	
Braking voltage	0 ... 130VDC at 220/240V 0 ... 220VDC at 380/415V	
Braking time	15sec. (other times upon request)	
Contact rating of output relays	6 A / 250 VAC	
Delay time for reduction of residual e.m.f.	Self-optimizing (100 ... 2500 ms)	
Min. cross-sectional area of connection cable	2,5 mm ²	
Ambient / storage temperature	0 °C ... 45°C / -25°C ... 75°C	
Dimension W x H x D	100 x 120 x 73 mm	
Weight	1 kg	
Order number/	230 V	21900.23036
List price €	400 V	21900.40036





Soft Start and Braking Device

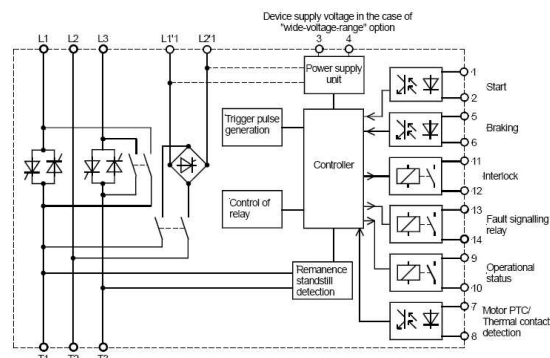
VersiComb II

Function	Features	Typical Applications
<ul style="list-style-type: none"> Potential-free control input for soft start Potential-free control input for braking Braking current adjustments, current control Standstill detection adaptable to motor via potentiometer 3 separately adjustable parameters Starting torque, starting time, braking current Motor contactor interlocking during braking 	<ul style="list-style-type: none"> Two-phase controlled soft starter Integrated by-pass relay Reduction of starting current peaks DC braking via controlled thyristor bridge Integrated braking contactor Integrated standstill detection Deceleration time monitoring Controlled by microcontroller Suitable for all asynchronous motors For snap-on mounting onto 35mm DIN rail Degree of protection IP 20 	<ul style="list-style-type: none"> Vibrators Wood working machines Centrifuges Drives with large centrifugal masses Belt drives

Type	VersiComb II		
	VC II 400-5,5	VC II 400-7,5	VC II 400-11
Mains / Motor voltage	400 V +/- 10 %, 50/60 Hz		
Rated device current Starting part	12 A	15 A	25 A
Rated device current Braking part	25 A	40 A	55 A
Motor rating at 400V mains voltage	5,5 kW	7,5 kW	11 kW
Min. Motor load	40% of the device rating		
Starting torque / Starting time	0 ... 80% / 0,5 ... 16 s		
Max. Braking time	10s		
Delay time for reduction of residual e.m.f.	Self-optimizing (100 ... 1500ms)		
Max. Switching frequency with starting time and braking time up to 10s each	30 / h		
Contact loading of output relays	6 A / 250 VAC		
Max. Cross-sectional area	1,5 mm ²	2,5 mm ²	4 mm ²
External semiconductor fuse „high-speed“ Starting part	35 A	80 A	125 A
External semiconductor fuse „high-speed“ Braking part	25 A	40 A	60 A
Ambient / storage temperature	0° C ... 45° C / -25° C ... 75° C		
Weight	1,5 kg		
Order number	26100.40005	26100.40007	26100.40011
List price €			

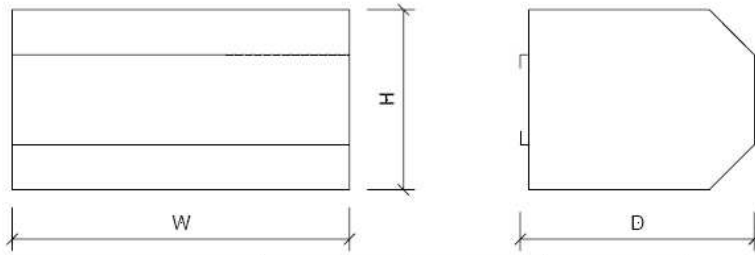
Options

- Voltages up to 575 V
- Wide voltage range with supply voltage 24 VAC or 230 VAC



Soft Start and Braking Device VersiComb II

Dimensions:



	W	H	D
Mounting dimensions	166mm	106mm	117mm

Connection Diagram:

