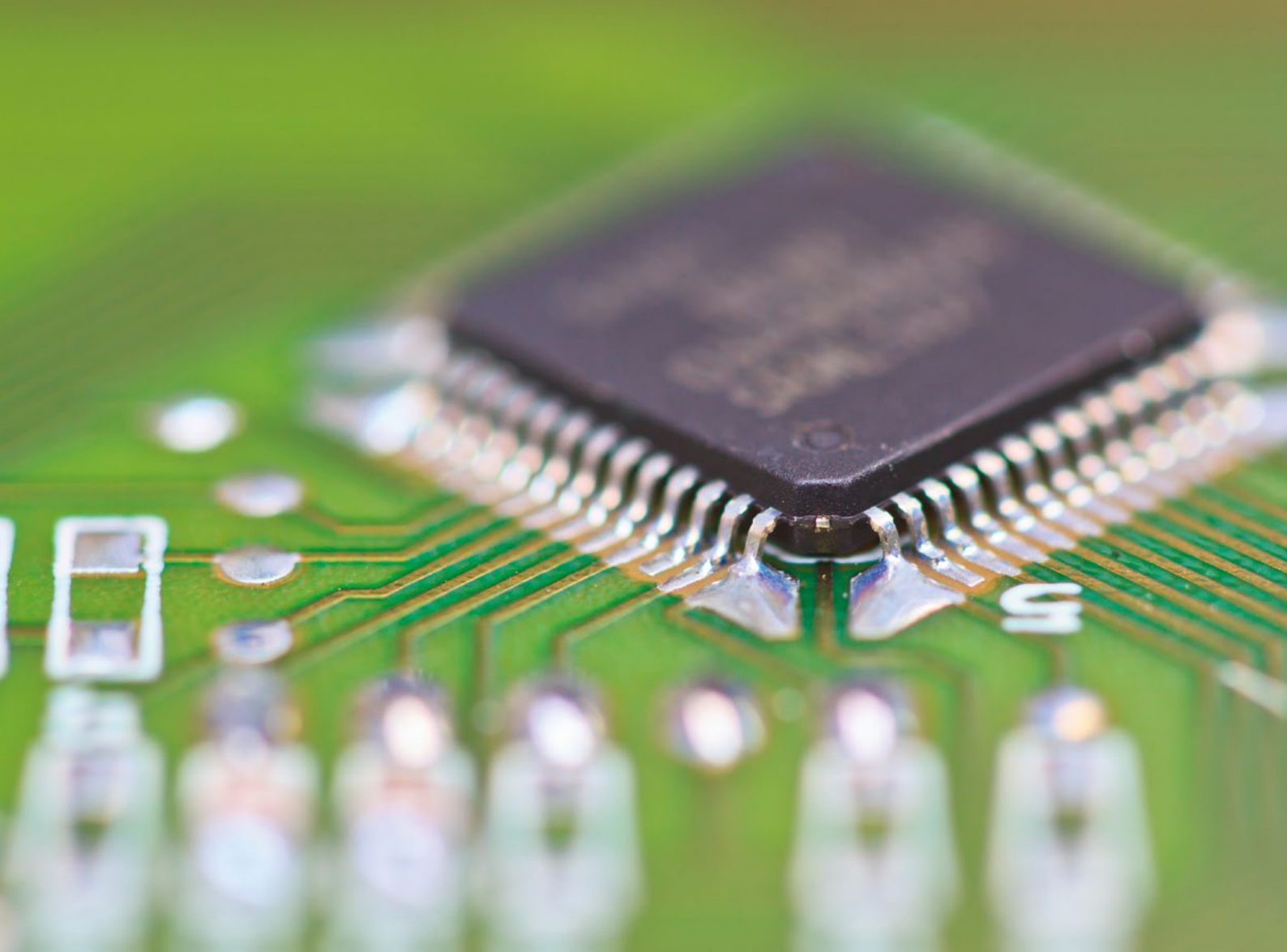


KENDRION

KENDRION SOLUTIONS

Electronic modules and rectifiers
for the control of electromagnetic actuators

PRECISION. SAFETY. MOTION.



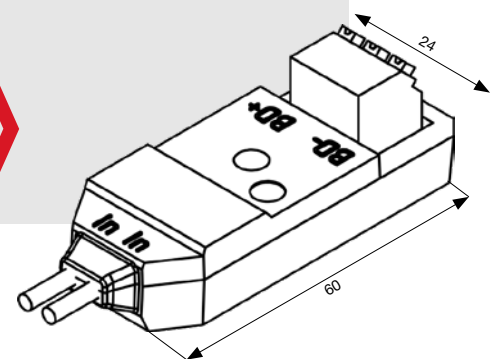
Electronic assemblies for actuators

For versatile use

The product range of Kendrion contains a variety of electronic components for the control of electromagnetic actuators such as brakes and magnets. A variety of the properties of actuators can be considerably improved through the use of control modules. Reaction times are significantly optimised by overexcitation functions and fast shut-down. Lowering of the holding voltage improves the thermal behaviour of the actuator and saves energy. There are suitable electronic modules available for different classes of actuators. Depending on the mounting conditions, there are a variety of connection concepts. Kendrion as a result provides the optimum complementary control electronics for electromagnetic brakes and magnets for all applications.

Slim Collection

- Very small design and cost-effective
- Versatile options for assembly and connection
- Integrated fast shutdown
- Energy savings up to 75%



Slim Collection for AC and DC operation

Thanks to its extremely compact design, the overexcitation rectifier can be installed in very restricted space. The module features a central bore for screw fixing inside the terminal box. It can also be installed by using an adhesive pad.

AC operation (Slim Collection AC – overexcitation)

These types of Slim Collection AC operate as a time controlled rectifier with integrated electronic fast turn-off through voltage detection.

Brake release: During start-up, the rectifier delivers bridge-rectified output voltage for a limited period of time before changing over to half-wave rectification. This provides energy savings of up to 75 %. The resulting holding force ensures that the brake is reliably kept open when exposed to vibrations and shocks, meeting the requirements of DIN EN 60721, Category 3M8.

Brake engagement: The built-in voltage sensor ensures that the DC side output voltage is turned off electronically when AC input voltage is removed. This enables very fast brake switching operations.

Type	Rated input voltage (40 – 60Hz) VAC (±10%)	Max. output current Overexcitation / Holding period ADC	Overexcitation time T_{OE}/s (±30%)	Reclosing capability T_p/s	Output voltage Overexcitation Hold excitation	Colour of connecting wire
32 77101B53	100 ... 240	2.0 / 1.0	0.3	0.25	Yes	Black
32 17101B53	100 ... 240	2.0 / 1.0	0.3	0.25	No	Grey
32 77101B50	220 ... 500	1.0 / 0.5	0.3	0.25	Yes	Brown
32 17101B50	220 ... 500	1.0 / 0.5	0.3	0.25	No	Blue

AC operation (Slim Collection AC – half-wave/bridge)

These types of Slim Collection AC operate as a half-wave/bridge rectifier with integrated electronic fast turn-off through voltage detection (depending on type).

Brake release: During start-up, the rectifier delivers bridge-rectified or half-wave-rectified output voltage. The resulting holding force ensures that the brake is reliably kept open when exposed to vibrations and shocks, meeting the requirements of DIN EN 60721, Category 3M8.

Brake engagement: The built-in voltage sensor (depending on type) ensures that the DC side output voltage is turned off electronically when AC input voltage is removed. This enables very fast brake switching operations.

Type	Rectification	Rated input voltage (40 – 60 Hz)	VAC (±10%) Max. output current ADC	Fast turn-off via voltage detection	Colour of the connecting wire	Output voltage V DC
32 07103B53	Bridge	0 ... 240	0.8	No	Green	$U_{out} = 0.89 \cdot U_{in}$
32 67103B53	Bridge	100 ... 240	0.8	Yes	Blue-white	
32 07103B50	Bridge	0 ... 500	0.7	No	Violet	
32 67103B50	Bridge	220 ... 500	0.7	Yes	Yellow	
32 07102B53	Half-wave	0 ... 240	0.5	No	White	$U_{out} = 0.445 \cdot U_{in}$
32 07102B50	Half-wave	0 ... 500	0.5	No	Red	

DC operation (Slim Collection DC)

The Slim Collection DC operates as a time-controlled PWM amplifier (pulse width modulation).

Brake release: During the start phase – limited in time – the full operating voltage is switched on. Thereafter, the device will switch over to 50% operating voltage. This provides energy savings of up to 75%. The resulting holding force ensures that the brake is reliably kept open when exposed to vibrations and shocks meeting the requirements of DIN EN 60721, Category 3M8.

Brake engagement: The shutdown occurs at the voltage input. The switching times result from the energy stored in the coil (an emergency shutdown is not given).

Optionally (customer-specific), the rectifier can be factory set to other values, eg. to further reduce the self-heating of the brake for temperature-sensitive applications.

Type	Rated input voltage U_1 (Tol.: $\pm 20\%$)	Max. output current ADC	Fast turn-off	Holding voltage of $\pm 5\%$ at RT
34 10125C01	18 – 48 V	2.5	No	16.8 V
34 70125C01	18 – 48 V	2.5	Yes	16.8 V
34 10125C02	18 – 48 V	2.5	No	12 V
34 70125C02	18 – 48 V	2.5	Yes	12 V



Compact and cost-effective



Compact and cost-effective



Series	Slim Collection (AC)	Slim Collection (DC)
Types	32 x710xB5x	34 x0125Cxx PWM Module
Features	<ul style="list-style-type: none"> - Very small design - Cost-effective - Versatile options for assembly and connection through central hole - Overexcitation function - Integrated fast shutdown - Energy savings up to 75% - Dimensions (LxWxH): 60x24x19 mm 	<ul style="list-style-type: none"> - Very small design - Cost-effective - Versatile options for assembly and connection through central hole - Overexcitation function - Integrated fast shutdown - Energy savings up to 75% - Customised holding voltage possible - Dimensions (LxWxH): 60x24x19 mm
Application examples	<ul style="list-style-type: none"> - Installation in motor connection box recommended - Universal use for all brakes up to size 16 depending on power consumption 	<ul style="list-style-type: none"> - Installation in motor connection box recommended - Universal use for alle brakes depending on power consumption - Suitable for retrofiting
Rated input voltage	Max. AC 500 V	DC 18 to 60V
Max. output current ADC	Half-wave: max. 0.5 A Bridge: max. 0.8 A Overexcitation: max. 2.0 A	Output: max. 2.0 A
Excitation	Yes	Yes
Fast shutdown	Internally with voltage detection	Internally with voltage detection
Standards / approvals	CE ROHS IP 00	CE ROHS IP 00
Options and accessories	- Braids for motor connection	- Braids for motor connection

Small and cost-effective



Universal and diverse



Series	Lean Collection	Universal Collection
Types	32 0710.B.. 32 0730.B.. 32 0731.B..	32 07.2.B.. 32 17.2.B.. 32 4730.B.. 32 57303B.. 32 67.04B.. 32 77303B..
Features	<ul style="list-style-type: none"> - Very small design - Cost-effective - A wide range of options for installation and connection 	<ul style="list-style-type: none"> - Energy savings up to 75% - All types of rectifiers and switches can be combined in one housing unit - A wide range of options for installation and connection
Application examples	<ul style="list-style-type: none"> - For use with spring-applied brakes up to size 16 - For applications with low requirements on the dynamics - Installation in small connection boxes 	<ul style="list-style-type: none"> - Universal use with all spring-applied brakes up to size 16, depending on power consumption - Drives with cycle rates - Operating brakes with longer maintenance cycles and less heating - Separate use with brakes and magnets
Rated input voltage	Max. AC 500 V	Max. AC 500 (575) V
Max. output current ADC	Half-wave: max. 1.0 A Bridge: max. 2.0 A	Half-wave: max. 2.0 A Bridge: max. 2.0 A Excitation: max. 3.0 A
Excitation	No	Depending on type 2:1
Fast shutdown	Depending on type external	External or internal with voltage or current detection
Standards / approvals	CE EN60529 HD625.1 S1 NSRL IP 00	CE EN60529 HD625.1 S1 NSRL, EMVRL IP 00 UL
Options and accessories	<ul style="list-style-type: none"> - Mounting rail clip - Adhesive pad - Strands for motor connection M4 	<ul style="list-style-type: none"> - Mounting rail clip - Adhesive pad, mounting clip - Strands for motor connection M4

Intelligent and flexible



Standard Collection

32 47124A00 | 32 57123A00
 32 67124A00 | 32 77123A00
 32 1735.E..

- Energy savings up to 75%
 - Intelligent rectifier with fast shutdown
 - Overexcitation function
-
- For brakes with higher performance from size 14
 - Simple installation due to circuitry in motor terminal box

Max. AC 690 V

Half-wave: max. 1.2 A
 Bridge: max. 1.2 A
 Excitation: max. 3.0 A

Depending on type 2:1

External or internal with voltage or current detection

CE | EN60529 | HD625.1 S1
 NSRL, EMVRL | IP 00 | IP 65 | UL

- Carrier rail mounting upon request
- Screw connection housing
- Strands for motor connection M4

High-performance and variable



Power Collection

33 433 1.A..

- Overexcitation rectifier with adjustable holding voltage for high performance
 - Pluggable screw terminals enable simple electrical connection
-
- For use with large brakes and large magnets
 - Holding power can be optimised
 - Fast shutdown
 - Rail mounting
 -
 -
 -

Max. AC 415 V

Excitation: max. 12 A
 Holding excitation: max. 9 A

Yes

External

CE | EN60529 | HD625.1 S1
 NSRL, EMVRL | IP 00

- Carrier rail mounting
- Open circuit board
- Pluggable screw terminals

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