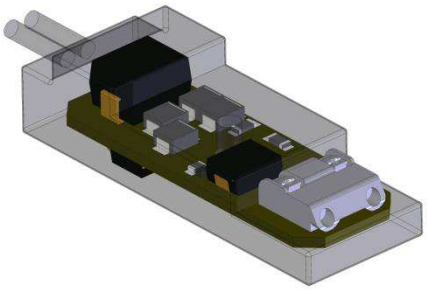
32 77101A0x Product Specification



32 77101A0x

ESM energy-saving module with electronic fast turn-off through voltage detection

The energy-saving module consists of a time-controlled rectifier with integral electronic fast turn-off. During start-up, the ESM delivers bridge-rectified output voltage for a limited period of time before changing over to half-wave rectification. The built-in voltage sensor ensures that the DC side output voltage is turned off electronically when AC input voltage is removed.
High turn-off voltage generated by inductive loads is limited to the permitted levels inside the module. Thanks to its extremely compact design, the ESM energy-saving module can be installed in very restricted space. The ESM features a central bore for screw fixing inside the junction box.

Technical specifications

Energy saving principle			time-controlled changeover from bridge to half-wave rectification			
Fast turn-off			electronic DC side turn-off through voltage detection			
Ambient temperature			[°C]	-30… 70		
Connections			**Input**		2 leads 1.5 mm² fine-wire to UL 1015 (AWG 14)	
			Output		2 terminals from 0.2 mm² to 0.75 mm²	
Type **32..**	**Rated input voltage (40 – 60 Hz)** **VAC (±10%)**	**Max. output current rated excitation / underexcitation** **ADC**	**Rated excitation time** **T_{OE} (±15%)**	**Pause until ready for restart** **T_P / s**	**Output voltage rated excitation / holding excitation** **VDC**	**Installation**
77101A00	100 ... 240	1.0 / 0.5	0.2 s	0.15	$U_{out} = 0.890 / 0.445 \cdot U_{in}$	central bore for screw fixing adhesive pad
77101A01	220 ... 400	1.0 / 0.5	0.2 s	0.15		

CE

EMC Directive 2004/108/EC:
Compliance with the following standards is confirmed:
EN 50081-2 (Emission):
EN 55011 (VDE 0875, part 11, 1992)
Group 1, Class A conducted interference
Group 1, Class B radiated interference
EN 61000-6-2 (Immunity):
EN 61000-4-3 (1997) severity level 3
EN 61000-4-4 (1996) severity level 3
EN 61000-4-5 (1996) severity level 3

Protection:
IP 00 to EN 60529

Low Voltage Directive 2006/95/EC:
Compliance with the following standards is confirmed:
HD 625.1 S1:1996 (VDE 0110) insulation coordination
EN 60529 (1991) IP 54
external mounting

Machinery Directive 2006/42/EC:
These products are considered components in the sense of Machinery Directive 2006/42/EC and must not be put into service until the machinery in which they are incorporated has been declared in conformity with the provisions of the EC Directives.

RoHS
The specified products comply with the requirements of RoHS Directive 2011/65/EU.

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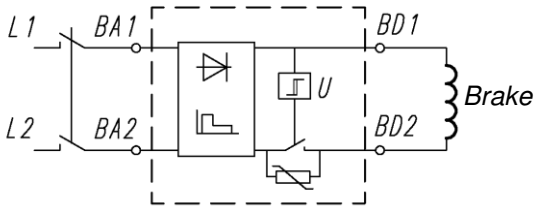
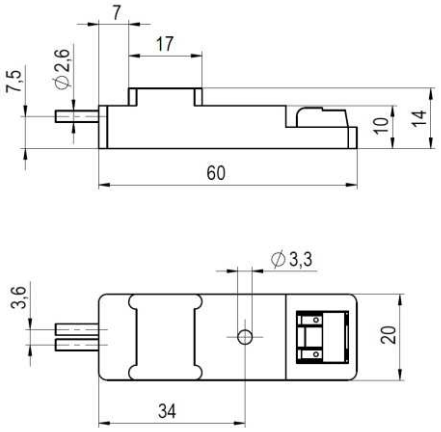
Connection example:
operation with brake motors



Housing dimensions (mm) 32 77101A0x



Connection and operation

Energy-saving modules with internal DC side e ideal for use with electromagnetic brakes of electric motors or with other electromagnetic devices with high dynamic performance. They also enable the reduction of losses during holding periods. The technical specifications depend on the connected loads and on their electric and mechanical properties.
If the ESM is used on electromagnetic brakes that are operated in parallel with the motor, brake engagement may be significantly delayed in the presence of driving loads when the motor operates in generator mode after turn-off. If the ESM is operated at a voltage below the permitted minimum operating voltage, uncontrolled turn-off of the voltage sensor may cause malfunctions or even irreversible damage to power transmission components. The mechanical time constants during brake release or engagement and during switching of the electromagnetic device must be considered. The maximum switching frequency of the ESM merely defines a limit value for the dissipated power that can be absorbed by the energy-saving module, depending on the rated excitation time and its tolerance, the minimum holding time and the minimum recovery time. Turn-off must take place at holding current since repeated turn-off during overexcitation may cause thermal overloading of the ESM. Turn-off during overexcitation may affect the required recovery time and the overexcitation time that follows.

Attention!
As a rule, the mean power must not exceed the rated power of the connected load at the rated duty cycle.
The mean current load of the ESM must not exceed the specified rated holding current at the specified ambient temperature. Check that the ESM pinout is correct. Incorrect connection would cause irreversible damage to the energy-saving module. The ESM is not short-circuit proof. Output short-circuit to ground will destroy the ESM.

Connections

Colour	Identification to EN 60034-8
Brown	BA1 = ACin
Brown	BA2 = ACin
Terminal 1	BD1 = +
Terminal 2	BD2 = -

Prescribed wire diameters for circuit board terminal

Wire type 1	single-wire
Cross-section [mm^2]	0.2 – 0.75
Cross-section [AWG]	18 – 24
Wire type 2	fine-wire
Cross-section [mm^2]	0.2 – 0.75
Cross-section [AWG]	18 – 24
Wire type 3	fine-wire with wire end ferrule
Cross-section [mm^2]	0.25 – 0.34

Specifications subject to change without notice!

Kendrion (Villingen) GmbH
Wilhelm-Binder-Str. 4-6
78048 Villingen-Schwenningen
Germany

Tel. +49 7721 877 1417
Fax +49 7721 877 1462
E-mail sales-ids@kendrion.com
www.kendrion.com