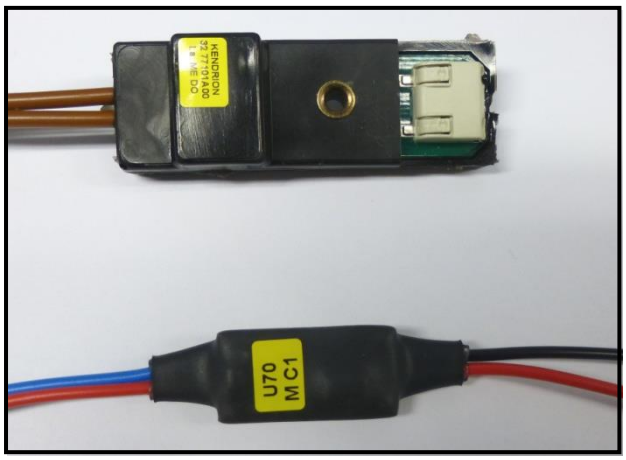
KENDRION

34 10125Xxx Product Specification



34 10125Bxx / 34 10125Axx

ESM energy-saving module for electromagnetic devices

The ESM energy-saving module provides optimized control of inductive loads such as brakes, electromagnets and valves.
The electronic module uses pulse-width modulation to keep the voltage supplied to the electromagnetic device at a constant level over a wide input voltage and temperature range.
The full operating voltage is applied for a limited period of time to ensure fast and powerful switching when the load is switched on. The electronic module then reduces the power supply to constant holding voltage. A 30% reduction provides energy savings of 50%.
Moreover, lower intrinsic heating of the load extends the operating temperature range.
The module is very compact thanks to the use of state-of-the-art microelectronics and power electronics components.
Overexcitation time and holding voltage can be factory-programmed to customer requirements.

Technical specifications

Functional principle		**controlled pulse-width modulation (PWM)**		
Pulse-width modulation (PWM)		%	70%	other PWM settings upon request (10% to 70%)
Ambient temperature		(°C)	-20 ... 80	derating as specified
Input voltage range		(VDC)	18 V … 40 V	
Overexcitation voltage		(VDC)	input voltage or max. 30 V controlled voltage	
Overexcitation time		(ms)	200 ms	other time settings upon request
Voltage control through PWM, base frequency		(Hz)	500 Hz	other frequency settings upon request
Type	**Rated input voltage U_1 (tol.: ±10%)**	**Max. output current (ADC)**	**Housing W x H x D (mm)**	**Connections**
34 10125Bxx	18 – 40 V	2.0	59.9 x 19.8 x 12.4	2 leads 0.5 mm² fine-wire / to UL 1007 / 1569 (AWG 20) and 2 terminals Wago 2060
34 10125Axx	18 – 40 V	2.0	27 x 14 x 8	4 leads 0.5 mm² fine-wire / to UL 1007 / 1569 (AWG 20) (heat-shrink protected module)

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

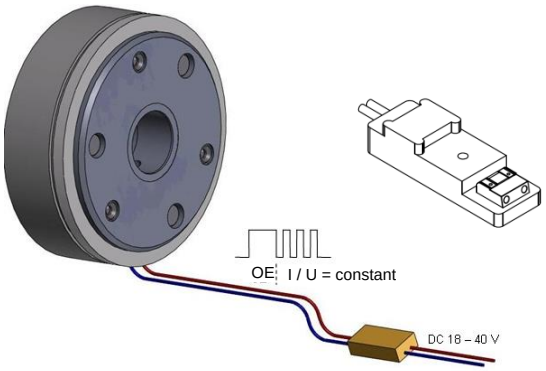
Low Voltage Directive 2006/95/EC:
Compliance with the following standards is confirmed:
HD 625.1 S1:1996 (VDE 0110) insulation coordination
EN 60529 (1991) IP 54 external mounting

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.

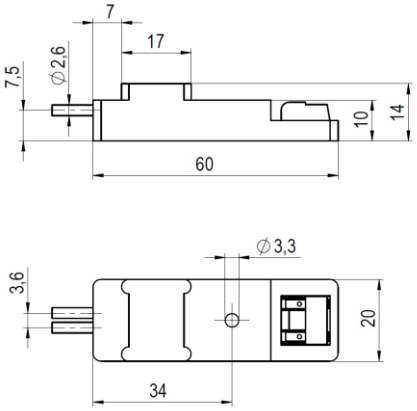
ROHS
We hereby declare that the above-mentioned products comply with the requirements of the RoHS Directive 2011/65/EU on the restriction of the usage of certain hazardous substances in electrical and electronic equipment, assigned to equipment category 11.

© KENDRION 03 June 2019

Connection example



Housing dimensions (mm) 34 10125Bxx



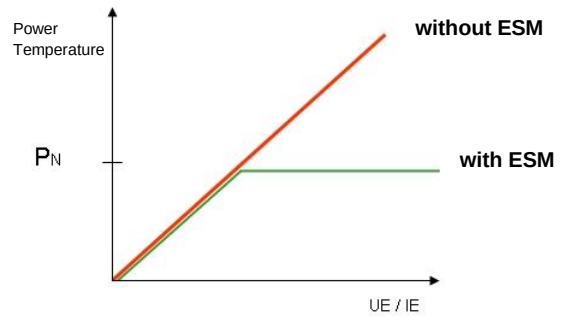
Connections of 34 10125Axx

Colour for lead type	Identification on housing
Uin red	BA1
Uin blue	BA2
Uout red	BD1
Uout black	BD2

ESM types

Type	Current / Voltage U_N / I_N	Holding current / voltage	Comments
34 10125X00	24 V	10 – 90% UN	programmable
34 10125X01	24 V	70% UN	
34 10125X02	24 V	50% UN	

Power consumption of an electromagnetic device with and without ESM



Connection and operation

34 1xx25Axx

The ESM keeps the control voltage supplied to the electromagnetic device at a constant level over a wide input voltage range. When the device is switched on, the full supply voltage is applied on a time-controlled basis to ensure fast and powerful switching. Depending on the specific application, the controlled holding voltage applied after this initial phase can be factory-set to between 10 and 90% of the rated voltage to ensure ideal operating conditions. This solution offers substantial energy savings along with a wider operating temperature range thanks to reduced intrinsic heating.

Protection:
Version 34 10125Axx: IP 54 to EN 60529
Version 34 10125Bxx: IP 20 to EN 60529

Specifications subject to change without notice!

Prescribed wire diameters for circuit board terminal

Wire type 1	single-wire
Cross-section [mm²]	0.2 – 0.75
Cross-section [AWG]	18 – 24
Wire type 2	fine-wire
Cross-section [mm²]	0.2 – 0.75
Cross-section [AWG]	18 - 24
Wire type 3	fine-wire with wire end ferrule
Cross-section [mm²]	0.25 – 0.34

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

© KENDRION 03 June 2019