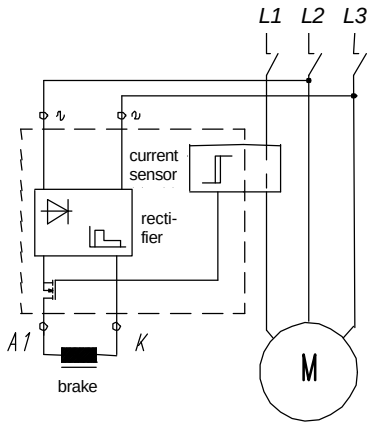
32 17301A01 Product Specification

Single-phase overexcitation rectifier with current sensor

32 17301A01

The single-phase rectifier with integral current sensor specified below reduces the switch-on time of electromagnetic brakes. The current sensor and an electronic switch provide extremely short switch-off times as they would otherwise only be possible with DC side switching.

Block diagram



Technical data

Input voltage:	220...480 VAC +6% -10%
Frequency:	40...60 Hz
Output voltage:	U_1 x 0.89 – 8% with overexcitation U_1 x 0.445 with holding excitation
Max. output current:	4 ADC with overexcitation 2 ADC with holding excitation
Max. switching power:	200 W with holding excitation
Overexcitation time:	300 ms ± 30%
Recovery time:	100 ms
Min. switch-on time:	400 ms
Max. switching frequency:	2 Hz
Min. sensor current:	0.6 AAC with single conductor winding 0.2 AAC with three conductor windings
Max. sensor current:	60 AAC (continuous current) with single conductor winding
Ambient temperature:	-10...+70 °C
Protection (EN 60529):	rectifier IP65, connection IP00

The product consists of a thyristor-controlled bridge rectifier and a timer. During the overexcitation time, the rectifier converts the AC mains voltage into bridge-rectified output voltage. The thyristor is then disabled by the timer to change over to a half-wave rectified output voltage.
The current sensor measures the current in the motor feed cable. Due to the special design of the rectifier with built-in current sensor, the device can be mounted without having to split the motor cable.
During switch-off, the current sensor and electronic switch provide rapid de-energizing of the excitation coil. Consequently, DC side switching over a switching contact is not necessary. The switch-off voltage is limited to approx. 400 V. Varistors are provided to protect the rectifier against overvoltage.
The single-phase rectifier is ideal for operation in parallel with the motor winding. It can be connected either between a phase conductor and a neutral conductor or between two phase conductors.
Attention!
One of the motor feed conductors must be fed through the sensor to ensure that the rectifier is switched on. Make sure that the rectifier is not connected to the conductor fed through the sensor in order to avoid delayed electronic switch-off.
The switch-on time must not remain under the specified minimum time as frequent switching off during the overexcitation time may cause thermal overloading of the rectifier and brake.

CE

These products meet the requirements of the **EMC Directive 89/336/EEC**.
Compliance with the following standards is confirmed:
EN 55011 (VDE 0875, part 11, 1992)
Gr. 1, cl. A, disturbance voltage
Gr. 1, cl. B, disturbance radiation
EN 61000-4-3 (1997)
test severity level 3,
EN 61000-4-4 (1996)
test severity level 3,
EN 61000-4-5 (1996)
test severity level 3
The products comply with the **Low Voltage Directive 73/23/EEC**.
Compliance with the following standards is confirmed:
HD 625.1 S1 (1996)
EN 60529 (1991)

The products are considered components in the sense of the **Machinery Directive 98/37/EEC** and are not to be used until the machine in which they are to be incorporated is declared to conform to the requirements of the EEC Directives.

Specification subject to change without notice.

Please observe ordering data!

KES 27.05.2002

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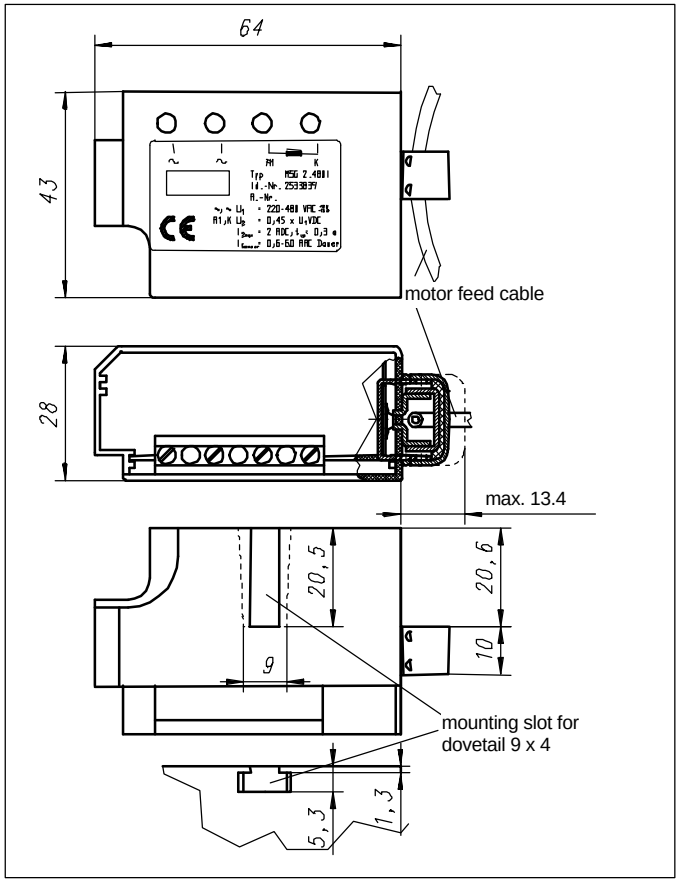
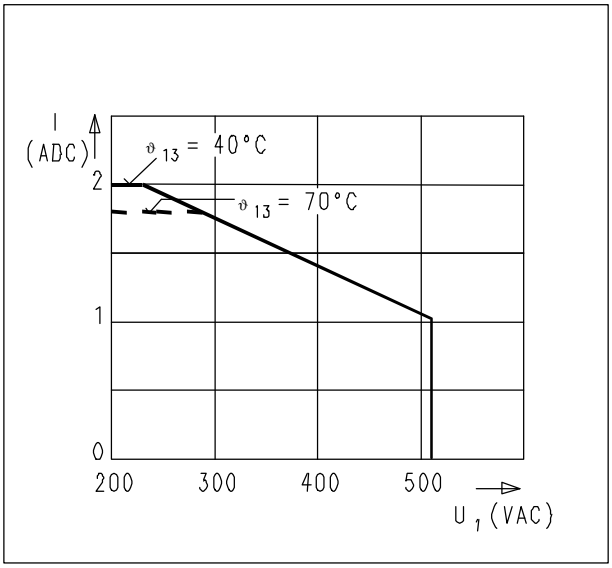
Dimensions (mm)



Current reduction I = f (U_1)



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Ordering example 32 17301A01
Overexcitation rectifier
with current sensor