



32 47102A00

Single-phase rectifier with integrated motor current detection

Rectifiers with integrated current sensor are designed to be fitted to motor, brake or magnet connector boxes. As switching operations are determined by the motor current, these rectifiers provide braking times that would other-

wise only be possible with additional DC side switching. Dynamic requirements in terms of quick motor stopping can be satisfied by using this type of brake rectifier without necessitating additional lines and external contacts for DC side brake

switching. The special rectifier and current sensor combination provides electronic DC side switching directly within the rectifier. The housings are designed for mounting to PG screw connectors or metric screw connectors

by means of suitable adapters. These features allow the rectifiers to be used irrespective of the available space within the connector box.

Technical data

Rectification / DC side switching			half-wave or bridge with internal motor current detection			
Ambient temperature			(°C)	-25 ... 70	Derating: see diagram	
Motor current detection range			(A AC)	0,6 ... 30		
Transient overload capacity of current detection			(f(I _{Mn}))	- 7 * I _{Mn}		
Disconnection delay			(ms)	20 ms	at 50 Hz, I _M = 0.6 A	
Disconnection voltage			(V)	approx. 700 V	at I = 1 ADC	
Maximum permitted energy absorption of switching voltage limitation			(J)	28	for 2 ms	
Type	Rated input voltage V ₁ (tol.: ±10%) (40 – 60 Hz) (VAC)	Output voltage V ₂ (f(V ₁))	Max. output current I (ADC)	Rectification	Mounting	Connections
32 471						
02A00	- 415	0,445 * V ₁	1,4	half-wave	screw connector PG 13.5	2 x S: 1.5 mm² blue, cable lug 4 mm 2 x AC: 0.75 mm² brown, cable lug 4 mm 2 x L: 0.75 mm² black, wire end ferrule
03A00	- 415	0,89 * V ₁	1,4	bridge	screw connector PG 13.5	2 x S: 1.5 mm² blue, cable lug 4 mm 2 x AC: 0.75 mm² brown, cable lug 4 mm 2 x L: 0.75 mm² black, wire end ferrule

Permitted current load at ambient temperature



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) Group 1, class A disturbance voltage Group 1, class B disturbance radiation

DIN EN 61000-4-3 (1997) test severity level 3, DIN EN 61000-4-4 (1996) test severity level 3, DIN 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:

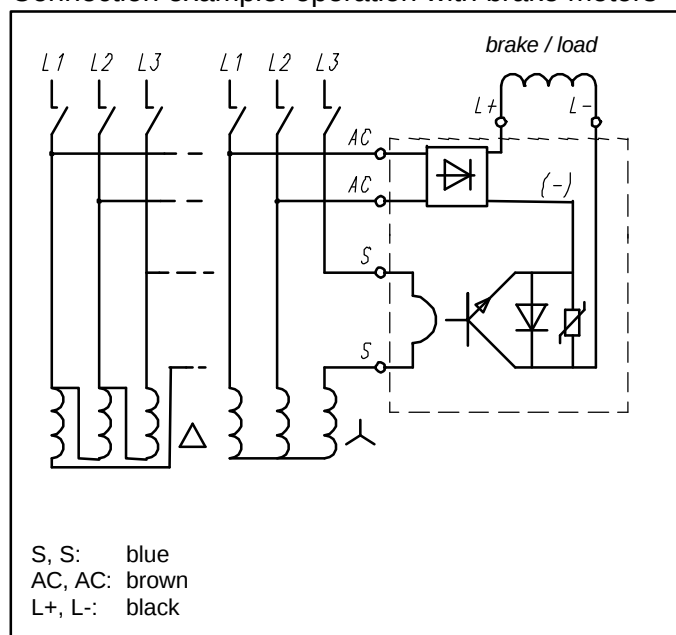
HD 625.1 S1 (1996) EN 60529 (1991) The products are considered components in the sense of the **Machinery Directive 98/37/EEC** and are not to be used until the machine in which they are to be incorporated is declared to conform to the requirements of the EEC Directives.

Protection: as per EN 60529: IP 65 when mounted

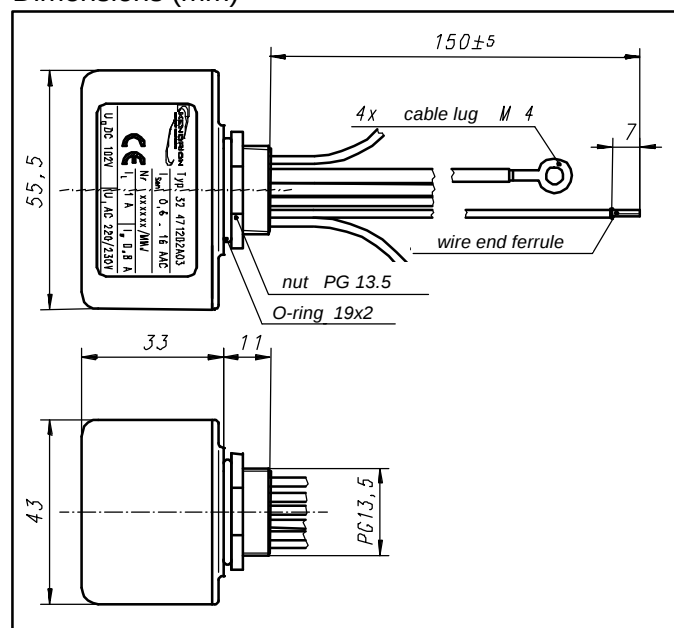
Specification subject to change without notice.

Please observe ordering data!

Connection example: operation with brake motors



Dimensions (mm)



Hints for connection and operation

Rectifiers with current detection have been specifically designed for quick braking of electric motors. The terminals marked "S" are connected in series with a motor winding.

Attention!

The brake is switched off if the current sensor has not been connected correctly or in case

of an insufficient motor current flow or phase failure. In this case, it must be ensured that continuous motor operation is inhibited when the brake is not released as this would cause damage to the brake, magnet or rectifier.

Any motor change-over during operation which would cause the current flowing through the "S"

terminals to fall below the minimum switching current for over 10 ms is not allowed as this may cause the brake to engage.

The "AC" inputs of the rectifier must be connected in such a way that the brake current cannot flow through the current sensor terminals marked "S" as this would delay disconnection.

The "S" terminals are potential-separated from the "AC" and "L..." terminals.

Switch operation by switching only the current flow through the terminals "S" without switching the "AC" terminals is not allowed due to dynamic overload of the rectifier.

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Ordering example Rectifier with current detection

32 4710 [] A0 []

2 – half wave
3 – bridge –

0 – 415 VAC, 1,4 ADC