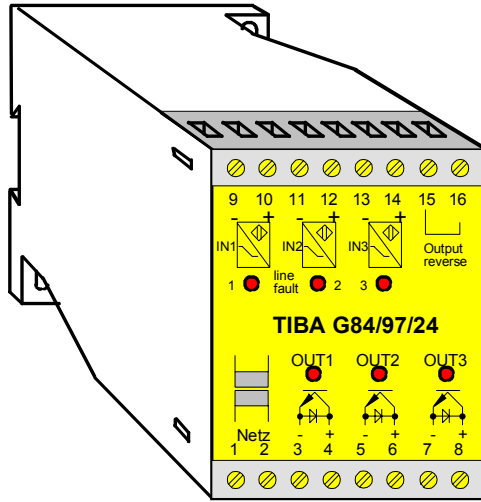


Spec Sheet No.: G84-97.DOC Issued: January 03



## Switching Amplifier for 3 inductive NAMUR sensors (3 Single Wheel Sensors) or 1 inductive NAMUR double sensor (1 Double Wheel Sensor)

Type G84/97/... without pulse extension  
 G84/122/... with pulse extension 1 sec.

- Switching amplifier for 3 single sensors or 1 double wheel sensor (2 internal systems) - NAMUR
- Available with or without pulse extension
- All functions visible via LEDs
- Optocoupler output
- Function reversal by jumper

### Application

The switching amplifier comprises 3 channels. Up to 3 NAMUR single wheel sensors or 1 double wheel sensor can be connected.

### Operating principle

The switching amplifier consists of 3 independent NAMUR amplifiers which comprise, depending on the model, a pulse extension to a duration of 1 second per channel. The duration of the pulse extension can be preset internally by the manufacturer. As signal transmitters, the following models can be used:

1. N59-1R-200-45 Single wheel sensor according to DIN 19234 (NAMUR)
2. 2N59-1R-200-45 Single wheel sensor according to DIN 19234 (NAMUR)
3. 2N59-1R-200-40 Single wheel sensor according to DIN 19234 (NAMUR)

All signal transmitter conductors are monitored for a line fault. The signal transmitters operate contactless, i.e. there is no mechanical link between the wheel flange and the signal transmitter. When a ferromagnetic material such as the rail cars wheel flange moves along the active surfaces of the signal transmitters (wheel sensor), the movement of the wheel flange is transformed into electric pulses by the wheel sensor (transmitter) and detected at the amplifier inputs processed and made available as a digital output signal via an optocoupler output.

### Specifications

Input frequency: > 2 ms  
 Temperature range: -25° C to +60° C  
 Operating voltage: 230 VAC, 115 VAC  
 48...60Hz,  
 12VDC or 24VDC  
 ±15%, 3.5 VA, 2.5W

Protection class: Casing IP 40, class IP 20  
 Casing material: Polycarbonate/ABS  
 Installation: On ground plate or  
 top hat rail DIN 50022  
 Dimensions: L 75 x W 55 x H 110 mm  
 Terminal cross-section: 4 mm<sup>2</sup>

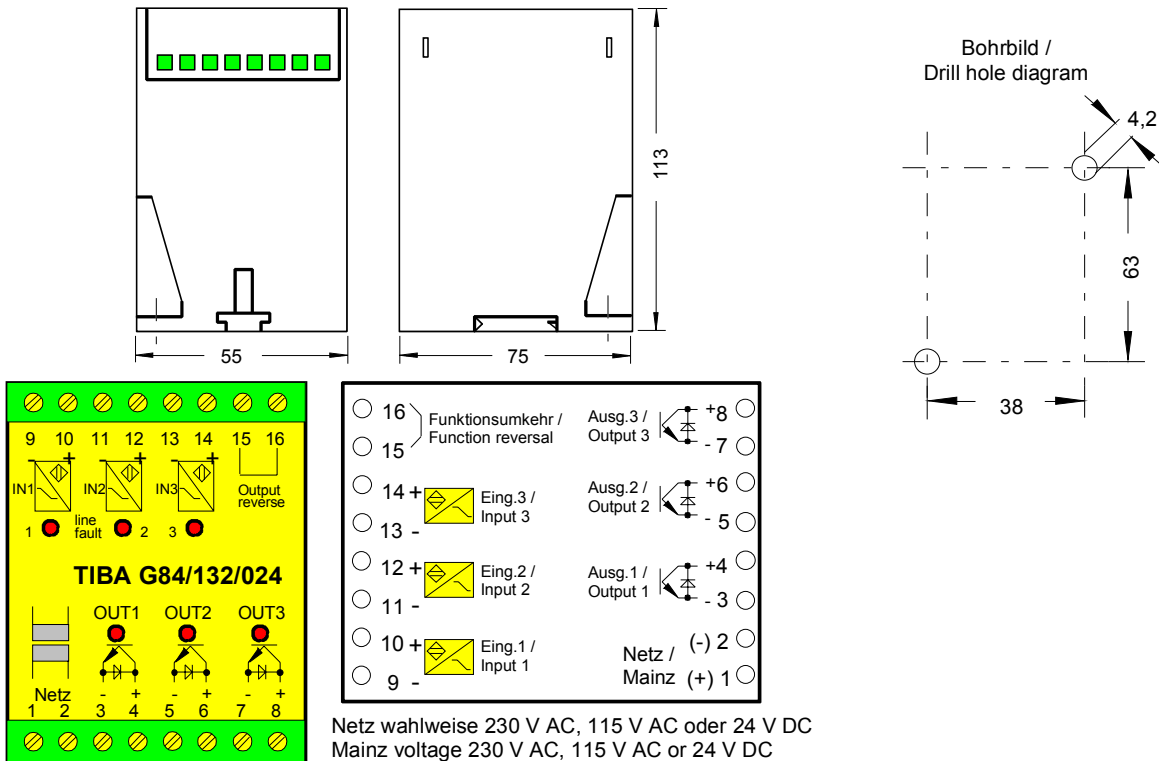
### Input circuit:

3 independent channels.  
 NAMUR Input: according to DIN 19234  
 Voltage: 8.2 VDC  
 Current: max. 8.2 mA  
 Switching threshold: 1.55 mA  
 Switching hysteresis: 0.2 mA

### Output circuit:

Pulse extension: 1 sec. (model G84/122/..)  
 Optocoupler rating  
 Voltage: 80 V DC  
 Current: 100 mA  
 Voltage drop: ≤ 1.5 V at maximum  
 current

**Dimensions, wiring diagram and operator panel.**



**Type identification key**

G84 / 97 / 230

- ↳ Operating voltage 230 = 230VAC, 115 = 115VAC or 024 = 24 VDC
- ↳ 97 = Switching amplifier for 3 inductive NAMUR sensors with pulse extension 1 sec.
- ↳ 122 =
- ↳ Casing type G84 = casing for use in enclosed cabinets and top hat rail installation

G84/97/012VDC Item No.: 055775  
 G84/97/024VDC Item No.: 055776  
 G84/97/110VAC Item No.: 055610

G84/97/230VAC Item No.: 076432  
 G84/122/024VDC Item No.: 059475  
 G84/122/110VAC Item No.: 059476

**TERMINAL DESCRIPTION**

Terminals	
1 / 2	Power Supply 115 V - ±15% / 3.5 VA
3 / 4	Output 1
5 / 6	Output 2
7 / 8	Output 3
9 / 10	Input 1
11 / 12	Input 2
13 / 14	Input 3
15 / 16	Output reverse by Link

U<sub>max</sub>: 80 V-  
 I<sub>max</sub>: 100 ma-  
 by - 1.5V Voltage Drop  
 U<sub>c</sub> = 8V ±2.5%  
 R<sub>i</sub> = 2.5 Kohm ±5%

