



Microphonic speed detection module VE-M-011-SE

The module serves for the speed detection of a rotating panel in a varnishing turbine using a condenser microphone. The perceivable rotational speed ranges between 10000 and 60000 r/min. With each rotation, an air impulse streams through an air tube to the microphone. The length of the air tubes lies between 2 up to 6 m maximum with an inner diameter of 4 mm. The pressurised pressure amounts to approximately 3 bar. Then, the microphone generates an analog voltage depending on the rotational speed of the panel as well as on the air pressure. In addition, the analog signal also contains disturbance components, like e.g. noise, level break-downs due to air gap changes on the panel and low-frequency proportions due to pressure changes in the system. It is, therefore impossible to use the microphone signal in simple, digital sequence actuation.

The module VE-M-001-SE utilizes the microphone signal to create a signal which can easily be processed, e.g. by integrating or measuring the frequency.

The module can be adjusted to external environmental conditions by specialized staff.



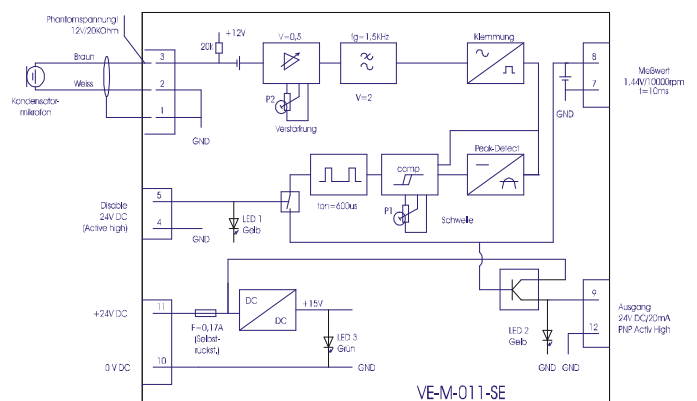
Technical data:

- Microphone-input level $2V_{ss} \leq U_{in} \leq 10V_{ss}$ Poti P2 on left stop, equals status on delivery
- Pulse time control output $600 \mu s \pm 10\%$
- Control output $24V/20mA_{eff}$, PNP active high, not potential-free
- Control output „Disable“ $24V/10mA$, active high, not potential-free

- Control output $1.44V \pm 10\%$ per 10000 U/Min
- Fuse protection internally, 0,17A, self-resetting
- Status display pulse-output by LED, power supply by LED, Disable-input by LED

The module adapts itself to the input level and is capable of compensating short-term level fluctuations. In the basic configuration (delivery status), the input level can range from $2V_{ss}$ to $12V_{ss}$, which corresponds with a dynamic range of approximately 16dB. The supply voltage needed for the operation of the microphone (phantom voltage) is generated by the module. This source of voltage is of such a high resistance ($12V/20K\Omega$), that even in the case of a short circuit within the microphone no hot sparks may occur.

The microphone is not included in our scope of delivery and can be purchased at specialized trade.



Dimensions

- Breadth: app.25mm
- Height: app. 60mm
- Depth: app. 90mm

Power supply

- 24V DC +/- 10%; reverse polarity protected, 60mA

Weight: app. 150g