let your mind flow

Microphonic Speed Detection Module PR0034

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 pressurized 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.

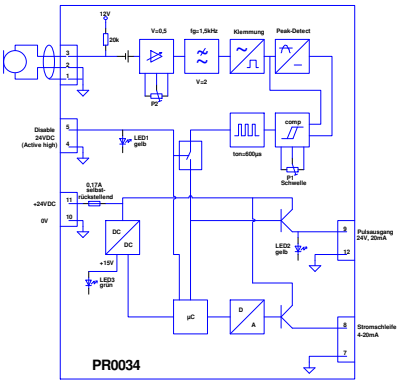
The module can be adjusted to external environmental conditions by specialized staff.

Technical data:

- Microphone-input level 2Vss <= Uin <= 10Vss Poti P2 on left stop, equals status on delivery
- Pulse time control output 600 µs ± 10%
- Control output 24V/20mA$_{eff}$, PNP active high, not potential-free
- Control output „Disable“ 24V/10mA, active high, not potential-free
- Current output 4mA to 20mA
- Least educible rotational speed ~5U/min
- Time delay current output according to the cycle duration of the input signal, min. 1ms, max. 12s
- Control output 1,44V ± 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

By means of this microphone signal, the module PR0034 produces two output signals. The first signal is a pulse output with a fixed pulse duration and the frequency of the output signal corresponding to the input frequency.

The second output is a current output covering the range from 4 to 20mA. The output value 4mA equals a speed frequency of 0 r/min, the final value 20mA can be adapted according to the customers' requirements. In the delivery status, this corresponds to a rotational speed of 80000 r/min.



Dimensions

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

Power supply

- 5 VDC (-5%/+10%), max. 0,1 A

Weight: app. 300g

Premosys GmbH
HIGIS-Ring 20
D-54578 Wiesbaum

info@premosys.com
www.premosys.com

Tel.: ++49 (0) 6593 – 99 86 82
Fax.: ++49 (0) 6593 – 99 86 84