

■ FC 9001 - Monitoring the difference of two speeds

Highlights

- Monitoring of gear ratios
- Integrated frequency divider
- Adjustable threshold and hysteresis
- High reliability and small dimensions

General

The unit **FC 9001** is used for monitoring the deviation of two frequencies. There are two frequency input channels A and B provided. The higher frequency has to be applied to input channel A. This frequency can be divided by a value between 1 and 255. The value of the divider is selectable by an internal DIP-switch.

The permissible difference of the two frequencies and a hysteresis can be adjusted by internal DIP-switches. The permissible difference is selectable from 1 to 15 % in referring to the frequency of input channel B. The adjustable range of the hysteresis is +/- 0...3%. Attention must be paid that the value of the adjusted hysteresis is lower than the value of the selected threshold.

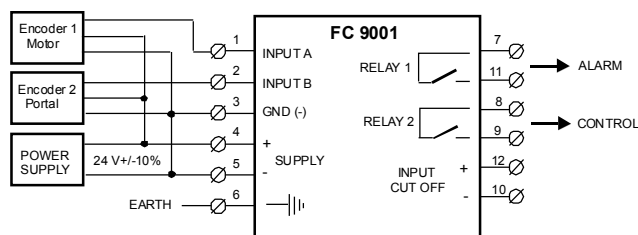
If the deviation of the two input frequencies exceeds the selected threshold, the output contact of relay 1 will close. For special applications the relay 1 output can be set inactiv by the "CUT OFF" input.

Digital Inputs

All input channels are optically isolated from the internal circuitry. By this way disturbances by a noisy environment are reduced. Two incremental encoders with push-pull outputs can be connected to the input channels (see figure 1).

The device can also process signals from sensors with 3-wire pnp outputs. The input frequency has to be between 0,5 kHz and 60 kHz. Input voltage levels of 24, 12, or 5 V are selectable by internal jumpers. The nominal input current is about 5 mA.

Block Diagram



Relay Output

There are two relay outputs provided. The contact ratings are 250 VAC / 3 A.

Housing

The unit **FC 9001** is provided for DIN-rail mounting according to EN 50022. The case is of Polyamid PA 6.6 (color green).

Power Supply

The unit is designed for different power supplies (see ordering information). The power supply input is isolated from all input and output channels.

Specifications

Input channels, voltage level	: 24 V, 12V, 5 V, optoisolated
Input current per channel	: > 5 mA source current
Channel A, frequency range	: 0,5... 60 kHz
Channel B, frequency range	: 0,5... 60 kHz
Tolerances of the inputs	: +/-20% of the nominal input level for a logical "1". : Max. 20% of the nom. input level for a logical "0".
Frequency divider	: 1...255 (channel A only)
Threshold adjustment	: 1...15 % (ref. to channel B)
Hysteresis adjustment	: 0... 3% (ref. to channel B)
Relais contact ratings	: 3A / 250 VAC
Power supply	: see ordering Information
Current consumption	: max. 32 mA, (24 VDC)
Construction	
EMV	: conform with 89/336/EWG
Protection	: IP40
Mounting	: EN 50022
Operating temperature	: -5 to +55 °C
Dimensions	: 99 x 114,5 x 17,5

Ordering Information

FC 9001	-	X	0	0	
					Reserved
					Reserved
					Power supply
			0		4,5 ... 9 V DC, (option)
			1		9 ... 18 V DC, (option)
			2		18 ... 36 V DC, (standard)
			3		36 ... 48 V DC, (option)