

Analog-Frequency Transmitter AF 500

Output-frequency programmable in range 0... 0.01Hz up to 0 ... 20kHz

Features

- Inputs for standard signals 0/4 ... 20mA, 0/2 ... 10V DC
- Teach-in programming for analog start- and end value (only if input signal differs from standard signals)
- Output frequency range programmable by rotary switches
- Outputs transistor passive and relay SPDT
- Full 3-port isolation
- Power-on and operating mode indicated by 2-colour LED
- Supply voltage 24V DC or 230V AC
- 22,5mm case for DIN rail mounting



General information

Analog frequency transmitter AF500 converts standard industry signals 0/4...20mA or 0/2...10V DC into a proportional frequency. The output frequency is programmable with rotary switches at the side.

Short information

Accuracy of adjust	1% 0.1%	at start value of the frequency unequal 0 at start value of the frequency equal 0
Teach-in	Tolerance of the input signal (standard signal) can be adapted	
Watch-dog	watches program running and provides auto-reset in case of error	
Outputs	Transistor output and relay are operating in parallel mode. For frequencies smaller than 9.9 Hz the relay output can be deactivated by front side DIP switch S4. For frequencies higher than 9.9Hz the relay output is automatically deactivated.	

Technical data

Power supply

Supply voltage	: 230V AC \pm 10% or 24V DC \pm 15%
Frequency AC	: 47 ... 63Hz
Power consumption	: < 3VA
Working temperature	: -10 ... +60°C
Rated voltage	: 250 V \approx acc to VDE 0110 group 2 between input / output / supply voltage
Test voltage	: 4kV- between input / output / supply voltage
CE - conformity	: EN55022, EN60555, IEC1000-4-4/5/11/13,

Measuring input

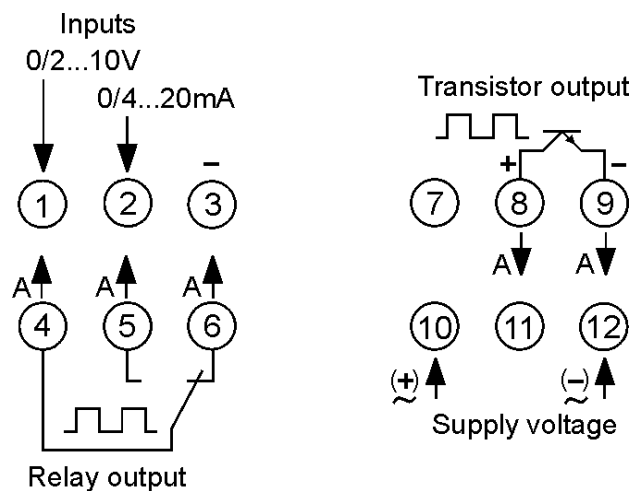
Current input	: 0 ... 20 mA, 4 ... 20 mA	switch selectable, $R_i = 51 \Omega$
Voltage input	: 0 ... 10V DC, 2 ... 10V DC	switch selectable, $R_i = 20 \text{ k}\Omega$
Start value	: programmable in range	0 ... + 25%
End value	: programmable in range	-15 ... + 10%

Outputs

Transistor	: max 30V DC, load max. 30mA
Frequency range	: 0 ... 0.01Hz, 0 ... 20kHz duty cycle 0.5
Relay	: 250V \sim < 250VA < 2A, 100V = < 50W < 1A
Frequency range	: 0 ... 0.01Hz, 0 ... 9.9Hz, duty cycle 0.5
Accuracy	: 0.1 % of end value
Temperature coefficient	: 0.01% / K

Case	: Standard case of polycarbonate 8020 UL 94 V-1
Weight	: appr. 140g
Protection	: Case IP 30, terminals IP20 acc. German BGV A2
Connection	: Screw terminals with pressure plates, max. 2.5mm ²

Connection diagram

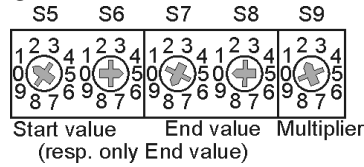


Output-frequency range configuration

The frequency range can be programmed by five rotary switches (S5-S9) at the side of the case (start value = S5, S6; end value S7, S8. Switch S9 is the multiplier for the values. This condition applies only to switching position 1-6 of the multiplier (example 1). For switching position 7-0 only the end value of the frequency with four digits (S5-S8) (example 2) can be programmed.

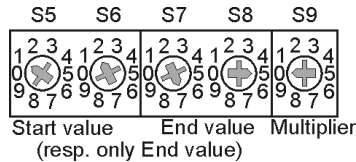
Example 1

Range : 1.5 ... 8.0 Hz
Switch position : 1-5-8-0-2



Example 2

Range : 0 ... 12750 Hz
Switch position : 1-2-7-5-0



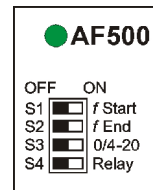
Rotary switches at the side

S9	Multiplier	Functions S5-S8
1	0.01 Hz	Start- and End value 2-digit each programmable
2	0.1 Hz	
3	1 Hz	
4	10 Hz	
5	100 Hz	
6	1000 Hz	
7	0.01 Hz	0 ... (only) End value 4-digit programmable
8	0.1 Hz	
9	1 Hz	
0	10 Hz	

Front controls

DIP-switch	OFF	ON
S1	-	f Start value
S2	-	f End value
S3	0mA / 0V	4mA / 2V
S4	Relay OFF	Relay ON

Front view



Decreasing characteristic output curve:

Rotary switch S7, S8 = Start-value; S5, S6 = End-value. Only DIP-Switch Position 1-6 (S9)

LED Function

- Green** permanent Normal operation
- Green** flashing (Calibration) Input signal in correct range
- Red** flashing (Calibration) Input signal out of range or DIP-switch position wrong
- Red** permanent Program error, factory repair service required

Calibration input signal

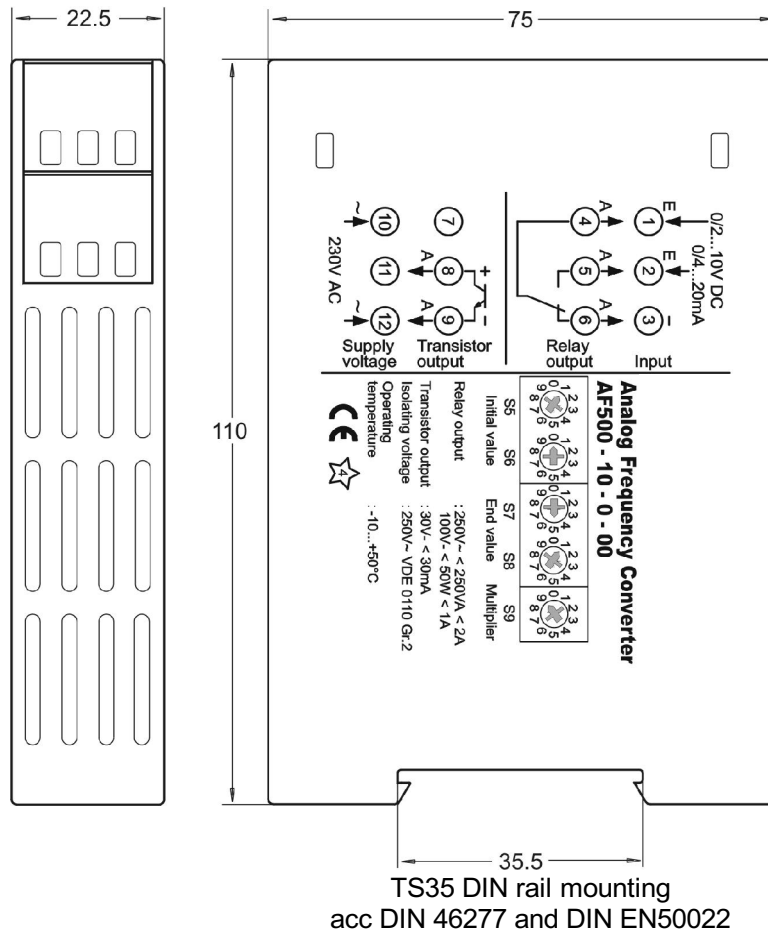
It is possible to calibrate the start- and end-value if the input signal differs to the standard industry signals 0/4...20mA and 0/2...10V.

Example:

Input signal 0.2 ... 19.8 mA; output frequency 0 ... 12750 Hz

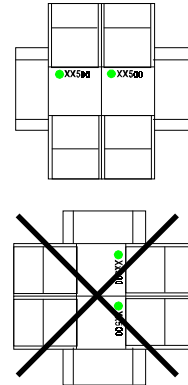
- Select Frequency range with rotary switches
- Connect Start value 0.2mA at terminals
- DIP-switch S1 at position ON.
- LED flashes green (Note: LED is flashing red, the input signal is out of range).
- The connected start value will be entered if DIP-switch S1 is switched to position OFF
- Connect End value 19.8mA at terminals
- DIP-switch S2 at position ON.
- LED flashes green (Note: LED is flashing red, the input signal is out of range).
- The connected start value will be entered if DIP-switch S2 is switched to position OFF

Dimension



Caution!

Mounting of multiple units without distance is only permitted in horizontal orientation.



Order code

AF500 - - -

1. **Measuring range**
 10 Input 0/4...20mA or 0/2...10V DC
 Programmable output frequency from 0.. .0.01Hz up to 0 ... 20kHz
2. **Supply voltage**
 0 230V AC ±10%
 5 24V DC ±15%
3. **Options**
 00 without option