

Certified according to DIN EN ISO 9001

Technical Datasheet



FAU 50

Frequency to Analogue Converter

Description

The FAU 50 is a microprocessor-based unit to convert frequencies from 3Hz up to 5,000Hz into a potential-free analogue signal with a resolution of 13 bit.

The FAU 50 is operated via a front-panel touch-keyboard and a two-line LCD-display. The FAU is user-guided for easy parameter setting. Preset units for all values make conversions superfluous. The versatile and adjustable transmission behaviour provides for perfect adaptability to the process.

Operation

Real-time flow monitoring

by MIN- and MAX limits: hysteresis and transmission behaviour adjustable

Pulse divider

high resolution, with adjustable pulsetime

Detection of rotational direction

polarity of analogue output changes with reverse direction

Integral totaliser

counting up and down in accordance with rotational direction

Pickup power supply

for pickups and amplifiers of KEM flow meters

LCD display and touch-keyboard

for operation and indication of all operating values and parameter settings

Features:

- High accuracy: 0.015%
- Short response time
- Easy parameter setting

Technical Data

Linearity:	0.015% of final value
Temperature drift:	0.050% per 10K
Residual ripple:	0.050% of final value
Adjustable range:	Depending on the programmed K-factor
Protection class:	IP20 Terminals shock-protected as per VBG4 and VDE0106 part 100
Allowable ambient temperature:	0 up to +45°C
Supply voltage:	230V, 115V/50Hz, AC or 24VDC ($\pm 15\%$) (please indicate with order),
Power consumption:	4 VA
Lifetime of battery:	8 years with storage and at least 10 years with daily 8-hour-operation
Pickup supply:	12 V DC, 20 mA
Connections:	Screw terminals, max. wire size 2.5mm ²
Housing:	Plastic for mounting rail DIN/EN 500022-35 or wall mounting Dimensions: L = 100, W = 77, D = 114 (mm),
Weight:	DC-version: 350g AC-version: 500g
Frequency range:	3 up to 5,000Hz
Frequency inputs:	CH 1 and CH 2 Current switch level: NAMUR DIN 19234 Voltage switch level: UL < 6V; UH > 9V; Umax = 30V
Control inputs:	Reset/hold: active for UL < 3V (tmin = 100ms) Switched for analogue output and totaliser Potential reference 0V of pickup supply (terminal 7)
Analogue output:	0/2 up to 10V or 0/4 up to 20mA, Switchable via external switch on the housing, Resolution: 13 bit, Polarity of output signal changes with rotational direction
Impedance:	Current output: < 1,000 Ω Voltage output: > 3,000 Ω
1:1 Frequency output:	galvanically free, open collector: 30V, 50mA
Divider pulse output:	Galvanically free, open collector: 30V, 50mA Pulsetime: 0.2 up to 100 ms, programmable
Limit output MIN and MAX:	Galvanically free, open collector: 30V, 50mA
Hysteresis of limits:	0 up to 9.9% of programmed limit
Adjustable range of limits:	Depending on programmed K-factor
Forward/backward output:	Galvanically free, open collector: 30V, 50mA

In- and Outputs

separation between inputs and outputs

Frequency inputs

3 up to 5,000Hz, NAMUR DIN 19234

Control inputs

for reset- and hold function

Analogue output

current- (0/4 up to 20mA) or voltage output (0/2 up to 10V) switchable, transmission behaviour adjustable

pulse output

for external counters, open collector, galvanically free

1:1 frequency output

open collector, galvanically free

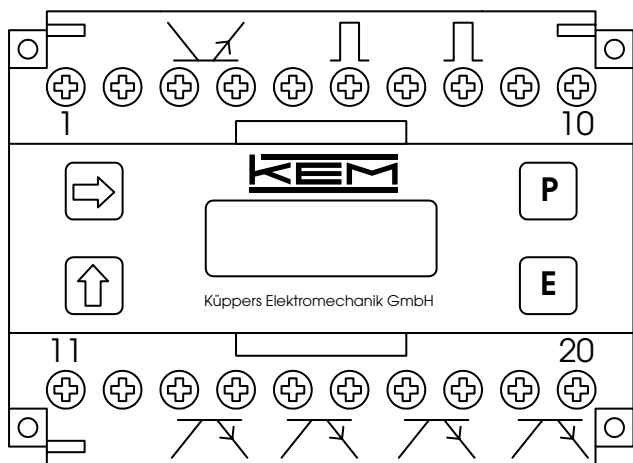
Forward/backward output

open collector, galvanically free

Limit output

open collector, galvanically free

Terminals



- 1 = Ia+/Ua+
- 2 = Ia-/Ua-
- 3 = reverse flow detect
- 4 = reverse flow detect
- 5 = 12 V pickup supply

- 6 = Input CH 1
- 7 = 0 V pickup and control in
- 8 = Input CH 2
- 9 = +UB
- 10 = -UB

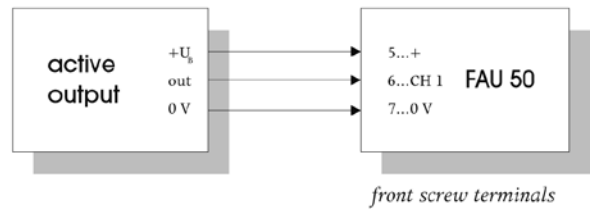
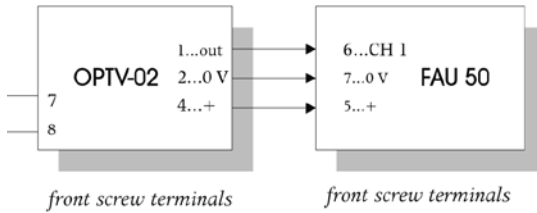
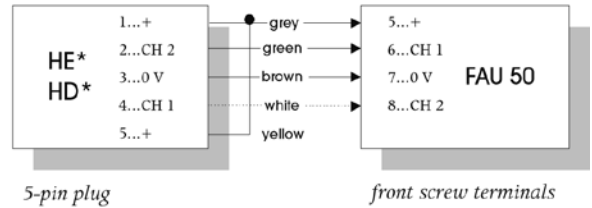
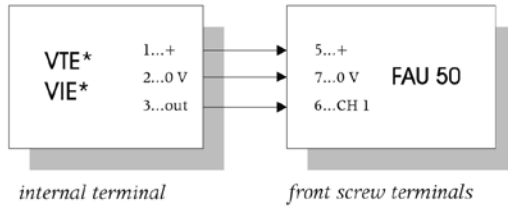
- 11 = reset
- 12 = hold
- 13 = pulse divider
- 14 = pulse divider
- 15 = limit max

- 16 = limit max
- 17 = limit min
- 18 = limit min
- 19 = frequency out 1:1
- 20 = frequency out 1:1

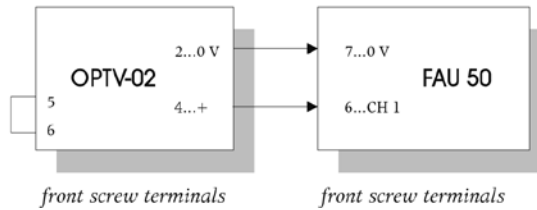
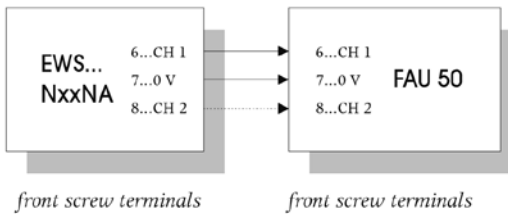
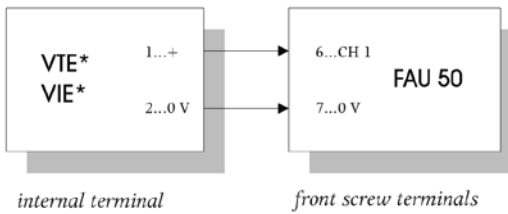
Note:
If the inverse input (terminal 8) is not used, connect terminal 7 and 8.

Connections

three-wire connection



two-wire connection



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