



Model number

KFU8-FSSP-1.D-Y46030

Frequency-voltage-current converter
10 kHz version

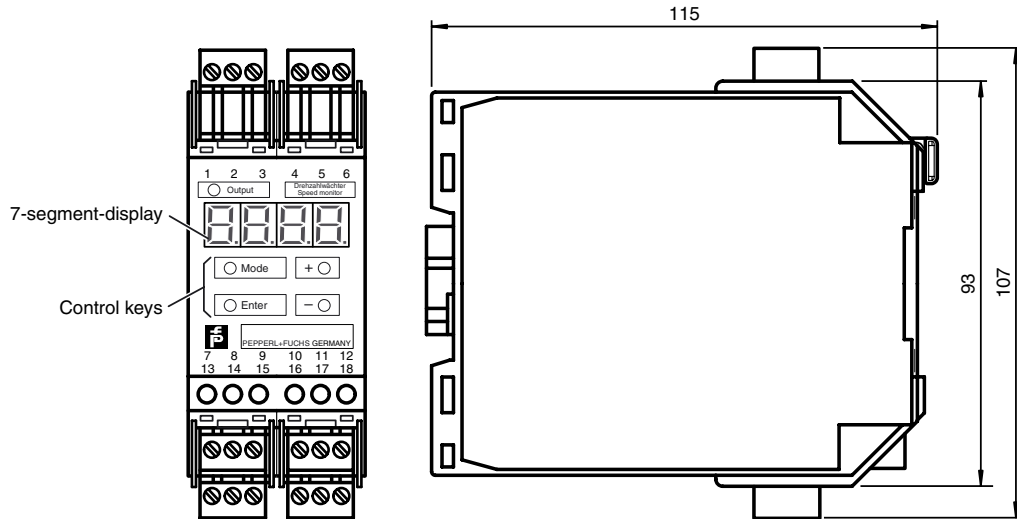
Features

- Limiting frequency 10 kHz
- Voltage output
- Indication in Hz or 1/min
- Incrementing output (Spacing factor 1 ... 1200)
- Multi-range power pack
- 2-, 3-, 4-wire sensors and rotary encoder can be connected
- Auxiliary power output for sensors
- Connection via Power Rail
- Period measurement
- Display: Input in Hz or 1/min, output in V or mA
- Display devices can be set between 0.001 ... 2.5 sec.
- Protection degree IP20

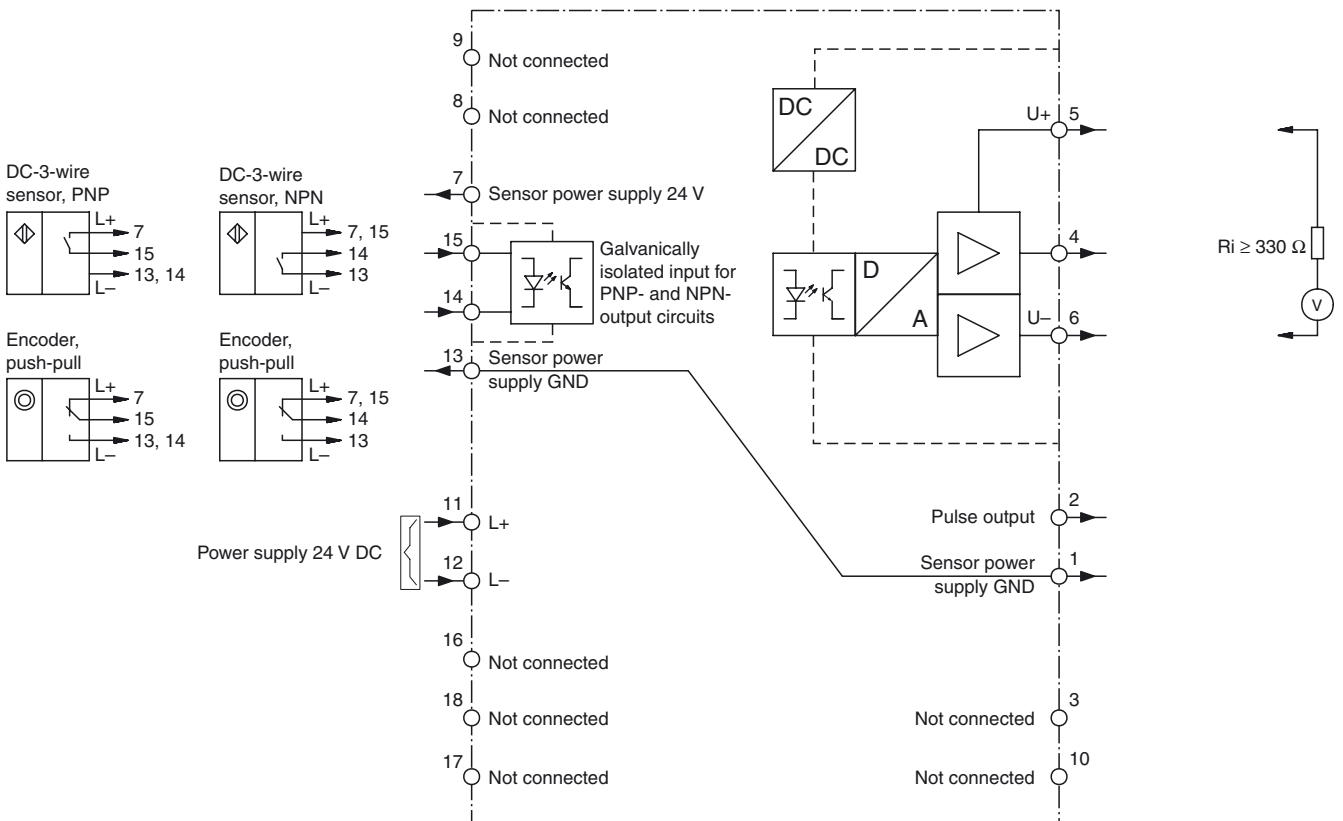
Technical data

Supply	
Rated voltage	20,4 ... 27,6 V DC
Power consumption	< 5 W
Indicators/operating means	
Type	4-digit 7-segment display, red, 7 mm digit height
Display interval	0.002 ... 9999 Hz or 0,01 ... 9999 min ⁻¹
Parameter assignment	keypad-driven menu
Input 2	
Connection	terminals 7+, 13- sensor supply terminals 14, 15 npn/pnp input (electrically isolated)
Connectable sensor types	2-, 3- or 4-wire proximity switches and incremental rotary encoder
Sensor supply	Rated voltage - 1.5 V non-stabilised; ≤ 30 mA short-circuit proof
Switching point	high: 16 ... 30 V DC; max.10 mA; R _i ≅ 3 kOhm low: 0 ... 6 V DC
Output	
Analogue voltage output	0 ... 10 V DC; 2 ... 10 V DC; 30 mA max.; resolution: 10 mV; R _i ≥ 330 Ω (terminal 5+, 6-)
Digital incrementing	≥ (U _b -3 V), 20 mA, short-circuit proof (Terminals 1-, 2+)
Transfer characteristics	
Input frequency	≤ 10000 Hz, pulse pause/pulse length: ≥ 40 μs
Deviation	≤ 0.2 % of full-scale value
Changing interval	10 ms (internal processing time)
Standard conformity	
Electromagnetic compatibility	acc. to EN 50081-2 / EN 50082-2
Ambient conditions	
Ambient temperature	-25 ... 60 °C (248 ... 333 K)
Storage temperature	-40 ... 85 °C (233 ... 358 K)
Mechanical specifications	
Protection degree	IP20
Connection	coded, removable terminals , max. core cross-section 0.34 ... 2.5 mm ²
Construction type	modular terminal housing in Makrolon, System KF
Mounting	snap-on to 35 mm standard rail or screw fixing

Indicating / Operating means / Dimensions



Electrical connection



Function

The KFU8-FSSP-1.D-Y frequency-voltage/current converter is a device for displaying and monitoring periodic signals, which occur in almost all areas of the automation and processing industry, i.e. frequencies in general and rotational speeds in particular.

Input pulses are evaluated according to the cycle method, i.e. by measurement of the periodicity, and are converted into a frequency or rotational speed by a very fast μ controller. Depending on the selected measurement range value, the μ controller determines a voltage level proportional to the input frequency and generates that value via a digital analogue converter.

The following analogue signals are available for selection: 0 V ... 10 V and 2 V ... 10 V.

The serially switched output provides the input frequency which can be subdivided by the adjustable factor (1 ... 1200).

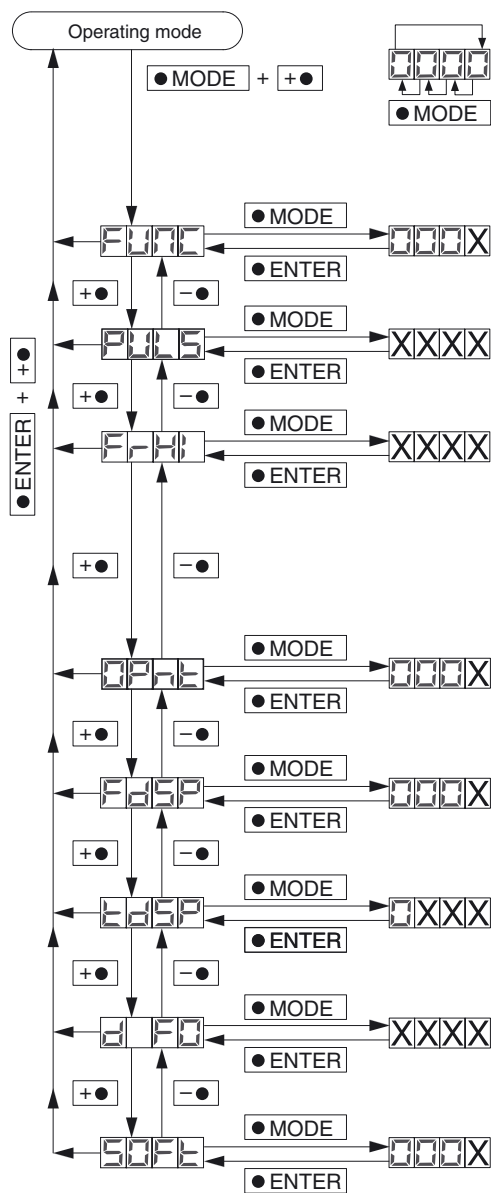
Special consideration was given to the frequently occurring special case of rotational speed measurement during the development of the device. This makes it possible for the display and inputs to be either Hz or in min^{-1} .

The frequency/voltage/current converter is supplied with 24 VDC.

All commonly available two- three- or four-wire proximity switches and incremental encoders on the input galvanically separated by an optical coupler are accepted as a signal source.

The frequency of the input signal in Hz or the speed in rpms or the voltage of the output signal in V is displayed on the front of the device on a 4-place 7-segment LED display. Parameters can be set with 4 buttons underneath the display.

Function description



Function selection:

X=0: Frequency measurement 0.001 Hz...9999 Hz
 X=1: Speed measurement 0.02 min^{-1} ...9999 min^{-1}
 Factory set: X = 1

Signal divider:

Number of signals per rotation
 (is ignored during frequency measurement)
 $1 \leq \text{XXXX} \leq 1200$, Factory set: XXXX = 1

Measurement range final value:

Frequency or speed, by which 10 V or 20 mA are applied to the analog output.
 $0 \leq \text{XXXX} \leq 9999$, Factory set: XXXX = 9999

Teach in of the current frequency or speed value as a measurement range final value by pressing the "MODE" button and then the "ENTER" button.

X	Analog output
0	0 V ... 10 V
1	2 V ... 10 V

Factory set: X = 0

Display:

X=0: Frequency or speed
 X=1: Voltage display or current display
 Factory set: X = 0

Display rate:

$0.01 \text{ s} \leq \text{X.XX} \leq 2.5 \text{ s}$
 Factory set: X.XX = 0.33 s

Division factor for pulse output:

$1 \leq \text{XXXX} \leq 9999$
 Factory set: XXXX = 1

Software-version number:

Can only be read.