

Signal Converters & Isolators

Process Signal To Frequency Converter PXF-10



DESCRIPTION

Signal converter for the conversion of an analogue process signal to a pulsating (50% duty cycle) transistor output. A typical application would be to convert an analogue signal from a probe to a pulsating output for input at a digital input of a PLC. Input, output and operating voltage are internally galvanically isolated (3,75kV). Input is selected via switches and output is selected via choice of terminals. See connecting diagram.

Features

- Input 0 - 5V/0 - 10V/-10-+10VDC/0 - 20/4 - 20mA in one version.
- 2 standard output versions;
 - Output 0-50Hz/0-5kHz/0-10kHz - selected via terminals.
 - Output 0-40Hz/0-4kHz/0-8kHz - selected via terminals.
- Output offset and gain adjustable $\pm 5\%$.
- LED indication of input less than 5% / indication on probe failure.
- Operating voltage 24VDC, 24VAC, 115VAC, 230VAC.

VERSIONS/ORDERING CODES

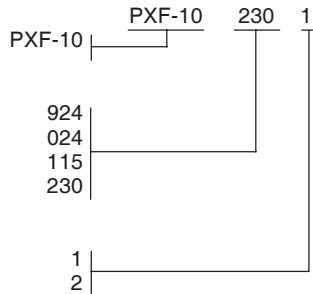
Type:
Process signal converter

Supply voltage

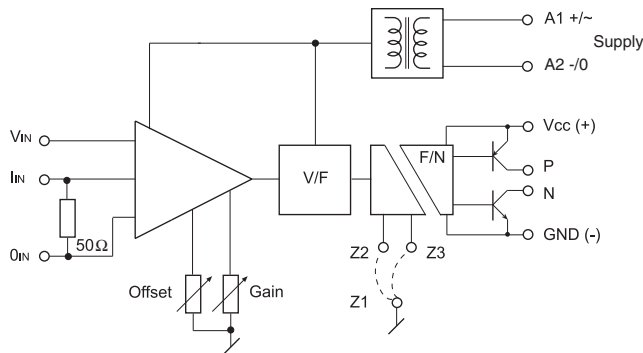
- 24V DC
- 24V AC
- 115V AC
- 230V AC

Output range

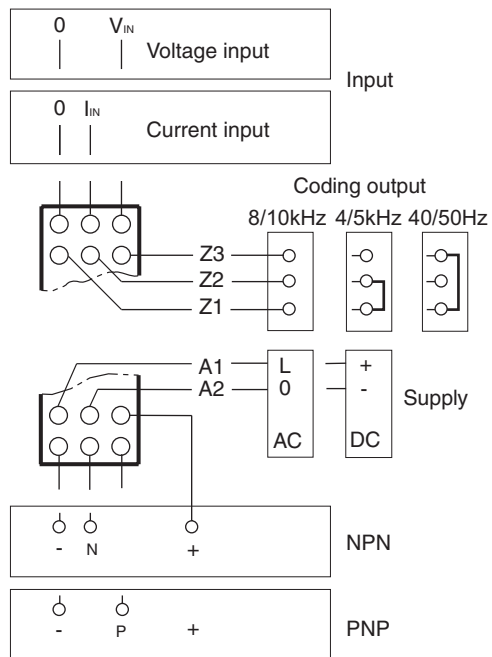
- 0-50Hz/0-5kHz/0-10kHz
- 0-40Hz/0-4kHz/0-8kHz



BLOCK DIAGRAM



WIRING DIAGRAM

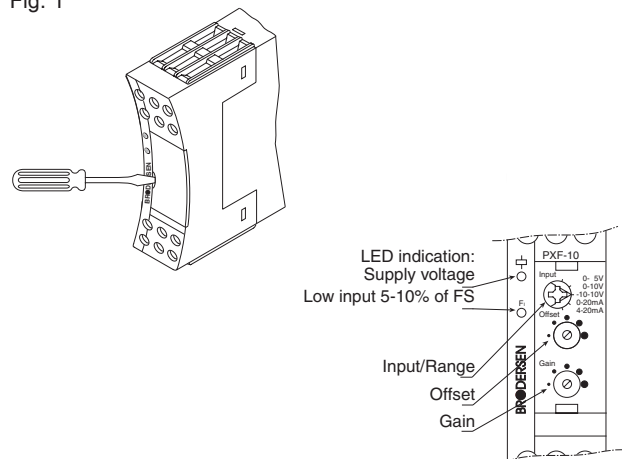


ADJUSTMENT

PXF-10 is delivered adjusted to offset = 0% and gain = 100%. To compensate for any loss in cables, etc. it is possible to adjust the output signal.

Remove the front cover. The offset (zero) and gain (span) on the output signal can be adjusted $\pm 5\%$ of max. signal. Put the cover back on to avoid any accidental adjustment on the relay. See fig. 1.

Fig. 1



TECHNICAL DATA

Input signal

Input signal	Impedance	$U_{MAX} = 50Vp-p$
0-5V DC	1 MOhm	
0-10V DC	1 MOhm	
-10-+10V DC	1 MOhm	$I_{MAX} = 50mA$
0-20mA DC	50 Ohm	
4-20mA DC	50 Ohm	

Selected via switches on the front panel.

Output:

PNP/NPN transistor output 10-30V DC

Output ranges	V_{MAX}	I_{MAX}
0 - 8/0 - 10kHz	35V	100mA
0 - 4/0 - 5kHz	35V	100mA
0 - 40/0 - 50Hz	35V	100mA

Selected via terminals.

Offset (zero) and gain (span) are adjustable $\pm 5\%$. See. fig. 1.

Duty cycles:	50% (40-60%)
Accuracy:	<1%, without adjustment
Linearity:	<0,02% of full scale
Temp. coefficient	0,02%/°C

Supply voltage: Consumption

supply voltage	
24V DC (20,4-27,6)V DC	2W.
24V AC (20,4-27,6)V AC	3VA.
115V AC (98-132)V AC	3VA.
230V AC (196-264)V AC	3VA.

All galvanically isolated 3,75kV AC 1 min. to input and output.

General data:

Ambient temperature:	-20 to 55°C
Storage temperature:	-40 to 80°C
Mounting:	35mm DIN-rail (EN50022).
Terminals:	Screw terminals with dual compartment. Terminal screws are combined crosshead/slotted. Up to 2*2,5mm ² (2 x 1,5mm ² inc. ferrule). Recommended torque, 0,5Nm., max. 0,7Nm. (VDE0609-1).
Indicators:	Green LED = operating voltage. Yellow LED = input less than 5-10% of FS
Protection:	IP20.
Electric isolation:	3,75kVAC (1 min.) between input, output and supply (EN60950).
Housing:	Noryl (GE), UL94V1.
Terminal block:	Noryl (GE), UL94V0.
Weight:	170 g.

SPECIFICATIONS:

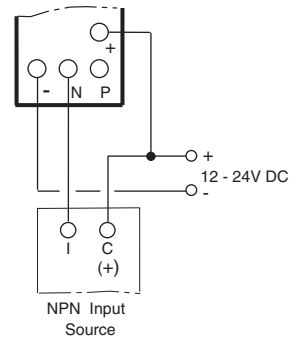
PXF-10 is designed and developed with regard to relevant specifications:

- EN60204-1 / VDE0113 electrical material on machines.
- VDE0110 / IEC664 Isolation specifications/creepage and clearance distances.
- Electrical safety in accordance with EN61010.
- IEC414 Safety regulations for control and monitoring equipment.
- EMC: Emission EN50081-1.
Immunity EN50082-2.
- Humidity in accordance with IEC68-2-3; RH=95%, 40°C.
- Vibration in accordance with IEC68-2-6.
- Shock when mounted, in accordance with IEC68-2-27.

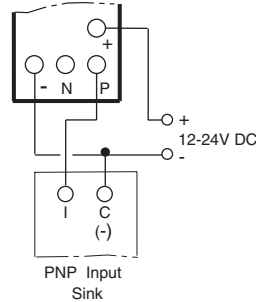
PXF-10 is CE-marked in accordance with EMC and the Low Voltage Directive.

APPLICATIONS/WIRING

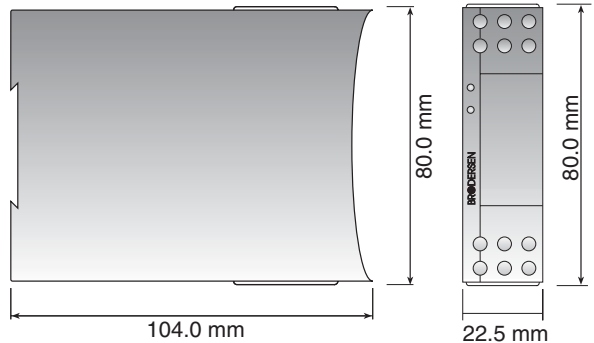
NPN



PNP



MECHANICAL DIMENSIONS





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