

# Signal Converters & Isolators

## Process Signal Converter PXU-20



### DESCRIPTION

Signal converter for the conversion of an analogue process signal to another type and /or to provide galvanic isolation. A typical application would be to convert a signal from a probe, not directly compatible with an analogue input of a PLC and/or provide galvanic isolation between input and output. Input, output and operating voltage are isolated to 3,75kV AC and are therefore suitable for applications suffering from potential differences/ground loops, high load resistor by long probe cables.

Input is selected via switches and output is selected via choice of terminals - See wiring diagram.

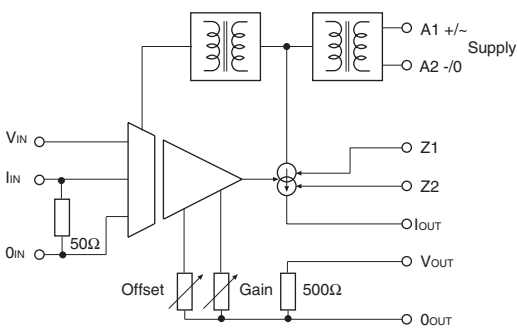
#### Features:

- Input 0-5V/0-10V/2-10V/-10+10VDC/0-20/4-20mA in one version.
- Output 0-10VDC/2-10VDC/0-20/4-20mA - selected via terminals.
- Output offset and gain adjustable  $\pm 5\%$ .
- LED indication of input less than 5% / i.e. indication of probe failure.
- Galvanically isolation supply/input/output is 3,75kV AC 1 min.
- Operating voltage 24V DC, 24V AC, 110 - 230V AC.

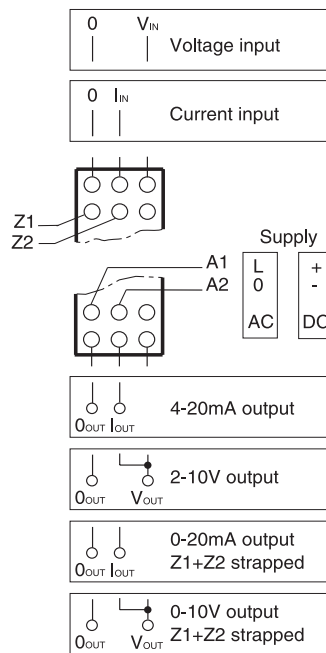
### VERSIONS/ORDERING CODES

Type:	Process signal converter	PXU-20	PXU-20	230
Supply voltage	24V DC	924		
	24V AC	024		
	110-230V AC	230		

### BLOCK DIAGRAM



### WIRING DIAGRAM

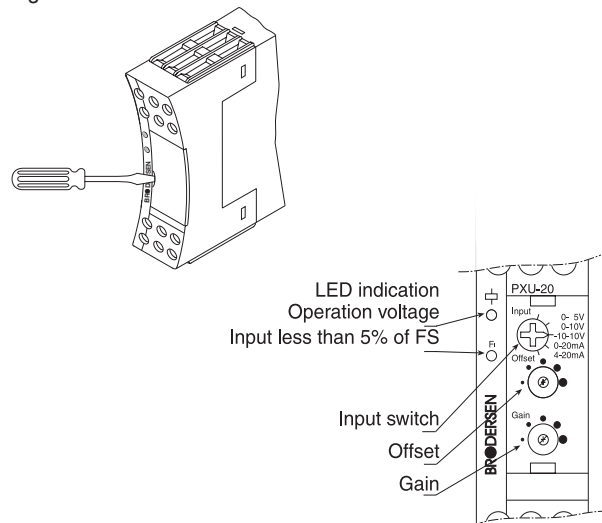


### ADJUSTMENT

PXU-20 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 of the relay. See fig. 1.

Fig. 1



**TECHNICAL DATA****Input signal**

Input signal	Impedance	$U_{MAX} = 50Vp-p$
0-5V DC	100kOhm	
0-10V DC	100kOhm	$I_{MAX} = 50mA$
-10-+10V DC	100kOhm	
0-20mA DC	50 Ohm	
4-20mA DC	50 Ohm	

Selected via switches on the front panel.

Upper critical frequency 30 Hz.

**Output:**

Output signal	$R_{MAX}$
4-20mA DC	500 Ohm
0-20mA DC	500 Ohm
0-10V DC	via intern 500 Ohm shunt

Selected via terminals.

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

Accuracy:	<1%, without adjustment.
Linearity:	<0,05% of full scale.
Temp. coefficient	0,02%/°C.
Ripple (RMS):	<0,1%.

**Supply voltage:**

Supply voltage	Consumption
24V DC (20,4-27,6)V DC	2W
24V AC (20,4-27,6)V AC	<3W.
110-230V AC (95-265)V AC	<3W.

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

**General data:**

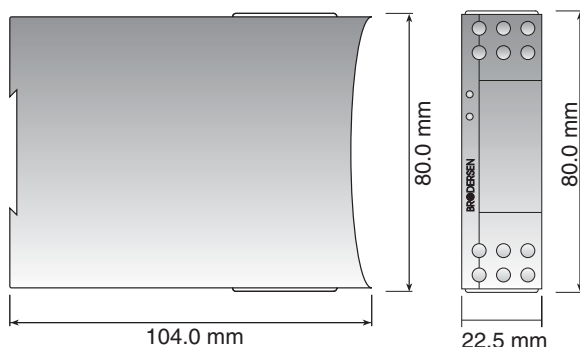
Ambient temperature:	-20 to 55°C.
Storage temperature:	-40 to 80°C.
Mounting:	35mm DIN-rail (EN50022).
Terminals:	Screw terminals with dual compartment. Terminal screws are combined crosshead/ slotted. Up to 2 x 2,5mm <sup>2</sup> wire. (2 x 1,5mm <sup>2</sup> inc. ferrule). Recommended torque, 0,5 Nm,max.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

**SPECIFICATIONS:**

PXU-20 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.

PXU-20 is CE-marked in accordance with EMC-and the Low Voltage Directive.

**MECHANICAL DIMENSIONS**



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