Electrobrains

Electrobrick – the flexible electronic module

Available from :
Woertz/GBU
151 Discovery Drive # 112
Colmar, PA 18915
Tel: (215) 997-8855; Fax (800) 522-3868
www.gbuelectrotech.com

Pt100, Pt1000, Ni100, Ni200, Ni1000 Converter

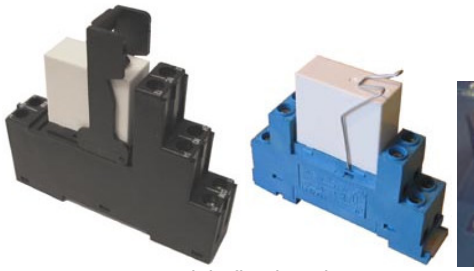
Preliminary Information

Features

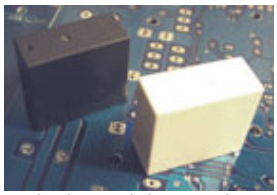
- Converter for 2 or 3-wire Pt100, Pt1000, Ni100, Ni200 or Ni1000 temperature sensors in ***Electrobrick*** plug-and-play enclosures (same shape as the common industrial relays).
- Compact, flexible and easily exchanged. Delivered on a DIN rail socket with quality screw terminals.
- Industrial standard outputs: 0-20mA, 4-20mA or 0-10V.
- With low pass filter for suppression of 50-60 Hz and other noise.
- Current present (CP) diagnostic output (4-20mA version).
- Small sensor current minimizes self heating.
- Wide supply voltage range.
- If a 2-wire sensor is used, then just connect inputs R2 and R3 together.
- On request: converters for other sensor types (eg. Pt500), higher accuracy, other output voltage, low-cost sensors for the converters
- The temperature range is specified in the order number.

Available accessories

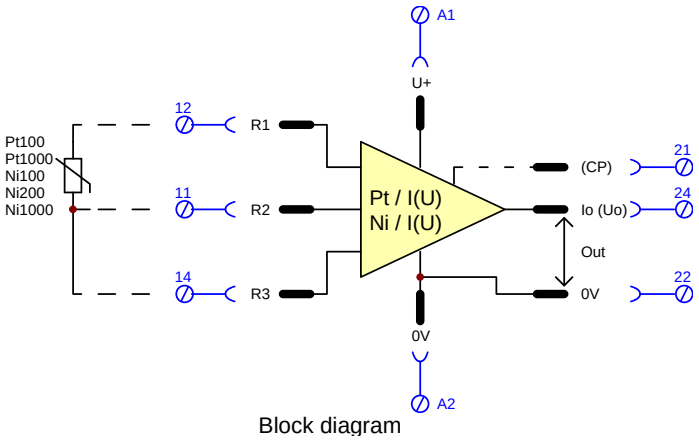
- Labels, jumpers, LED modules



Converter module fixed on the DIN rail socket (standard, low-cost)



Single modules can be ordered without sockets, for mounting on PCB



Block diagram

Technical data (Ta = 25°C)	**0-10V output**	**0-20mA output**	**4-20mA output**
Supply			
Power supply range	12-30VDC	12-30VDC	12-30VDC
Supply current (sensor connected)	max. 25 mA (U+=24 V)	max. 45 mA (U+=24 V)	max. 45 mA (U+=24 V)
Converter			
Temperature range	see below		
Approx. sensor current	Pt100, Ni100: 1 mA, Ni200: 0.8mA, Pt1000, Ni1000: 0.5mA		
Conversion error (small temp. span gives larger error)	<0.5% (50mV) (typically <0.2%)	<0.5% (100µA) (typically <0.2%)	<0.5% (100µA) (typically <0.2%)
Output load for voltage output version	min. 1 kΩ	-	-
Output load at U+=24V for current output	-	max. 750Ω	max. 750Ω
Output load at U+=12V for current output	-	max. 180Ω	max. 180Ω
Low pass filter cut frequency	approx. 15Hz	approx. 15Hz	approx. 15Hz
Output "current present" (CP) detection	-	Closes to ground (0V) when output current is more than approx. 1mA	
Max. voltage/ min. load resistance at CP output	-	30V/ 1kΩ	30V/ 1kΩ
General data			
Module operating temperature range	0°C to +50°C	0°C to +50°C	0°C to +50°C
Max. wire cross section	6mm^2 (AWG10)	6mm^2 (AWG10)	6mm^2 (AWG10)
Socket max. size L x B x H	16 x 82.5 x 72mm	16 x 82.5 x 72mm	16 x 82.5 x 72mm
Module max. size L x B x H (without pins)	29x12.8x25.5mm	29x12.8x25.5mm	29x12.8x25.5mm
Module pin size, PCB hole size:	0.64x0.64mm, length approx. 5mm, PCB hole size: 1.1mm		

Order number: **C3*-X-Y-Z where**

X= sensor type: **PT100, PT1000, NI100, NI200 or NI1000**
Y= output range: **0-10V, 0-20MA or 4-20MA**
Z= temperature range, with **M=minus, P=plus, C=Centigrade, F=Farenheit**: eg. **M50P250C = -50..+250°C**

* **C3**= on standard DIN rail socket, **C3E**= with low-cost socket included, **C3M**= only module without socket
Example 1: C3-PT100-4-20mA-M50P250C (Pt100 / 4-20mA, -50°C..+250°C, on standard socket)
Example 2: C3M-NI100-0-10V-0P100C (Ni100 / 0-10V, 0°C..+100°C, only module without socket)