



# AC-CURRENT TRANSDUCER (v5) BACT241

## DESCRIPTION

The BACT241 accepts AC current from current transformer or direct load current ranging from 0.5A up to 10A. Standard output is 4 - 20mA with a minimum supply voltage of 7.5V. This enables the BACT241 to be used in 12V battery systems. Other factory set output configurations are 10 - 50mA loop powered and 0 - 10mA, 0 - 20mA or voltage output in 3-wire connection. Double surge protection is standard with all Series 200 loop powered transmitters to prevent failure due to spikes induced by DC switched inductive loads. Input output relation can be direct or reverse acting. Input output isolation up to 2kV is achieved through the use of an internal current transformer. Base calibration is set with 2 metal film resistors and removable coding plugs on the main board. These links provide a convenient and user-friendly means of changing the input range in the field from 0 - 1 Amp to 0 - 5 Amps. Any other 2 ranges are available upon request. Final calibration is trimmed using the front accessible zero and span 15-turn trim adjustments. A front mounted L.E.D. and a test socket verifies module function and assist in calibration checks without disconnection of output wires.

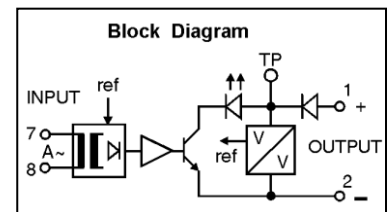


## General Specifications

Size:	23.5W x 71.5H x 109D (mm).
Mounting:	Clip for 35mm DIN-Rail.
Housing material:	ABS.
Connection:	Screw terminals.
Weight:	106 g.
Accuracy class as per AS-1384-1973:	Class 0.2.
Response time:	< 500mS.
Input range:	0.5A up to 10A. 1A or 5A standard, (50, 60 or 400Hz Sine).
Protection class:	IP40 (IP65 use additional enclosure).
Accuracy error:	<0.2% from 10% up to 100% of range.
Linearity error:	<0.2% from 10% up to 100% of range.
Frequency dependence:	<01%/Hz from 40 to 400Hz.
Ambient operating range:	-20...+70°C.
Temperature drift error:	<0.5% within operating range.
Supply voltage:	7.5 - 40V continuous (50V 30 seconds).
Load for 4 - 20mA output:	$RL_{max} = \frac{SupplyVoltage - 7.5V}{0.02A} [\Omega]$
Load change effect:	< 0.1% up to RL max.
Front zero adjust:	+20% / -10% typical.
Front span adjust:	±25% typical.
Overload continuous:	150% of rated input.
Short term (2 sec):	20 times rated input.
Input/output isolation:	2kV r.m.s. continuous.
Electromagnetic compatibility:	Complies with EN 50081-1, EN 50082-2, EN 61010-1



For input / output combinations refer to TYPE NO. DESIGNATION overleaf.



### TYPE NO. DESIGNATION

#### Output:

- |                                    |          |          |
|------------------------------------|----------|----------|
| 1 = 4 - 20mA.                      | } 2-Wire | } 3-Wire |
| *) 2 = 10 - 50mA.                  |          |          |
| *) 3 = 0 - 1mA.                    |          |          |
| *) 4 = 0 - 10mA.                   | } 3-Wire | } 3-Wire |
| *) 5 = 0 - 20mA.                   |          |          |
| *) 6 = 0 - 1V.                     |          |          |
| *) 7 = 0 - 5V min. supply 10.5Vdc. |          |          |
| *) 8 = 0 - 10V min supply 15.5Vdc. |          |          |
| *) 9 = Other (Specify).            |          |          |

#### Input:

- \*) 1 = 0 - 0.5A (0.008Ω).
- \*) 2 = 0 - 1A. Please order input 04 and specify 0 - 1A.
- \*) 3 = 0 - 2A (0.008Ω).
- 4 = Link select 0 - 1A or 0 - 5A (0.008Ω) specify when ordering (5A default).
- \*) 5 = 0 - 10A (0.004Ω).
- 6 = Use with BASI external current transformer, specify one of the following and required scaling; SCT007(50A), SCT012(100A), SCT008(200A), SCT009(600A). All external current transformers must be ordered separately.
- \*) 9 = Other (Specify).

Specify input frequency when ordering (50, 60, 400Hz).

#### Action:

- 1 = Direct.
- 2 = Reverse.

#### Options:

- 0 = None
- \*) 1 = Customised response time (Specify).
- \*) 2 = Output ramp.
- \*) 9 = Other (Specify).

\*) = Price Extra.  
# = Non Stock Item.

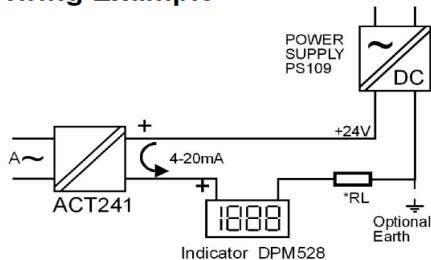
### Front Control Explanation

1. Test socket - output signal access with reference to terminal (1) loop integrity is maintained when digital multimeter Rin < 30Ω is used.
2. Loop indicator - dim at 4mA, bright at 20mA.
3. SPAN (full scale) adjust 15 turn.
4. ZERO (start scale) adjust 15 turn.

### Changing Ranges

When ordered with input 4 the input range can be changed. Select header position 1 for 1A and position 5 for 5A. After changing range the zero and span must be calibrated using procedure CP24104.

### Wiring Example



\* NOTE: RL is input load of PLC, or other process instrument.

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### Connection Diagrams

