Linear Integrator v5 BLI152

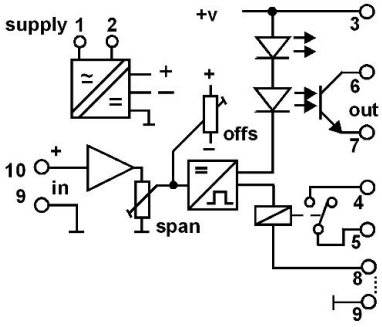
DESCRIPTION

The BLI152 is an analogue to pulse converter that supports a variety of input signals ranging from 100mV up to 100Vdc and 1mA up to 1Adc full scale. The output is typically a DC pulse, adjustable from 0.3 p/min up to 600 p/min. This pulse is available as an internally sourced 24Vdc pulse, open collector or potential-free relay contact. The analogue input signal is initially converted to a linear pulse signal to about 500Hz FS. A binary counter is then used to accurately divide down to the desired output pulse rate. Coarse setting is achieved by internal coding plug on an 11-point range selector. Final calibration is trimmed using the front accessible 'offs' and 'span' 15-turn trim adjustments. A test socket is available for accurate zero setting. To overcome accumulative errors over long time spans of zero operation the LI152 features ZERO LOCKOUT. This lockout inhibits any pulses being generated below 2% of input span. The lockout range can be extended up to 10% of input span if required. For special applications the BLI152 can be arranged for reverse action, to produce a fast pulse rate with zero input and low pulse rate with full scale input. All outputs are available simultaneously. Inserting a link on terminals 9 and 8 enables the relay output. Terminal 3 features an auxiliary output, which can be used for loop-powered transmitters relay contact or opto-coupler.

General Specifications

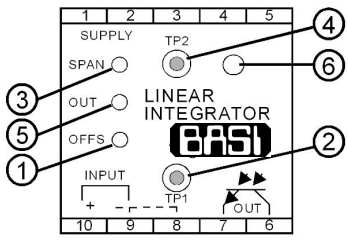
Size:	52 W x 70 H x 110 D (mm).
Mounting:	DIN-Rail, gear plate.
Termination:	Screw terminals on front.
Protection class:	IP40.
Housing material:	ABS.
Weight:	0.350 kg.
V input spans:	0.1 up to 100V.
mA input spans:	1 up to 1000mA.
Offset (suppression or elevation):	up to 100% of range.
Calibration accuracy:	<0.2% of range.
Front 'SPAN' adjust:	±20% typical.
Front 'OFFS' adjust:	±20% typical.
Repeatability:	<0.2% of range.
Ambient temp. operating range:	-10...+60°C.
Storage temp. range:	-20...+70°C.
Temperature effect:	0.02% per °C.
Output:	N/O relay contact 8A/250V resistive. Open collector NPN, 30V 100mA.
Output Range:	0.3 p/min - 600 p/min (0.005 - 10Hz).
Pulse duration:	50mS standard.
Input/Output Isolation:	Optocoupler and relay 2kVdc.
Power requirements:	3W.
Electromagnetic compatibility:	Complies with CE

Block Diagram



Front Panel Adjustments

1. Offset (ZERO input)
2. Test socket TP1 for Zero adjustment with reference to terminal 9.
3. Span (Full scale input).
4. Test socket TP2 for span frequency adjustment with reference to terminal 9.
5. Transistor output LED.
6. Relay output LED.



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

BLI152-X XX X X X X X

TYPE NO. DESIGNATION

Power Supply:

1 = 90-280Vac 50/60Hz (65-280Vdc).
*) 3 = 16-48Vac 50/60Hz (10-60Vdc)
*) 6 = 8 - 60Vdc.
*) 9 = Other specify.

Input:

01 = 4 - 20mA (100Ω).
02 = 0 - 20mA (100Ω).
03 = 10 - 50mA (47Ω).
04 = 0 - 1V (200kΩ).
05 = 0 - 5V (200kΩ).
06 = 1 – 5V (200kΩ).
07 = 0 – 10V (470kΩ).
08 = 0 – 10mA (100Ω).
*) 09 = Other specify.

Output:

1 = Pulse selectable 0.3 - 600 P/min (standard).
*) 2 = Other (Specify).

Action:

1 = Direct.
2 = Reverse.

Auxiliary Supply Out:

*) 1 = 32Vdc, 200mA peak (mechanical counter) 90-280Vac supply only.
2 = 24Vdc, 30mA.
*) 3 = 15Vdc, 50mA.
*) 4 = 5Vdc, 100mA.

Lock Out:

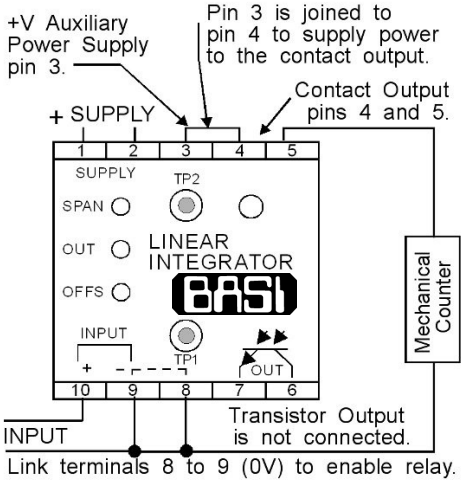
0 = Nil
1 = 2% (standard).
2 = 5%.
3 = 10%.

Options:

0 = None.
*) 1 = Stretched output pulse, specify.
*) 9 = Other specify.

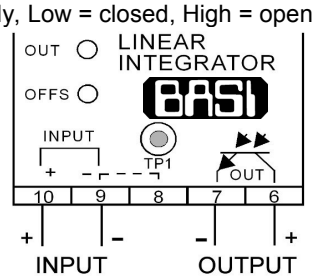
*) = Price Extra.

Mechanical Counter Connection



Mechanical Counter Connection

External supply, Low = closed, High = open



High Speed Pulse Output Connection

Pin 8 is not joined to pin 9 to disable the output relay. The output is across *RL, *RL represents a high speed counter or digital input on a PLC. The auxiliary supply voltage on pin 3 sets the logic high voltage.