



*Manufacturers of Process  
Controls and Instrumentation*

# ***Instruction Manual***

Model: *TWI-FRX-TB*

Function: *TWO WIRE FREQUENCY TRANSMITTER*

Input Range:

- X= 1: 0-70 to 0-150 Hz
- X= 2: 0-140 to 0-250 Hz
- X= 3: 0-240 to 0-500 Hz
- X= 4: 0-480 to 0-1000 Hz
- X= 5: 0-960 to 0-2000 Hz
- X= 6: 0-1920 to 0-4000 Hz
- X= 7: 0- 3840 to 0-8000 Hz

Input Options:

- 0-100 VAC
- 0-5 VDC TTL
- OPT- Optical Coupler

Power:

- 12 to 60 VDC

Serial #: \_\_\_\_\_

(If special or required)

For Technical Assistance And Questions Call  
USA: (231) 788-2900 CANADA: (905) 660-5336

## Restocking Policy

**All product returned to Pribusin Inc. in prime condition (not damaged, scratched or defaced in any way) within seven (7) months from the original date of shipment is subject to a 50% restocking charge. All product must be accompanied by a Return Authorization number (RA number) which must be obtained from Pribusin Inc. prior to returning any product.**

**After seven (7) months from the original date of shipment, products cannot be returned for restocking.**

**Custom designed products, modified products or all non-standard products may not be returned for restocking.**

## Warranty Policy

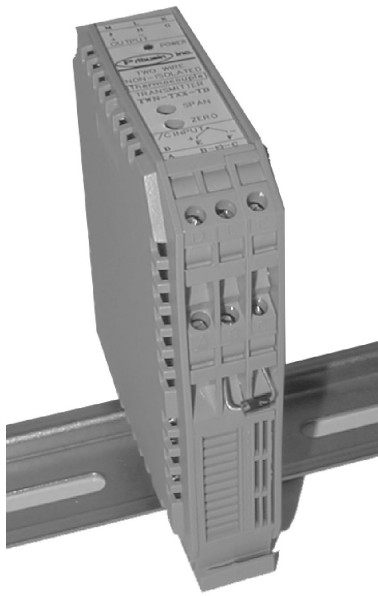
**Pribusin Inc. warrants equipment of its own manufacture to be free from defects in material and workmanship, under normal conditions of use and service, and will replace any component found to be defective, on its return to Pribusin Inc., transportation charges prepaid, within one year of its original purchase. Pribusin Inc. will extend the same warranty protection on equipment, peripherals and accessories which is extended to Pribusin Inc. by the original manufacturer. Pribusin Inc. also assumes noliability, expressed or implied, beyond its obligation to prelace any component involved. Such warranty is in lieu of all other warranties, expressed or implied.**

**Pribusin Inc.**

Manufacturers of Process  
Controls and Instrumentation

**Model: TWI-FRX-TB**

**Two Wire Isolated Frequency Transmitter**



### Standard features:

High Input-Output-Power Isolation (800VAC Test)

Small Size - Fits on Terminal Block Rail

Industry Standard 4-20 mA Output (2- or 3-Wire Connection)

Three Input Types Available (0-100VAC, TTL, Optical Coupler)

Adjustable Input Threshold

Wide Operating Range (8 to 60 VDC)

High Noise Rejection

CSA and NRTL Approved (LR 51078)

### Function:

The TWI-FRX-TB is an isolated two wire frequency transmitter that provides high isolation from the frequency input to the 4-20 mA output. The small package and its DIN rail mount make it easy for the TWI-FRX-TB to be incorporated into larger control panels. There it may have applications such PLC front end conditioning, etc.

Seven standard frequency input ranges are available to choose from that cover frequencies as low as 70 Hz up to 8KHz. The Input can be either 0-100 VAC, 0-5VDC (TTL), or an optical coupler input. An adjustable threshold allows a lower threshold to be set for background noise immunity.

### Specifications:

Isolation: 800 VAC Input to Output (Test)

Power Requirement: 8 to 60 VDC

Output: 4-20 mA

Input Impedance: 10K Ohm for all input ranges

Threshold: Adjustable from 50 mVAC to 10 VAC  
(for 0-100VAC Input)

Accuracy/Linearity: +/-0.25% max., +/- 0.1% typ.

Response Time: 250 msec to 63% of final value  
900 msec to 99% of final value

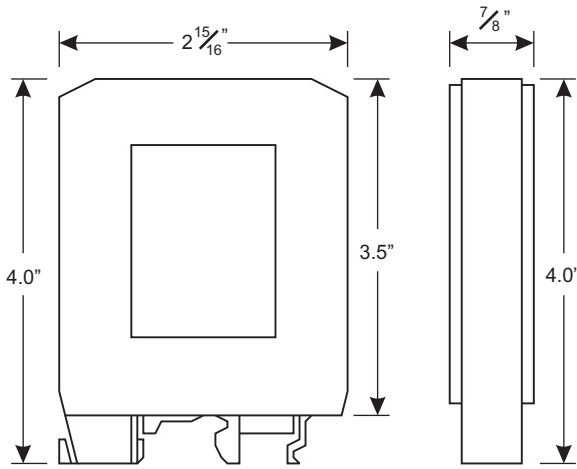
Temperature Effects: +/- 0.025% typ.

Line Effects: 0.03% per 10 VDC Line Change

Operating Temperature: -20 Deg. C. to + 40 Deg. C.

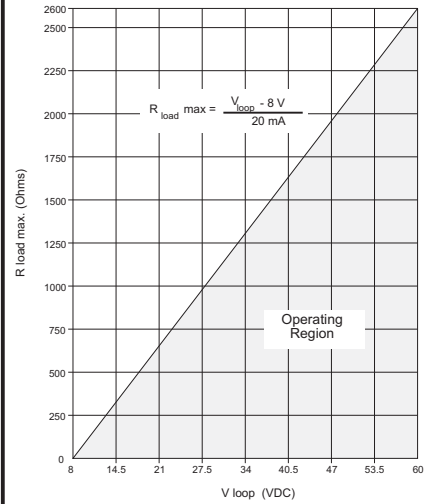
# TWI-FRX-TB

## Dimensions:



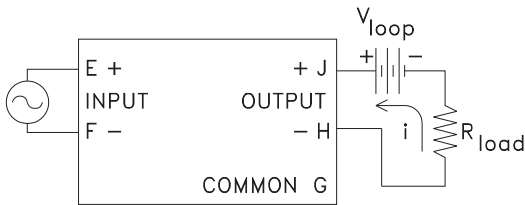
M	L	K
J	H	G
+ OUTPUT		
Pribusin Inc. Two Wire Transmitter		
● Power		
FREQUENCY		
● Ind.		
Threshold		
⊖ ZERO		
⊖ SPAN		
⊖ Adj.		
+ INPUT		
D	E	F
A	B	C

## Loop Characteristics:



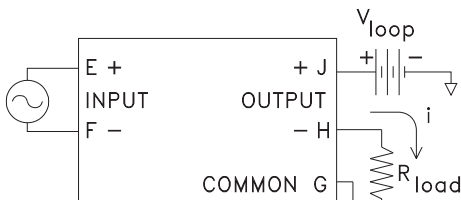
## Connection:

### TWO WIRE CONNECTION



TWI-FRX-TB

### THREE WIRE CONNECTION



TWI-FRX-TB

## Model Designation:

TWI-FRX-TB

### Frequency Range

- 1: 0-70 to 0-150 Hz
- 2: 0-140 to 0-250 Hz
- 3: 0-240 to 0-500 Hz
- 4: 0-480 to 0-1000 Hz
- 5: 0-960 to 0-2000 Hz
- 6: 0-1920 to 0-4000 Hz
- 7: 0-3840 to 0-8000 Hz

### Input Options

- Standard: 0-100 VAC
  - TTL: 0-5 VDC TTL
  - OPT: Optical Coupler
- For an input other than 0-100 VAC, add -TTL or -OPT to model number when ordering

Example: Isolated Frequency Transmitter with 0-400 Hz Input & 4-20mA Output is designated by: TWI-FR3-TB

## Manufactured By:

**Pribusin Inc.**

www.pribusin.com  
info@pribusin.com

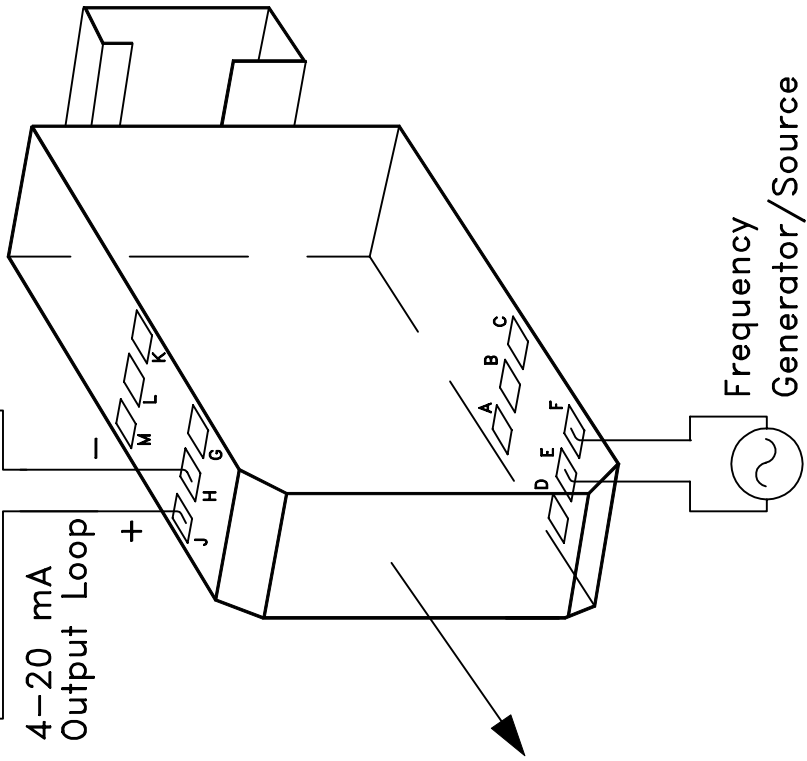
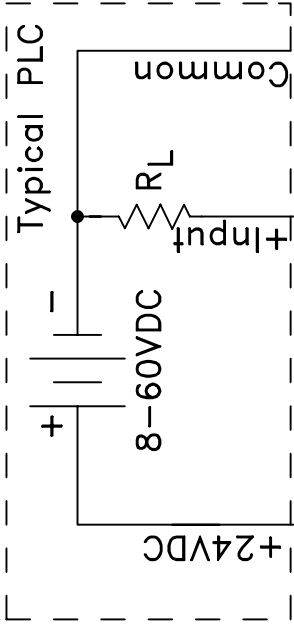
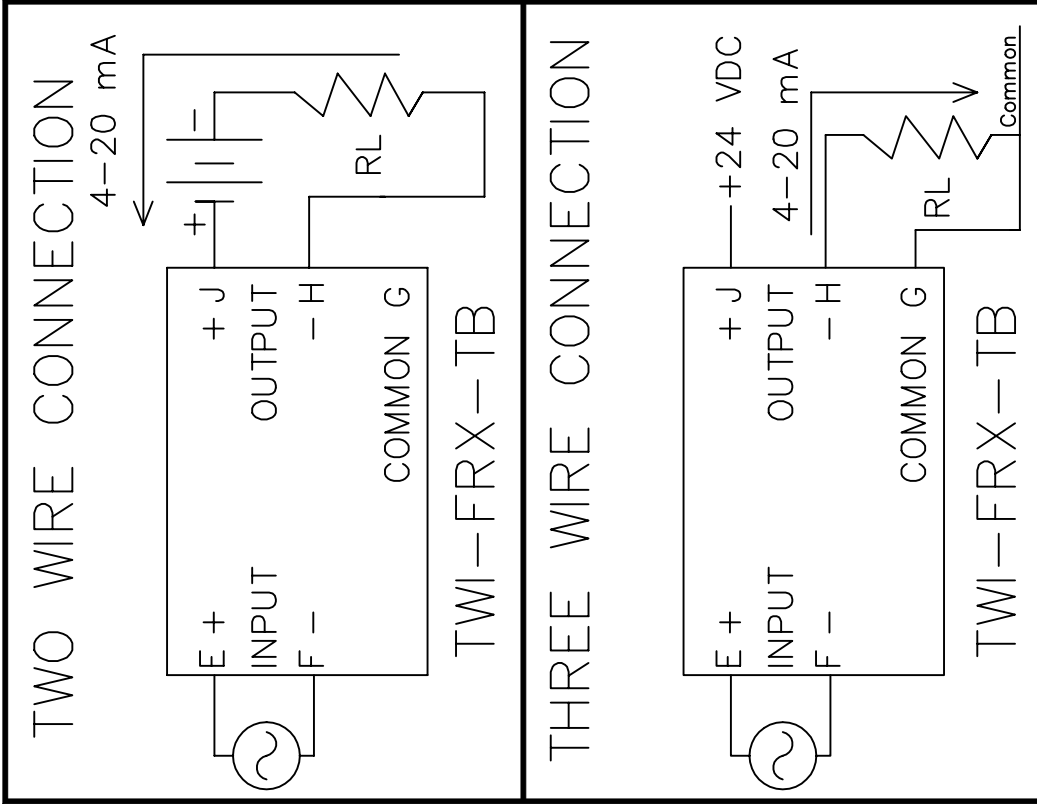
### USA:

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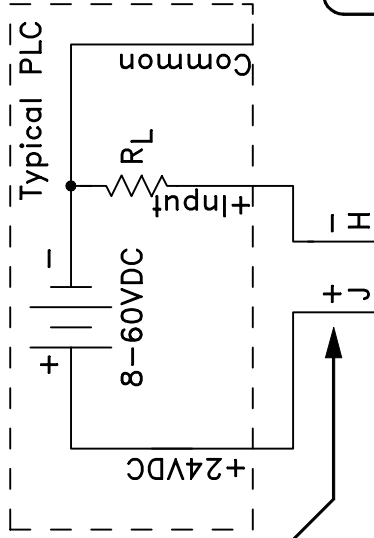
M	L	K	G
J	H		
+	OUTPUT		
Pribusin Inc.			
Two Wire			
Transmitter			
Power			
FREQUENCY			
Ind.			
Threshold			
ZERO			
SPAN			
Adj.			
INPUT			
+	E	F	C
D	B	A	

**Note:**

1. For Detail of Terminal Block Enclosure / Din Rail See Dwg. 104384.
2. For Calibration Procedure see Dwg. 104455-2.

<b>Pribusin Inc. ©</b>		
CHKD:	DATE: JUNE 25/93	DRN: KS
Model: TWI-FRX-TB		
Two Wire Isolated Frequency Transmitter Connection Diagram		
DWG. NO. :	104455-1	REV. A

## 4-20 mA Output Loop



LED to indicate Loop is Powered

### Frequency Setup:

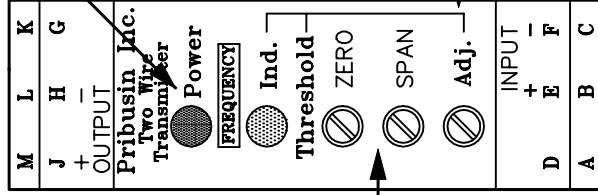
1. Pick desired frequency (70Hz min. - 8KHz max.), and put in correct solder jumper bridge as per drawing 102831. (Factory Set)
2. Set Frequency Generator to desired frequency, and set SPAN pot. to give 20 mA output in output loop.
3. Set Frequency Generator to 10% of desired frequency, and set ZERO pot. to give 5.6 mA output in output loop.
4. Repeat steps 2 & 3 until calibration is acceptable.
5. Set Generator to 50% of desired frequency, and check that the output is 12 mA.

### Threshold Level Setup:

Put in a frequency of some value (70Hz to 8KHz) at a voltage of min. value of Source (Factory value 100 mV).

Adjust Threshold pot. to make Threshold Indicator ON plus 1 turn more (clockwise).

Input Level is now 100 mVAC.



Frequency  
Generator/Source

Pribusin Inc. ©

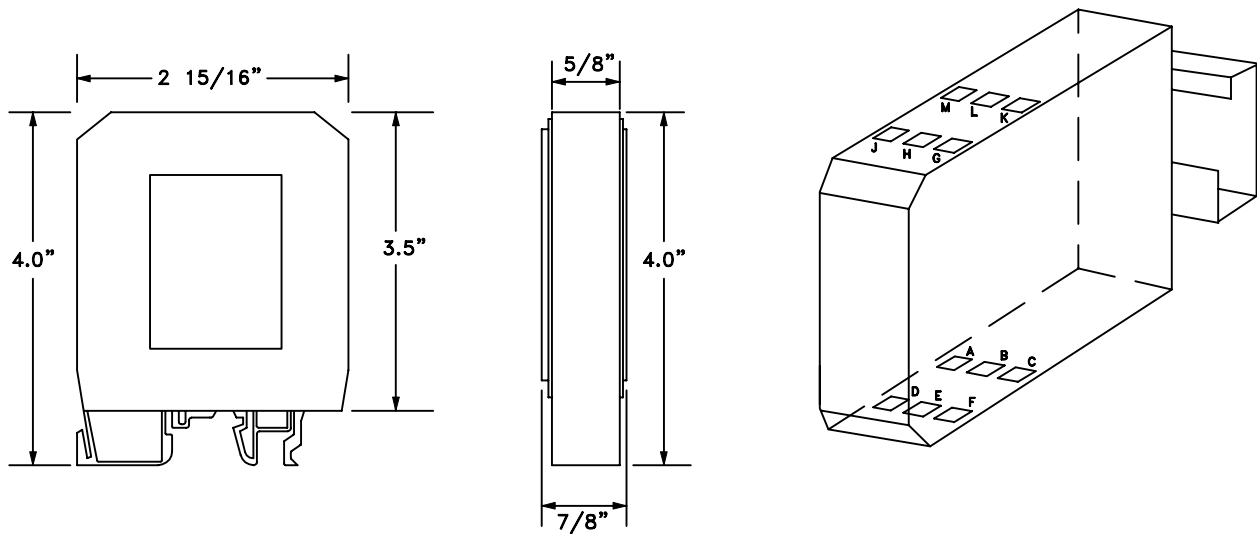
CHKD: DATE: JUNE 25/93 DRN: KS

Model: TWI-FRX-TB  
Two Wire Isolated Frequency Transmitter  
Calibration Procedure

DWG. NO.: 104455-2

REV. A

## Enclosure Detail :



## Din Rail Detail :

	<p>A</p> <p>Rail Standard EN 50 035 Dimensions: 32 x 15 x 1.5 mm</p>
	<p>B</p> <p>Rail Standard DIN EN 50 022 Dimensions: 35 x 15 x 2.3 mm</p>
	<p>C</p> <p>Rail Standard DIN EN 50 022 Dimensions: 35 x 7.5 x 1 mm</p>
	<p>D</p> <p>Rail Standard DIN EN 50 022 Dimensions: 35 x 15 x 1.5 mm</p>

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CHKD:

DATE: APR. 26/93

DRN: KS

Terminal Block Enclosure/  
Din Rail Detail

DWG. NO.:

104384

REV. A