Pribusin Inc.

Manufacturers of Process Controls and Instrumentation

Instruction Manual

Model: *IUC-XX-PDT*

Function: *Isolated Pulse Duration Transmitter*

Input:
- ☐ X=1: 1-5 mA
- ■ X=2: 4-20 mA
- ☐ X=3: 0-1 mA
- ☐ X=4: 10-50 mA
- ☐ X=5: 1-5 VDC
- ☐ X=6: 0-10 VDC
- ☐ X=7:_____

Output: ☐ Dry Contact ☐ 24 VDC Pulse

Pulse Train Jumper Selectable

- ☐ 1: 1.00-13.33 Sec.
- ☐ 2: 3.00-12.00 Sec.
- ☐ 3: 6.66-12.00 Sec.
- ☐ 4: 1.00-4.00 Sec.
- ☐ 5: 66.66-13.33 Sec.
- ☐ 6: 0.00-7.50 Sec.
- ☐ 8: Custom Pulse Train.
- ☐ 7. Custom Pulse Train.

Power:
- ☐ 117 VAC, 60 Hz, 6 VA
- ☐ 24 VDC, 160 mA
- ☐ _____

Serial #: _____

(If special or required)

For Technical Assistance And Questions Call
USA: (734) 677-0459 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: IUC-XX-PDX

Isolated Pulse Duration Transmitter

NRTL/C

Standard Features:

High Input-Output-Power Isolation (1500VAC Test)

Industry Standard Inputs (PDT): 4-20 mA, 1-5 VDC, and more (see back)

Industry Standard Outputs (PDR): 4-20 mA, 1-5 VDC, more (see back)

Easily Field Configurable to use any one of 6 Industry Standard Pulse Trains

Custom Pulse Trains Available

Easy Field Calibration (Typ. calibration time < 2 min. using handheld meter only)

Microprocessor Controlled for High Accuracy

Two Wire Supply Option for Two Wire Transmitters

Power: 117 VAC 50/60 Hz (Optional 24 VDC)

High Noise Rejection

CSA and NRTL Approved (LR 51078)

Function:

The IUC-XX-PDX family of instruments make up a pulse duration transmission system that can be used to transmit an analog signal over a twisted pair (or a leased class A telephone line). The transmitter can have any one of the standard inputs such as 4-20 mA, 1-5 VDC, etc. The receiver can have any one of the same or a different analog output.

The output of the transmitter is a dry contact but can be an optional 24 VDC pulse. Correspondingly, the input of the receiver can accept either a dry contact or a 24 VDC pulse.

Model Designation:

IUC-X7-PDT — Input

1: 1-5 mA (Zin=1K Ohm)
2: 4-20 mA(Zin=250 Ohm)
3: 0-1mA (Zin=5K Ohm)
4: 10-50 mA (Zin=100 Ohm)
5: 1-5 VDC (Zin=1Meg Ohm)
6: 0-10 VDC (Zin=1Meg Ohm)
7: Special Input

IUC-7X-PDR — Output

1: 1-5 mA (4000 Ohm Drive)
2: 4-20 mA (1000 Ohm Drive)
3: 0-1 mA (20000 Ohm Drive)
4: 10-50 mA (250 Ohm Drive)
5: 1-5 VDC (Zout=250 Ohm)
6: 0-10 VDC (Zout=500 Ohm)
7: Special Output

Example: A Pulse Duration Transmitter with 4-20 mA input is an IUC-27-PDT, a receiver with a 1-5VDC output is an IUC-75-PDR.

If no options specified, unit is 117 VAC Power in metal enclosure

Specifications:

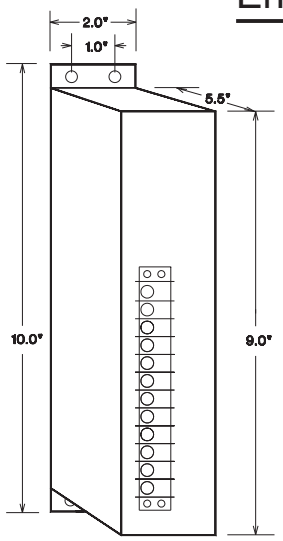
Isolation: Input to Output to Power 1500 VAC (test)
Accuracy/Linearity:+/- 0.3% max., +/- 0.1% typ.
Operating Temperature: -40 Deg.C. to +50 Deg.C.
Temperature Effects: +/-0.5% max., +/-0.2% typ.
(for 40 Deg.C. change)

Options: (Add letters to end of Model Number)

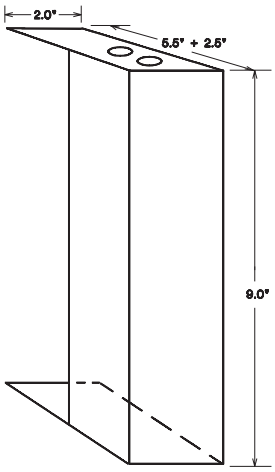
A - 24 VDC Prime Power
B - 240 VAC Prime Power (not CSA approved)
P - 24VDC Pulse Output (Instead of Relay)
T - 200 mA Two Wire Supply (24 VDC unreg.)
C - Conduit Cover for Metal Enclosure (see back)
N - NEMA 4X enclosure (see back)

IUC-XX-PDX

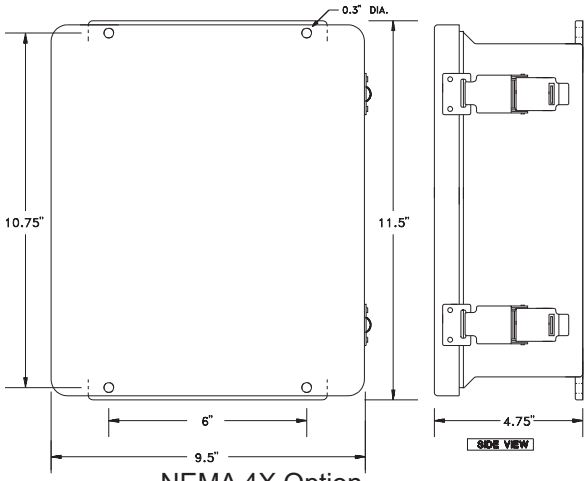
Enclosures & Dimensions:



Standard Metal Enclosure



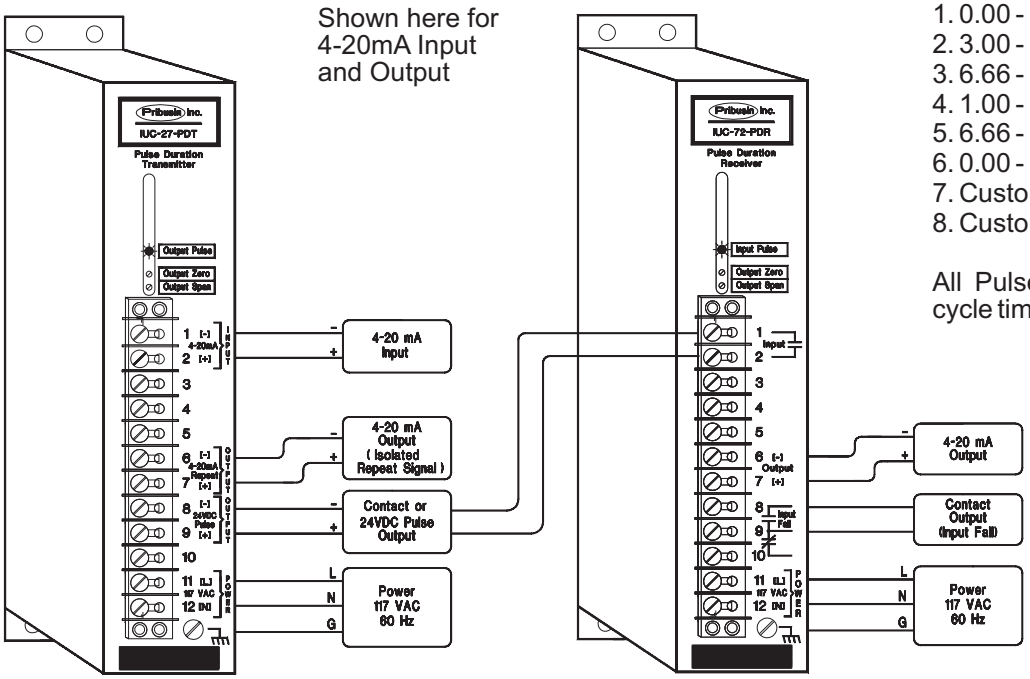
Conduit Cover Option
for Metal Enclosure



NEMA 4X Option

Connection:

Shown here for
4-20mA Input
and Output



Available Pulse Trains:

1. 0.00 - 13.33 Sec.
2. 3.00 - 12.00 Sec.
3. 6.66 - 12.00 Sec.
4. 1.00 - 4.00 Sec.
5. 6.66 - 13.33 Sec.
6. 0.00 - 7.50 Sec.
7. Custom Pulse Train
8. Custom Pulse Train

All Pulse Trains have a 15 second cycle time.

Manufactured By:

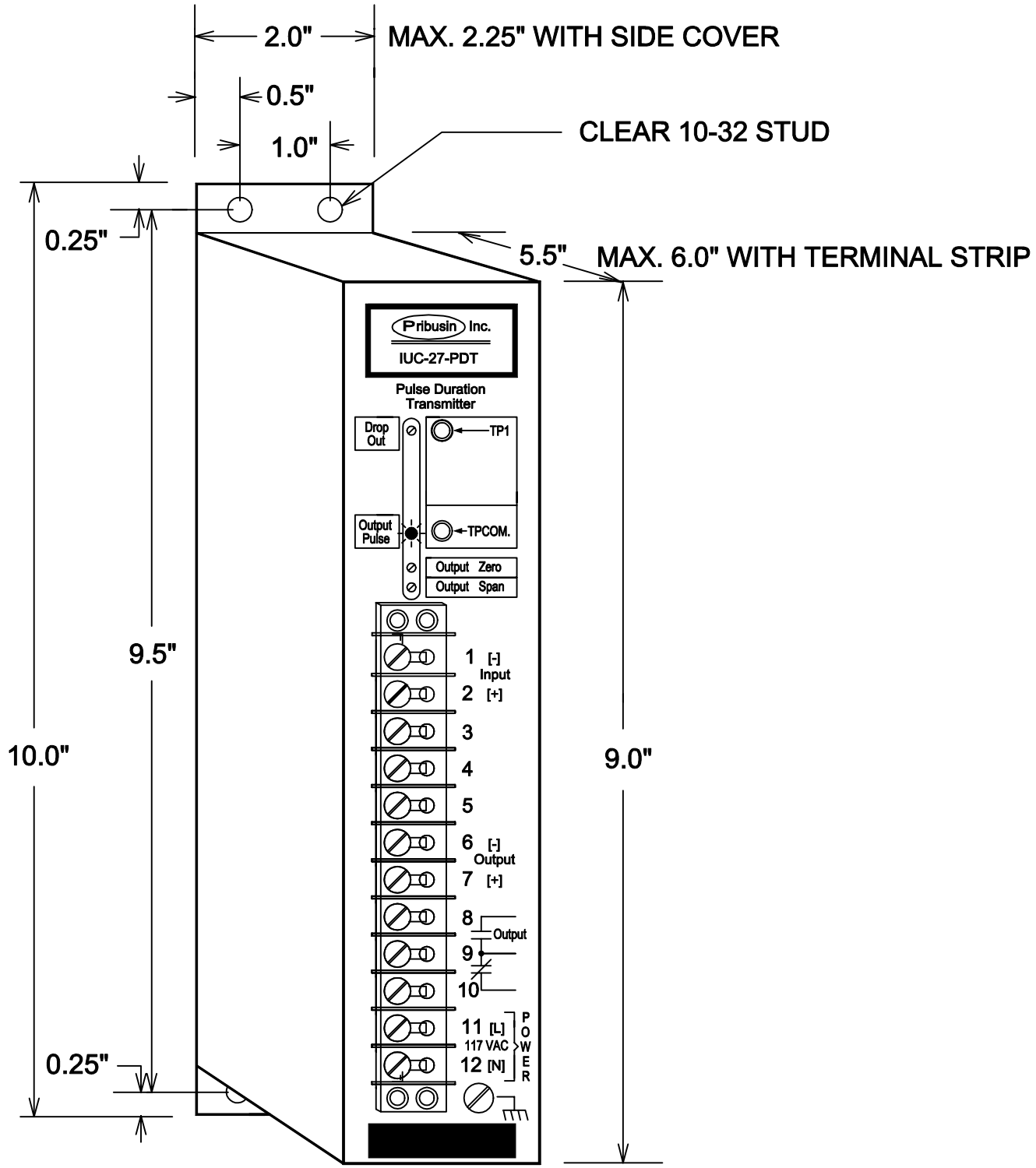
Pribusin Inc.

www.pribusin.com
info@pribusin.com

USA:
Pribusin Inc.
743 Marquette Ave.
Muskegon, MI 49442
Ph: (231) 788-2900
Fx: (231) 788-2929

CANADA:
Pribusin Inc.
101 Freshway Dr. Unit 57
Concord, Ontario, L4K 1R9
Ph: (905) 660-5336
Fx: (905) 660-4068

Rev.A Subject to change without notice



Rev. C Dec. 14/95 by KS

Pribusin Inc. ©		
CHKD:	DATE: AUG. 26/91	DRN: KS
Model: IUC-27-PDT Pulse Duration Transmitter with Contact Output Enclosure Drawing		
DWG. NO.: 103514		REV. C

For powered loop operation jumper should be on COM position

For unpowered loop operation (two wire hookup) jumper should be on 24V position

Detail B

H2 COM. +24V

Pribusin Inc.

IUC-27-PDT

Pulse Duration Transmitter

Drop Out

TP1

Output Pulse

TPCOM.

Output Zero

Output Span

1 [-] Input

2 [+]

3

4

5

6 [-] Output

7 [+]

8 Output

9

10

11 [L] 117 VAC

12 [N]

POWER

Two Wire Hook-up

4-20 mA Input (Loop-powered)

NOTE reverse polarity on two wire hook-up.

4-20 mA Input

Normal hook-up with externally powered input loop.

4-20 mA Output (Isolated Linear or Square Root of Input)

See Table A on Dwg. 103515-2 for Details.

Contact Output (Pulse Duration Signal Output)

Contact Rating :

0.4 A 125 VAC

2 A 30 VDC

L

N

G

Power 117 VAC 50/60 Hz 6 VA

Rev. D Dec. 14/95 by KS

Pribusin Inc. ©

CHKD:	DATE: AUG. 26/91	DRN: KS

Model: IUC-27-PDT
Pulse Duration Transmitter
with Contact Output
Connection Diagram

DWG. NO. : 103515-1	REV. D

Output Calibration :

1. Put in Jumper 6(H1). See Detail A.
2. Adjust OUTPUT ZERO until output signal is 4 mA.
3. Move Jumper to 7(H1).
4. Adjust OUTPUT SPAN until output signal is 20 mA.
5. Repeat procedure starting at 1. until output signal is correct.
6. Remove Jumper from 7(H1).

Drop Out Calibration :

1. Adjust DROP OUT Potentiometer to a desired value.
2. Note Drop Out adjustable from 0 to 50 % (Based on Output). This corresponds to a voltage of 0-5 VDC at TP1 with respect to TPCOM.

Table A

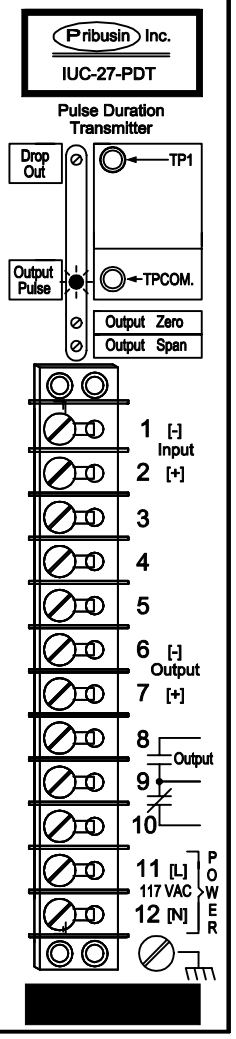
See Detail A for Jumper Location.

Jumper (H1)	Function
H1-0 H1-1 H1-2	Pulse Duration Range Selection (See Range Selection)
H1-3 OUT	Linear Output 1)
H1-3 IN	Square Root Output 2)
H1-4 H1-5	Normally left out 3) When put in set Input as RS-485 (Optional) and set address 1, 2, 3
H1-6 IN	Output = 0 %
H1-7 IN	Output = 100 %

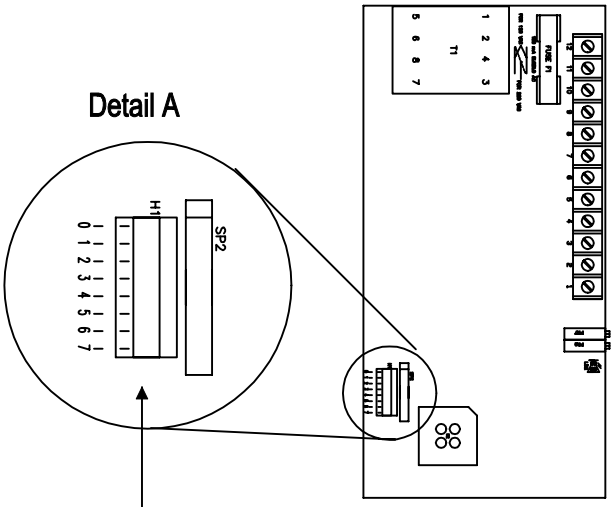
1) When Jumper H1-3 is OUT, the pulse duration output and the 4-20 mA output are Linear.

2) When Jumper H1-3 is IN, the pulse duration output and the 4-20 mA output are Square Root of input.

3) Jumpers H1-4 and H1-5 must be OUT for analog input on this unit.



Detail A



Range Selection :

To select one of the pulse duration signal ranges, jumpers on header H1 must be placed as follows:

Range	Jumper (H1)		
	0	1	2
0-13.33 Sec.	open	open	open
3-12 Sec.	closed	open	open
6.66-12 Sec.	open	closed	open
1-4 Sec.	closed	closed	open
6.66-13.33 Sec.	open	open	closed
0-7.5 Sec.	closed	open	closed
0-100 Sec.	open	closed	closed

To change jumpers, disconnect power from unit (if possible, but not necessary) and remove cover plate. Locate 8-position header strip as shown in Detail A and place jumpers according to above table.

If power was not turned off during jumper change, allow at least three cycle times for the unit to adjust before making further adjustments.

Rev. D July 14/97 by KS

Pribusin Inc. ©		
CHKD:	DATE: AUG. 26/91	DRN: KS
Model: IUC-27-PDT Pulse Duration Transmitter with Contact Output Calibration Procedure		
DWG. NO.: 103515-2		REV. D