

PD10

Pulse Divider Instructions



General Information

General InformationPage 3
FeaturesPage 3
SpecificationsPage 4

Installation

MountingPage 4
Power Source.....Page 4

Connections and Settings

PD10W/LMI Pump.....Page 5
PD10W/Non-LMI Pump.....Page 5
Settings.....Page 5

Troubleshooting

ProblemPage 6
Probable Causes.....Page 6
Things to Try.....Page 6

Warranty

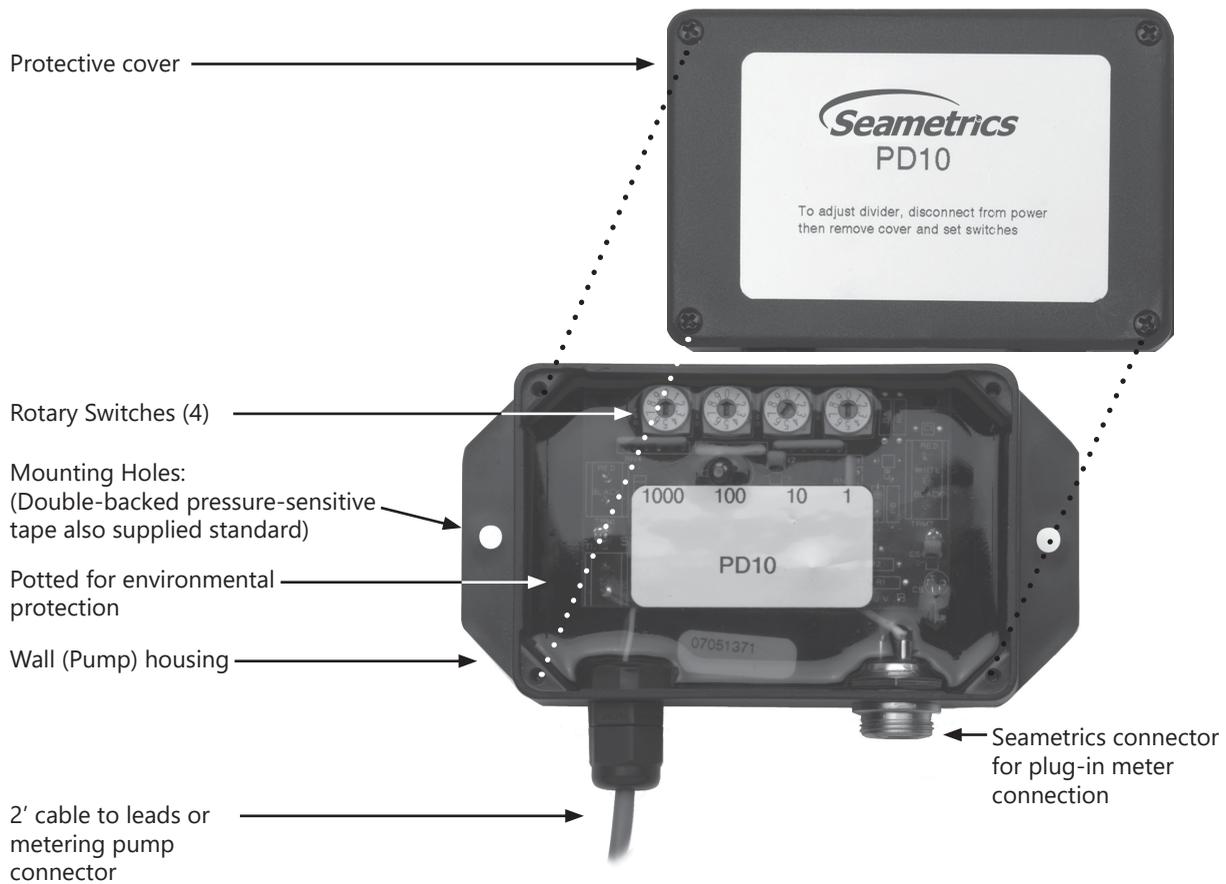
Seametrics Limited WarrantyPage 7

Designed for use as a meter accessory, the PD10 Pulse Divider is used primarily for pacing electronic metering pumps. Any number from one to 9999 can be set on rotary switches. Each time the divider has received the set number of pulses from the meter, it puts out one pulse to stroke the pump. The PD10 is also useful in boiler and cooling tower feed and bleed operations, and for lowering frequency

output of high frequency meters. Compatible with all Seametrics flow meters, the PD10 creates a programmable pulse meter with an easily adjustable pulse rate.

The PD10 is mounted by attaching it to the metering pump with the included double-backed, pressure-sensitive tape. Alternatively, the control can be wall mounted with screws using the mounting brackets that extend out either side.

FEATURES



Specifications*

Enclosure	Epoxy-encapsulated ABS housing with cover
Temperature	0° to 130° F (-18° to 55° C)
Divider Range	1 to 9999
Setting Mechanism	Rotary Switches
Power	7-30 Vdc @ 4 mA
Maximum Sensor Load	20 mA
Maximum Input Frequency	350 Hz (pulses/second)
Maximum Output Frequency	8 Hz (pulses/second)
Output	Solid state relay; 0-250 V, 170 mA max AC/DC
Output Pulse Width	0.1 second
Input Connection	Seametrics connector
Output Connection	Pump connector on 24 inch lead
Environmental	NEMA 4X, IP66

* Specifications subject to change. Please consult our web site for current data (seametrics.com)

Mounting

The PD10 is mounted by attaching it to the metering pump with the included double-backed, pressure-sensitive tape. Alternatively, the control can be wall mounted with screws using the mounting brackets that extend out either side.

Power Source

Power for the PD10 can be supplied by the metering pump if the pump has a sensor power supply. This is the case with LMI externally-paced metering pumps. Some pumps require an external power supply, available from Seametrics. LMI and Seametrics connectors are available.



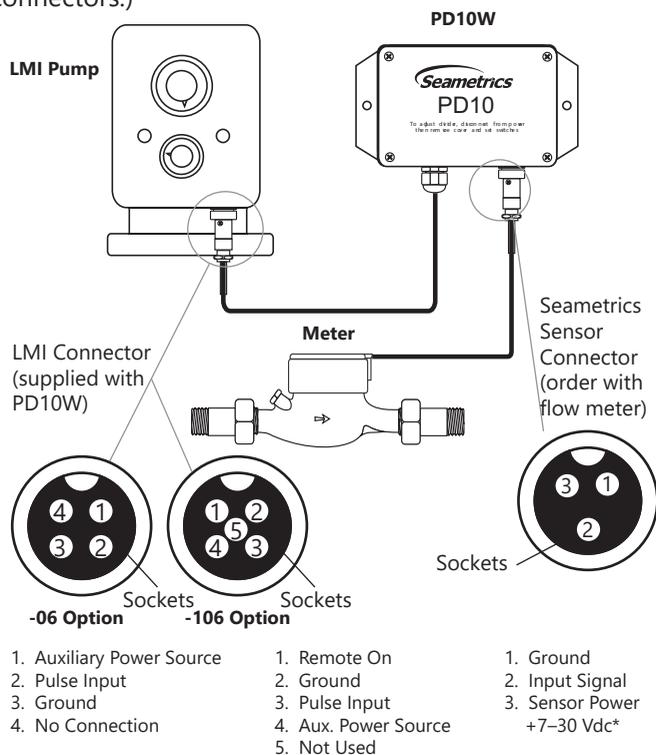


CAUTION:
Power supplies 18 Vdc and higher must be regulated to prevent damage to the PD10 from voltages exceeding it's 30 V allowable maximum supply voltage caused by AC line variations and light loading.

PD10W/LMI Pump

The 24" pigtail that extends from the PD10W connects to an LMI metering pump and is connected as shown.

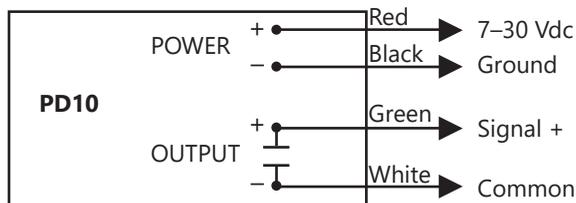
The input connector on the control mates with any three-pin Seametrics connector. (Meters or flow sensors to be used with a PD10W should be ordered with Seametrics connectors.)



***CAUTION:**
 If power is supplied to the flow sensor from the PD10, ensure that the voltage supplied to the sensor does not exceed the sensor's allowable maximum input voltage.

PD10W/Non-LMI Pump

If a metering pump is used that requires a connection other than the LMI connector supplied, cut the LMI connector off. Connect the PD10W to the pump using the diagram below in conjunction with the wiring diagram in the pump manual.

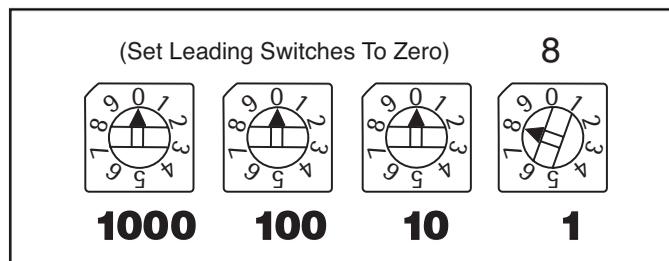
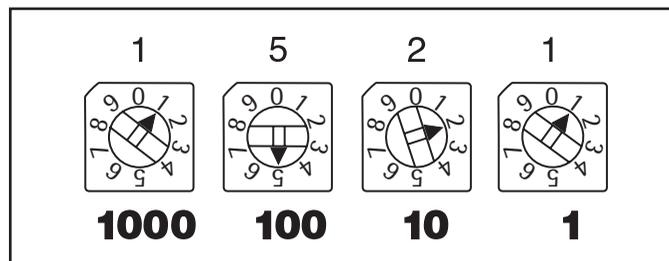


The input connector on the control mates with any three-pin Seametrics connector. (Meters or flow sensors to be used with a PD10W should be ordered with Seametrics connectors.)

Settings

The four numbered rotary switches marked "1000", "100", "10", and "1" control the ratio of meter pulses to pump strokes. **Before setting the switches, disconnect power to the unit by removing the connector from the pump or unplugging the power adapter.**

To set any four-digit number, rotate the dials to the appropriate numbers. For example, to set 1521, set the four switches to "1", "5", "2", and "1". Any unused switches should be set to zero. For example, to set 8, position the dials to "0", "0", "0", "8". See samples below.



Setting Examples

Problem	Probable Causes	Things to try...
Metering pump not stroking	<p data-bbox="497 254 774 291">Meter dials not turning</p> <p data-bbox="497 405 808 441">Meter pickup not working</p> <p data-bbox="497 556 1009 592">Pump connector not plugged in all the way</p> <p data-bbox="497 707 976 743">Pump doesn't supply power to the PD10</p> <p data-bbox="497 814 934 851">PD10 set to large number or all zeros</p>	<p data-bbox="1034 254 1500 319">Check visually, then check for adequate flow</p> <p data-bbox="1034 405 1429 470">Remove from meter, check with a magnet</p> <p data-bbox="1034 556 1491 620">Check or tighten threaded locking ring (LMI)</p> <p data-bbox="1034 707 1500 743">Check pump manual, add power supply</p> <p data-bbox="1034 814 1458 879">Check rotary switches, especially for leading zeros.</p>
Pump strokes continually	<p data-bbox="497 937 883 974">Pump not set for external pacing</p>	<p data-bbox="1034 937 1429 1002">Check pump manual and selector switch</p>
Pump doesn't stroke often enough or too often	<p data-bbox="497 1060 824 1097">PD10 set for wrong number</p> <p data-bbox="497 1211 841 1248">Multiple contacts from meter</p> <p data-bbox="497 1384 934 1420">Meter ordered with wrong pulse rate</p>	<p data-bbox="1034 1060 1454 1125">Review setting section, check rotary switches</p> <p data-bbox="1034 1211 1446 1297">Set PD10 to 1 contact/pump stroke (0001) and see if the pump strokes once for each magnet revolution</p> <p data-bbox="1034 1384 1379 1420">Check meter model/serial tag</p>

The limited warranty set forth below is given by Seametrics, with respect to Seametrics and INW brand products purchased in the United States of America.

Seametrics warrants that products manufactured by Seametrics, when delivered to you in new condition in their original containers and properly installed, shall be free from defects in material and workmanship. **Seametrics products are warranted against defects for a period of two (2) years from date of installation, with proof of install date. If no proof of install date can be provided, warranty period will be two (2) years from date of shipment from Seametrics, as defined on Seametrics' invoice.** Seametrics' obligation under this warranty shall be limited to replacing or repairing the part or parts, or, at Seametrics' option, the products, which prove defective in material or workmanship. The following are the terms of Seametrics' limited warranty:

- a. Buyer must give Seametrics prompt notice of any defect or failure and satisfactory proof thereof.
- b. Any defective part or parts must be returned to Seametrics' factory or to an authorized service center for inspection.
- c. Buyer will prepay all freight charges to return any products to Seametrics' factory, or another repair facility, as designated by Seametrics.
- d. Defective products, or parts thereof, which are returned to Seametrics and proved to be defective upon inspection, will be repaired to factory specifications.
- e. Seametrics will deliver repaired products or replacements for defective products to the buyer (ground freight prepaid) to the destination provided in the original order.
- f. Products returned to Seametrics for which Seametrics provides replacement under this warranty shall become the property of Seametrics.
- g. This limited warranty covers all defects encountered in normal use of Seametrics products, and does not apply to the following cases:
 - i. Loss of or damage to Seametrics product due to abuse, mishandling, or improper packaging by buyer
 - ii. Failure to follow operating, maintenance, or environmental instructions prescribed in Seametrics' instruction manual
 - iii. Products not used for their intended purpose
 - iv. Alterations to the product, purposeful or accidental
 - v. Electrical current fluctuations
 - vi. Corrosion due to aggressive materials not approved for your specific product
 - vii. Mishandling, or misapplication of Seametrics products
 - viii. Products or parts that are typically consumed during normal operation
 - ix. Use of parts or supplies (other than those sold by Seametrics) which cause damage to the products, or cause abnormally frequent service calls or service problems
- h. A new warranty period shall not be established for repaired or replaced material, products, or supplies. Such items shall remain under warranty only for the remainder of the warranty period on the original materials, products, or supplies.
- i. In the event that equipment is altered or repaired by the buyer without prior written approval by Seametrics, all warranties are void. Damage caused by equipment or accessories not manufactured by Seametrics may void the product's warranty.
- j. SOFTWARE: The Seller grants the user a non-exclusive license to use Seametrics' software, according to the following limitations and conditions:
 - i. The user may install the software on one or more desktop or laptop computers.
 - ii. All title and intellectual rights to the software are owned by Seametrics.
 - iii. No copies may be made or distributed except as described above.
 - iv. The user may not modify or reverse-engineer the software.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, WHETHER ORAL, WRITTEN, EXPRESSED, IMPLIED OR STATUTORY. NO IMPLIED WARRANTY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, APPLIED TO THE PRODUCTS AFTER THE APPLICABLE PERIOD OF THE EXPRESS LIMITED WARRANTY STATED ABOVE, AND NO OTHER EXPRESS WARRANTY OR GUARANTY, EXCEPT AS MENTIONED ABOVE, GIVEN BY ANY PERSON OR ENTITY WITH RESPECT TO THE PRODUCTS, SHALL BIND SEAMETRICS. SEAMETRICS SHALL NOT BE LIABLE FOR LOSS OF REVENUES, OR PROFITS, OR INCONVENIENCES, EXPENSE FOR SUBSTITUTE EQUIPMENT OR SERVICE, STORAGE CHARGES, LOSS OF DATA, OR ANY OTHER SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGE CAUSED BY THE USE OR MISUSE OF, OR INABILITY TO USE THE PRODUCTS, REGARDLESS OF THE LEGAL THEORY ON WHICH THE CLAIM IS BASED, AND EVEN IF SEAMETRICS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL RECOVERY OF ANY KIND AGAINST SEAMETRICS BE GREATER IN AMOUNT THAN THE PURCHASE PRICE OF THE PRODUCT SOLD BY SEAMETRICS AND CAUSING THE ALLEGED DAMAGE. WITHOUT LIMITING THE FOREGOING, YOU ASSUME ALL RISK OF LIABILITY FOR LOSS, DAMAGE, OR INJURY TO YOU AND YOUR PROPERTY AND TO OTHERS AND THEIR PROPERTY ARISING OUT OF USE OR MISUSE OF, OR INABILITY TO USE THE PRODUCTS NOT CAUSED DIRECTLY BY THE NEGLIGENCE OF SEAMETRICS.

SOME STATES DO NOT ALLOW LIMITATIONS ON THE DURATION OF AN IMPLIED WARRANTY, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. SIMILARLY, SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF CONSEQUENTIAL DAMAGE, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS; HOWEVER, YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.



Seametrics • 19026 72nd Avenue South • Kent, Washington 98032 • USA
(P) 253.872.0284 • (F) 253.872.0285 • 1.800.975.8153 • seametrics.com

LT-65200031r.2.0-20180405
4/5/2017