

Trident PDD765 Demonstrator

Instruction Manual

- ① External 4-20 mA Transmitter
(Not Included)
- ② Transmitter Power
- ③ RTD Simulator
- ④ Relay Lights
- ⑤ Process Simulator
- ⑥ Fully Functional Trident Meter
- ⑦ Serial Adapter
- ⑧ Documentation and Software CD



Getting in front of a customer is expensive and hard to do. The Trident Demonstrator will help you make the most of this precious time. The Trident Demo allows you to quickly demonstrate Precision Digital's PD765 Trident meter and one of your transmitters or calibrators. It's actually easier to demo your transmitter using the Demonstrator because it can power the transmitter.

The Trident Demo can be used as a stand-alone demo that will make the last five minutes of your sales call more productive. When you are done with the primary focus of the call, take five minutes for the Trident Demo. All you have to do is plug it in and adjust one of the two potentiometers that simulate RTD and voltage inputs. You can use the two built-in lights to demonstrate the Trident's alarm and control capabilities.

The next time you make a sales call, make sure to use the Trident Demonstrator to help present your transmitter or calibrator. It's sure to create the conversation that will help generate not only sales, but also a lasting impression.



Menu Button – Use this button to access *Programming Mode* and to return to *Run Mode*.



Reset Button – Use this button to change the selected digit while inputting a numeric value in *Programming Mode*.



Max Button – Use this button to increment the selected digit while inputting a numeric value in *Programming Mode*.



Acknowledge Button – Use this button to access or accept a menu item while in *Programming Mode*.

 **TRIDENT**

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Preparing the Meter for Demonstration

In order to have a consistent demonstration experience every time, the Trident Demonstrator should be reset to factory defaults before each demonstration. This is done in order to eliminate any inconsistencies that are caused by previous changes made to the meter. To prepare the meter for demonstration, reset the meter to its factory default settings by following the instructions below.

1


Press and hold

 for five (5) seconds to enter the

Advanced Features Menu.




2

Press  until the *d iAG* (Diagnostics) menu is displayed.




3


Press and hold  for approximately five (5) seconds.



4

Press  within three seconds, while the display is flashing *r5Et* (reset).



Note: If  is not pressed within three seconds, the meter will return to the *d iAG* menu.

About the Factory Default Settings

The factory defaults configure the meter to have an input display range of 4 to 20 with a corresponding 4 to 20 mA input from an external transmitter (See Transmitter Connection on page 8).

In order to use the 0-10 V or RTD simulators, follow the instructions on the following pages.

Relays 1 and 2 are configured to illuminate the corresponding LEDs located at the top of the demonstrator unit. Relay 1 is a high alarm with a set point of 7.00 and reset point of 6.00. Relay 2 is also a high alarm with a set point of 10.00 and reset point of 9.00. Both alarms are set to reset automatically.

The alarm indicators on the meter; and the relay indicators on the demonstrator will indicate the relay states.

Voltage and RTD Simulators



The slide control on the right side of the demonstrator serves as the 0-10 V signal simulator. The input signal increases as the slider is moved toward the rear of the unit, and decreases when slider is moved toward the front.

The rotary control on the left side of the demonstrator serves as the RTD signal simulator. The input signal increases as the dial is rotated clockwise and decreases as the dial is rotated counter-clockwise.

Using Built-in Slide Control (0-10 Volts Input)


These instructions show you how to program the Trident meter to accept the 0-10 V input from the built-in slide control and display a value associated with that range. For the purposes of the demonstration, the meter will be programmed to display 0.0 at 0 V and 100.0 at 10 V.

1

Press  to enter *Programming Mode*, press  to access the *SEtU* (Setup) menu.





2

Press  to access the *inPt* (input) menu.




3

Use  to select *0-10* (0-10 V) and press  to confirm input selection.





4

Press  to access the *dEcP* (Decimal Point) menu.




5

Press  to select the first decimal place, then press .




6

Press  to enter the *Prog* (Program) menu.



7

Press  to enter the *ScAL* (Scale) menu.



8

Press  to access *inP1* (Input 1). Press  to accept the default value of *0.00* (0.00 V).



9

Press  to access *d151* (Display 1). This is the value that will be displayed on the meter when the voltage input is at 0 V.



10



Press  to increment the first digit. Use  to select the next digit and press  to increment the digit. Once *000.0* is displayed, press .




11

Press  to access *inP2* (Input 2). Press  to accept the default value of *10.00* (10.00 V).



Note: The method for inputting numeric values described above is the same method used to input numbers in all other areas of the Trident meter. Press  to select the digit you want to change and then press  to increment that digit.

12 (0-10 V continued)

Press  to access *d.152* (Display 2). This is the value that will be displayed on the meter when the voltage input is at 10 V.



13



Press  to increment the first digit. Use  to select the next digit and press  to increment the digit. Once *100.0* is displayed, press  to accept the new *d.152* value. Press  to return to *Run Mode*.



Using Built-in Rotary Control (RTD Input)


These instructions show you how to program the Trident meter to accept an RTD input from the built-in rotary control and display a value associated with that range. For the purposes of the demonstration, the meter will be programmed with a 0.00385 coefficient displaying in Fahrenheit units with no decimal point.

1

Press  to enter *Programming Mode*, press  to access the *SEtU* (Setup) menu.





2

Press  to access the *inPt* (input) menu.





3

Press  to scroll through the choices, select *rtd* (RTD) and press  to confirm input.




4

Press  to scroll through the RTD curve choices and select either *R385* or *R392* (RTD curve). Press  to confirm curve selection.



5

Press  to access the *F C* (Fahrenheit/Celsius) menu.




6

Press  until the fahrenheit unit designation is displayed, press  to confirm.



7

Press  to access the *dEc.P* (Decimal Point) menu.



8



Press  to select no decimal place, then press  to confirm. Press  to return to *Run Mode*.



Connecting a Transmitter (4-20 mA Input)


These instructions show you how to program the Trident meter to accept the 4-20 mA input from an external transmitter or calibrator and display a value associated with that range. For the purposes of the demonstration, the meter will be programmed to display 0.0 at 4 mA and 100.0 at 20 mA.

1

Press  to enter *Program-
ming Mode*, press  to access the *SEtU* (Setup) menu.




2


Press  to access the *inPt* (input) menu.




3

Select *4-20* (4-20 mA) and press  to confirm input selection.





Note: This should be the default option, but if it is not, press  to scroll through the choices.

4

Press  to access the *dEcP* (Decimal Point) menu.




5

Press  to select the first decimal place, then press .




6

Press  to enter the *Prog* (Program) menu.




7

Press  to enter the *ScAL* (Scale) menu.



8

Press  to access *inP 1* (Input 1). Press  to accept the default value of *4.00* (4.00 mA).







9

Press  to access *d151* (Display 1). This is the value that will be displayed on the meter when the current input is at 4 mA.



10

Press  to increment the first digit. Use  to select the next digit and press  to increment the digit. Once *000.0* is displayed, press  to accept the new *d151* value.



11 (4-20 mA continued)

Press **↩** to access *inP2* (Input 2). Press **↩** to accept the default value of *20.00* (20.00 mA).



12

Press **↩** to access *d.152* (Display 2). This is the value that will be displayed on the meter when the current input is at 20 mA.



13

Press **▲** to increment the first digit. Use **▶** to select the next digit and press **▲** to increment the digit. Once *100.0* is displayed, press **↩** to accept the new *d.152* value.



14

Press **↶** to return to *Run Mode*. Connect the input signal to the binding post terminals as indicated in the diagrams on page 8. The meter will now display a value based on your attached transmitter or calibrator.



Program Relays for Automatic Reset

These instructions show you how to program the Trident meter to turn on the relays at programmable set points and turn off the relays at reset points. For the purposes of the demonstration, relay 1 will be programmed as a high alarm with a set point of 50.0 and a reset point of 35.0 and relay 2 will be a low alarm with a set point of 15.0 and a reset point of 30.0.

1

Press **↶** to enter *Programming Mode*, press **↩** to access the *SEtU* (Setup) menu.



2

Press **▲** until the *REL1* (Relay) menu is displayed and then press **↩**.



3

Press **↩** to access the *REL1* (Relay 1) menu.



4

Press **↩** to access the *Act1* (Relay 1 Action) menu.



5

Press **▲** (if necessary) until *Auto* (Automatic Reset) is displayed and then press **↩**.







6

Press **↩** to access *SEt1* (Set Point 1) and use the **▶** and **▲** buttons to change the value. Press **↩** once *50.0* is displayed.



7 (Relays continued)

Press  to access $r5t1$ (Reset Point 1) and use the  and  buttons to change the value. Press  once 35.0 is displayed.



8

Press  to access $rL42$ (Relay 2), press  to access $Act2$ (Action 2), and press  again to access $Auto$ (Automatic Reset).



9

Press  to access $SEt2$ (Set Point 2) and use the  and  buttons to change the value. Press  once 15.0 is displayed.



10

Press  to access $r5t2$ (Reset Point 1) and use the  and  buttons to change the value. Press  once 30.0 is displayed. Press  to accept and  to return to Run Mode.



Other Demonstrations

Demonstrate the following:

- MeterView software for remote programming
- MeterView software for data acquisition
- Pump alternation control
- Copy Feature
- Max/Min Display

Note: Instructions for how to perform the tasks listed to the left are available in the Trident PD765 instruction manual.

Note: The Trident Demonstrator is not set up to demonstrate the TC input.

FCC Regulations

Changes or modifications to the Trident Demonstrator not expressly approved by Precision Digital Corporation could void the user's FCC granted authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case users will be required to correct the interference at their own expense.

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Ordering Information

Model	Description
PDD765-6X2-10	Trident X2 Demo with MeterView Software and Serial Adapter

Note: The Trident meter in the Trident Demo is not intended for resale.

Parts Included

1. Demo unit assembled in clear polycarbonate enclosure
2. RS-232 Serial Communications Adapter
3. 7' (2.1 m) Standard Modular Cable
4. Product Documentation and Software CD
5. Trident Demonstrator Instruction Manual (This Document)

Warranty

2 years parts and labor

Safety Information



Hazardous voltages exist within enclosure. Service should be performed only by trained service personnel.

Voltage & RTD Simulators

The slide control on the right serves as the 0-10 V signal simulator and the rotary control on the left serves as the RTD simulator.

Refer to the PD765 Instruction Manual for complete details on how to program the meter. Also, check out the Trident Virtual Meter demo at tvm.predig.com.



Power Connection

The Trident Demonstrator has an attached power cord that plugs into a USA standard 115 VAC power outlet.

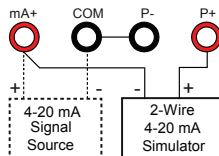
To power the Demonstrator from other power sources such as 230 VAC, the user must provide the necessary plug adapter. Refer to the PD765 instruction manual for power specifications.

Transmitter Connection

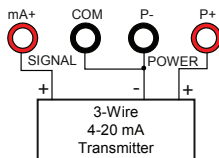
The wiring diagrams below show how to connect an external 4-20 mA transmitter to the Trident Demonstrator.

The Trident meter must be set up to accept a 4-20 mA input when connecting a transmitter or a 4-20 mA signal source to the input terminals on top of the demo.

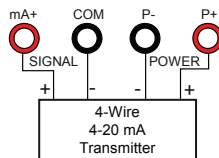
The transmitter may be powered by the internal 24 VDC power supply available at terminals labeled P+ and P-.



Wiring for a 2 wire external 4-20 mA transmitter.



Wiring for a 3 wire external 4-20 mA transmitter.



Wiring for a 4 wire external 4-20 mA transmitter.