

PT-100 WIRE CRIMP PULL TESTER

1. SAFETY

The Alpatron PT-100 Wire Crimp Pull Tester is a force measurement device, and operators should wear safety glasses for eye protection because foreign objects can be thrown from the piece under test.

To prevent fire and shock hazard, do not expose this equipment to moisture. Always unplug the AC line cord prior to servicing.

Do not exceed the rated force capacity (100 lb., 45 kg.) of the PT-100. The unit may be damaged, and the operator or others in the immediate vicinity injured under extreme force conditions.

2. SETUP

The Alpatron PT-100 is shipped from the DMC factory assembled, calibrated, and tested. For best results, users should familiarize themselves with the setup and operation of the unit before placing it in service.

To operate, set the PT-100 on a flat, level surface in an upright position. To prevent damage to the force sensing device, handle the unit by the main support post and base only. Three mounting holes in the base are provided to permanently bolt it in position, if desired.

Set the meter alongside the base. Be careful to avoid strain on the cord between the meter and the load cell. The meter has folding legs to permit the operator to adjust the viewing angle.

3. OPERATION

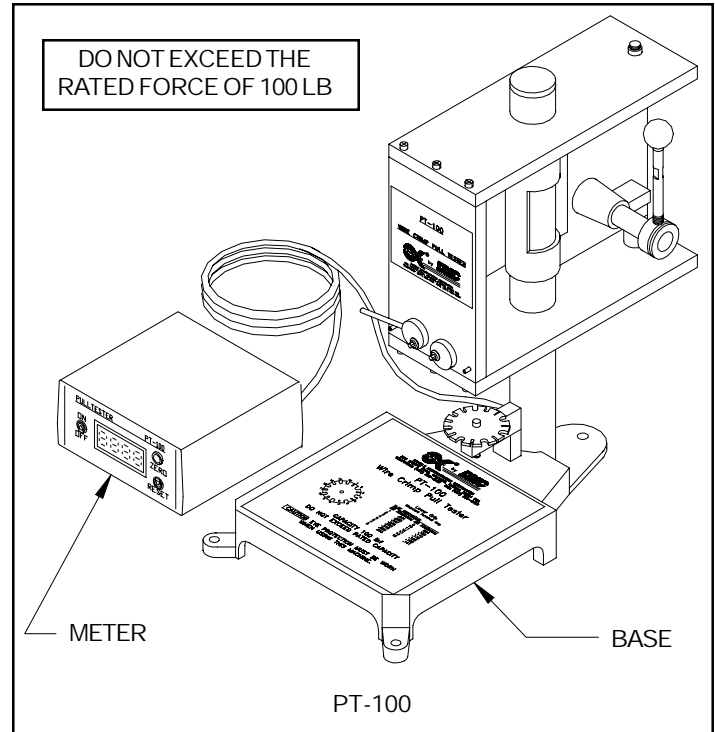
With the switch on the front of the meter turned off, plug the PT-100 into a 115VAC or appropriate outlet. Turn it on and the display will light up to indicate that the unit is operational. Allow 5 minutes warm-up prior to operating the unit. Zero the display by alternatively turning the zero knob and momentarily pressing the reset toggle. The display should read 00.0. It is important to push the reset toggle before taking the next reading.

To select the correct "lower grip" slot for the wire/terminal lead to be tested proceed as follows:

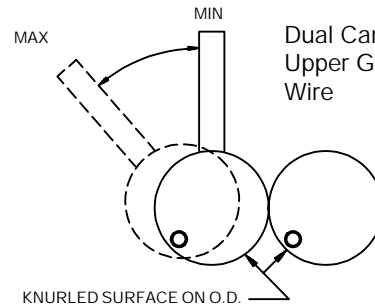
Rotate the grip to find the slot in which the lead wire fits best. Select the slot that is the same width as the wire diameter or one increment larger.

Insert the wire into the slot with the terminal down and clear of the bottom surface of the "lower grip". Next, pass the wire between the knurled upper grip cams and raise the lever arm on the left hand grip to the "min" position to hold the wire in place. Check to be sure that when you pull down on the operating lever, the wire will be pulled as nearly vertical as possible. Adjust the "lower grip" as necessary to make this alignment.

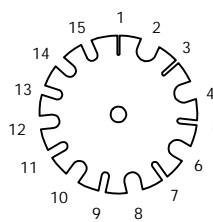
Pull the operating lever downward in a slow and consistent motion while holding the "upper grip" lever until its self tightening action takes over. The indicator will begin to display



UPPER GRIP "Quick Grip"



LOWER GRIP Standard Terminal Grip



SLOT DIMENSION			
No.	Size (in.)	No.	Size (in.)
1	.031	9	.094
2	.250	10	.188
3	.047	11	.110
4	.236	12	.172
5	.063	13	.125
6	.218	14	.158
7	.080	15	.141
8	.203		



the amount of force exerted on the crimp. As the force is increased the display will continue to update the reading until the force is no longer increasing. (Usually this is the point at which the crimp is pulled loose, or the wire breaks.)

Upon completion of the test, release the wire and press the reset button on the display prior to the next test.

Best results are obtained with the PT-100 using a slow, consistent motion when pulling the lever. A quick, or hesitant motion can cause the wire to slip within the self tightening cams and the terminal also may become unseated within the slot.

4. CHANGING TERMINAL GRIPS

CAUTION: The PT-100 utilizes a precision load cell for its force measurement. Care must be exercised when changing grips not to create excessive side load on the load cell sensor.

To change or replace the terminal grip complete the following steps in sequence.

1. To provide more room to work raise the rack and pinion lever arm assembly as high as possible. Loosen the large black knob on the left hand side of the assembly, raise the assembly and retighten the knob.
2. Using a 9/64 in. hex key and an 11/32 in. open end wrench, loosen and remove the 8-32 locking hex nut from the bottom of the sensor assembly.
3. Remove the 8-32 x 1-1/2 in. screw, slip washer, terminal grip and spacer from the sensor.
4. When installing the optional ring terminal grip, the recessed center hole must face up for proper operation.
5. Reassemble in this order: Install slip washer on screw, followed by the terminal grip, and spacer. Insert the screw with this assembly through the hole in the sensor.
6. Install 8-32 locking hex nut.
7. Using the hex key and open end wrench, tighten until some effort is required to rotate terminal grip. This is necessary to avoid play between the terminal grip and the sensor.
8. Lower the rack and pinion lever arm assembly to its operating level and tighten knob to secure.

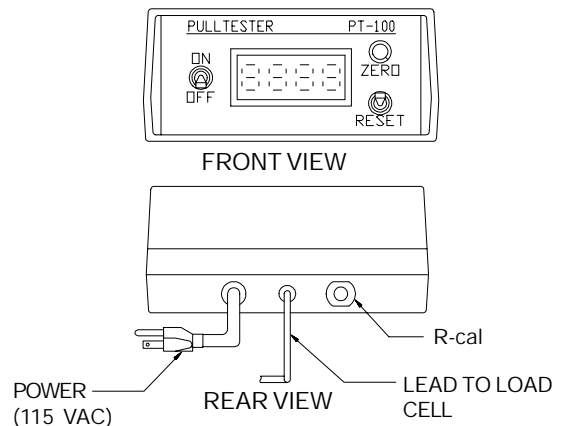
5. FUNCTIONAL CHECK

The PT-100 Wire Crimp Pull Tester is factory calibrated with equipment traceable to the National Institute of Standards and Technology (NIST). We recommend recalibrating the unit at intervals not to exceed one year in duration.

The functional check is executed using the R-cal switch built into the unit. The R-cal switch is located on the rear of the unit, and its R-cal value is on the sticker applied to the bottom of the unit.

A functional check can be performed at any time:

1. Allow PT-100 to warm up for 5 minutes.
2. Depress the reset toggle momentarily.
3. Zero the display by alternatingly turning the zero knob and momentarily pressing the reset toggle until the display reads 00.0.
4. Press the R-cal button on the back of the unit. Press the reset toggle to zero the display. Repeat this process several times to assure a repeatable value. The display value (R-cal # X .005 = tolerance R-cal # plus & minus tolerance = range) should be within .5% of the value recorded on the bottom of the unit.
EXAMPLE: R-cal = 81.0
81.0 X .005 = .40
80.6 to 81.4 = range
5. If any of the procedures in steps 2-4 do not produce the expected results, the unit should be returned to DMC for repair and recalibration.

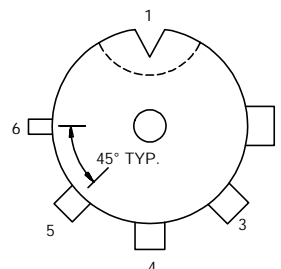


6. SERVICE

Repair and calibration services for the PT-100 Wire Crimp Pull Tester is available from Daniels Manufacturing Corporation. Spare parts are also available.

Should it be necessary to return the unit for service, please ship to the address on this datasheet, freight prepaid. Enclose a letter, or purchase order with company name, address, phone number, the individual to be contacted and the reason for return.

OPTIONAL RING TERMINAL GRIP



RING POSITION	
1	Slot .200" to .03" @ .250" Depth
2	3/8" Dia. x .250" Pin
3	5/16" Dia. x .250" Pin
4	1/4" Dia. x .250" Pin
5	3/16" Dia. x .250" Pin
6	1/8" Dia. x .250" Pin

NOTE: This option is made of heavier duty material and is useful specifically for testing ring terminals. It also offers a universal "V" groove for testing non-standard terminal sizes.