

The ShortStop works for finding faults in medium and long TempZone™ Heating Cables. It does not work on the shortest cables. The ShortStop will not help if you do not follow the SmartPlan™ and if you do not have a copy of the SmartPlan™ (installation plan). Contact WarmlyYours to request a copy of your SmartPlan™ if needed.

#### 1. Finding what CABLE is in the floor

- a. Tables 1 & 2 lists all the cables that we sell and have sold. To find which cable is in your floor, do one of the following things:
  - i. Look to the original quote,
  - ii. On the layout page; or
  - iii. On the UL tags that come with each cable

#### 2. Setting Velocity of Propagation (VOP)

- a. The correct VOP will improve the accuracy of the ShortStop.
- b. To set the VOP, turn the ShortStop off.
- c. Do not connect the alligator clips yet.
- d. With the ShortStop turned off, press and hold the down arrow and at the same time the on/off button until a zero then alternately or two digit number appears on the screen. This two-digit number is the VOP.
- e. Press the up or down arrow to set the ShortStop to the correct VOP value.
- f. Switch the ShortStop off.

#### 3. Finding the Cable distance to the Short/Break

- a. Before connecting the CABLE to the ShortStop ensure that the ground is NOT TOUCHING the inner wire.
- b. Twist the Red/Yellow wire and the black wire together
- c. Connect the red alligator clip to the Red/Yellow wire and connect the black alligator clips to the ground sheath. Turn on shortstop. You will get a reading in feet. Note this down. 3a  Turn off shortstop.
- d. The figures from (3a) are the length of CABLE to the short/break from the end. These figures will INCLUDE the cold lead connecting the thermostat to the CABLE. The cold length can be estimated by using the design layout.
- e. To find the length of HEATING CABLE from the end, subtract the cold lead length from the figure noted down in (3a).

3a  - Black Cold Lead  =

#### 4. Finding the Short in the floor

- a. The distances displayed is the linear feet of CABLE to the short from the end.
- b. Follow the SmartPlan™ to locate a fault.

If the failure is found at the factory splice, remove the splice and a couple of inches of wire on each side of the splice. Do NOT open the splice or apply voltage to the splice! Contact WarmlyYours at 800-875-5285 for information regarding the return of the splice for testing.

**Table 1: TempZone™ 3-Watt Heating Cable**

120V					
PRODUCT CODE	Heating Cable Length	Power	Total Resistance in $\Omega$ @20°C (68°F)	Current	VOP
	Feet	Watts	Ohms	Amps	
TCT120-3W-030	30	90	160.00	0.75	83
TCT120-3W-040	40	120	120.00	1.00	72
TCT120-3W-050	50	150	96.00	1.25	67
TCT120-3W-070	70	210	68.57	1.75	61
TCT120-3W-090	90	270	53.33	2.25	65
TCT120-3W-120	120	360	40.00	3.00	62
TCT120-3W-150	150	450	32.00	3.75	65
TCT120-3W-180	180	540	26.67	4.50	53
TCT120-3W-220	220	660	21.82	5.50	62
TCT120-3W-260	260	780	18.46	6.50	63
TCT120-3W-300	300	900	16.00	7.50	63
TCT120-3W-340	340	1020	14.12	8.50	62
TCT120-3W-375	375	1125	12.80	9.38	60
TCT120-3W-432	432	1296	11.11	10.80	61
TCT120-3W-468	468	1404	10.26	11.70	62

**Cold Lead Length:**

15 feet, 17 AWG - 9 Amps or less, 14 AWG above 9 amps.

**Wire colors:**

120V: Yellow, Black, and ground sheath.

240V: Red, Black, and ground sheath.

240V					
PRODUCT CODE	Heating Cable Length	Power	Total Resistance in $\Omega$ @20°C (68°F)	Current	VOP
	Feet	Watts	Ohms	Amps	
TCT240-3W-055	55	165	349.09	0.69	61
TCT240-3W-065	65	195	295.38	0.81	67
TCT240-3W-075	75	225	256.00	0.94	76
TCT240-3W-095	95	285	202.11	1.19	64
TCT240-3W-115	115	345	166.96	1.44	65
TCT240-3W-155	155	465	123.87	1.94	65
TCT240-3W-195	195	585	98.46	2.44	59
TCT240-3W-235	235	705	81.70	2.94	65
TCT240-3W-275	275	825	69.82	3.44	64
TCT240-3W-315	315	945	60.95	3.94	62
TCT240-3W-355	355	1065	54.08	4.44	64
TCT240-3W-395	395	1185	48.61	4.94	60
TCT240-3W-435	435	1305	44.14	5.44	58
TCT240-3W-515	515	1545	37.28	6.44	60
TCT240-3W-595	595	1785	32.27	7.44	63
TCT240-3W-675	675	2025	28.44	8.44	62
TCT240-3W-749	749	2247	25.63	9.36	59
TCT240-3W-864	864	2592	22.22	10.80	59
TCT240-3W-935	935	2805	20.53	11.69	59

**Table 2: TempZone™ 3.7-Watt Heating Cable**

120V					
PRODUCT CODE	Heating Cable Length	Power	Total Resistance in $\Omega$ @20°C (68°F)	Current	VOP
	Feet	Watts	Ohms	Amps	
TCT120-3.7W-030	30	111.0	129.73	0.93	53
TCT120-3.7W-040	40	148.0	97.30	1.23	50
TCT120-3.7W-050	50	185.0	77.84	1.54	55
TCT120-3.7W-070	70	259.0	55.60	2.16	56
TCT120-3.7W-090	90	333.0	43.24	2.78	56
TCT120-3.7W-120	120	444.0	32.43	3.70	58
TCT120-3.7W-150	150	555.0	25.95	4.63	58
TCT120-3.7W-180	180	666.0	21.62	5.55	53
TCT120-3.7W-220	220	814.0	17.69	6.78	57
TCT120-3.7W-260	260	962.0	14.97	8.02	57
TCT120-3.7W-300	300	1,110.0	12.97	9.25	58
TCT120-3.7W-340	340	1,258.0	11.45	10.48	57
TCT120-3.7W-375	375	1,388.0	10.37	11.57	60
TCT120-3.7W-432	432	1,598.0	9.01	13.32	57

**Cold Lead Length:**

15 feet, 17 AWG - 9 Amps or less, 14 AWG above 9 amps.

**Wire colors:**

120V: Yellow, Black, and ground sheath.

240V: Red, Black, and ground sheath.

240V					
PRODUCT CODE	Heating Cable Length	Power	Total Resistance in $\Omega$ @20°C (68°F)	Current	VOP
	Feet	Watts	Nom	Amps	
TCT240-3.7W-055	55	204.0	283.05	0.85	70
TCT240-3.7W-065	65	241.0	239.50	1.00	61
TCT240-3.7W-075	75	278.0	207.57	1.16	60
TCT240-3.7W-095	95	352.0	163.87	1.46	60
TCT240-3.7W-115	115	426.0	135.37	1.77	56
TCT240-3.7W-155	155	574.0	100.44	2.39	55
TCT240-3.7W-195	195	722.0	79.83	3.01	59
TCT240-3.7W-235	235	870.0	66.24	3.62	58
TCT240-3.7W-275	275	1,018.0	56.61	4.24	58
TCT240-3.7W-315	315	1,166.0	49.42	4.86	58
TCT240-3.7W-355	355	1,314.0	43.85	5.47	60
TCT240-3.7W-395	395	1,462.0	39.41	6.09	60
TCT240-3.7W-435	435	1,610.0	35.79	6.71	58
TCT240-3.7W-515	515	1,906.0	30.23	7.94	59
TCT240-3.7W-595	595	2,202.0	26.16	9.17	58
TCT240-3.7W-675	675	2,498.0	23.06	10.41	58
TCT240-3.7W-749	749	2,771.0	20.78	11.55	59
TCT240-3.7W-864	864	3,197.0	18.02	13.32	59