



GutterMelt Gutters, Downspouts, & Eaves Cheat Sheet DIY Guide

Tools:

1. Tape Measure
2. Calculator

Step 1: Measure

1. Measure the total Gutter length (GL): _____ ft
2. Measure the Downspout height (DH): _____ ft
3. Count the total Downspouts (TD): _____
4. Measure the eave overhang to cover (EH) _____ Inches
5. Measure the eave length to cover (EL) _____ ft

Step 2: Calculate the length

Choose between recommended and economical

Recommended - 2 runs in Gutters & Downspouts:

$$(GL * 2) + ((DH * 2) * TD) = \text{Gutter \& Downspouts (GD)} \text{ _____ ft}$$

Economical - 1 run in Gutters & 2 runs in Downspouts:

$$(GL) + ((DH * 2) * TD) = \text{Gutter \& Downspouts (GD)} \text{ _____ ft}$$

To Calculate Eave Coverage and Total Length:

Cable Length Factors vs Roof Overhang			
Eave Overhang (EH)	Loop Height (H)	Length Factor Shingle Roof	Length Factor Metal Roof
0-12"	18"	1.9	2.5
24"	30"	2.7	3.7
36"	42"	3.6	4.5
48"	54"	4.6	5.7

Using the above table and calculations above:

$$(\text{Length Factor} * \text{Eave Length (EL)}) + \text{GD} = \text{Total Length (TL)} \text{ _____ ft}$$

Step 3: Voltage

GutterMelt is 120V or 240V: (V) _____ VAC

Step 4: Circuits

BREAKER SIZING AND MAX CIRCUIT LENGTH

120 Volt Breaker Sizing vs Max Circuit Length (ft)

		15A	20A	30A	40A
12GM1 If started at	40°F	115	150	180	—
	0°F	70	95	145	180
	-20°F	60	85	120	165

240 Volt Breaker Sizing vs Max Circuit Length (ft)

		15A	20A	30A	40A
12GM2 If started at	40°F	230	305	360	—
	0°F	150	200	300	360
	-20°F	130	175	260	360

Using the breaker sizing and max circuit length chart above, the Total Length (TL) from Step 2, your Voltage (V) from Step 3, and your decided breaker size, decide how many circuits you will have by dividing Total Length (TL) by the length under the correct breaker size on the chart. Typically the 40 degree startup is used to calculate max circuit length.

Total Circuits (TC) _____

STEP 5: Number of Separated Areas

To decide the number of power connection kits for the system we need two factors, Total Circuits (TC) and Total Areas (TA)

Total Areas (TA) are counted as gutters that are essentially separated and do not make a continuous run such as gutters on the front of a building and gutters on the back of a building that do not meet anywhere. For multiple gutter areas, you will need to make a connection at each area, so it is a good idea to draw a measured layout of the different gutters and downspouts around the building so you can take into account the circuits needed as well as the separated gutters for ordering power connection kits.

Total Areas (TA): _____

STEP 6: Power Connection Kits (includes End Seal)

The easiest way to estimate this without a layout is to add:

Total Circuits (TC) + Total Areas (TA) = _____ Power Connect Kits (PCK)

STEP 7: Downspout Hangar Kits (for 3 wires)

To determine how many downspout hangar kits needed:

((TD * 2) / 3) = (DK) Downspout Kits

STEP 8: Choose an Activation Device

Activation Devices are a great way to save energy and make your system only run when it is needed. Although these cables self regulate and decrease output when the temperature rises, that doesn't stop them from running all winter and summer if you forget to cut the power. There are several activation devices to choose from on our website. Also, many of these activators have a 30AMP switching capacity and for large jobs with more than one circuit a Relay Panel is a great way to activate all of them at the

same time with just one activation device. For simple solutions we have plug in cord sets with built in GFCI that also acts as a power connection for a plug and play solution.

STEP 9: Specs & Parts List for RadiantShop.com

_____ (TL) ft of GutterMelt SR Cable
_____ (V) Voltage Required
_____ (PCK) Power Connect Kits
_____ (DK) Downspout Hangar Kits