



4 Collector Residential System Configuration Guide

SunDrum Solar
469 River Road #8
Hudson, MA 01749
techsupport@sundrumsolar.com

SunDrum™ SDM100 System Configuration Guide Overview

This configuration guide contains information about the physical, mechanical, and thermal characteristics of the SunDrum™ SDM100 series collectors, and provides associated guidelines for completing a complete system installation. While the configuration and installation of a SunDrum SDM100 system is relatively straightforward, it is best to carefully devise a comprehensive installation strategy prior to commencing the installation effort. Follow the configuration guidelines and installation instructions carefully to obtain maximum performance from the SunDrum SDM100 system.

This document includes a table listing the SunDrum products and the associated components which are required to complete an installation for a four (4) collector SunDrum hybrid solar system. The table includes multiple sources for each of the associated components required for this configuration.

This document applies to SunDrum SDM100 series collectors designed for residential applications. It is recommended that installers read the Owner's Manual before operating the system.



SunDrum Solar SDM100 collectors are designed to produce thermal energy from light. This document contains important safety, installation and operating information with which you should be familiar before using SunDrum Solar collectors.



General Information

- All installation and safety instructions should be understood before attempting to install, connect, operate and maintain the collector.
- When installing, observe all local, regional, national and international statutory regulations, guidelines, norms and code requirements.
- Installation or maintenance should only be performed by licensed and qualified professionals.
- Ensure that collectors are only subjected to temperatures between -40 to +90°C (-40 to +194°F).
- Follow all safety precautions of other used components.

Handling Safety

- Collectors may have sharp edges. Gloves should be worn when handling the collector.
- Work only under dry conditions and use only dry tools.
- Do not stand or step on the collector. Do not allow objects to fall on collector.
- Do not damage or scratch the front or rear surface of the collector.
- Avoid setting the collector down hard on any surface, particularly on a corner.
- Never leave a collector unsupported or unsecured.
- Do not disassemble, modify or adapt the collector or remove any part or labeling installed by SunDrum Solar. Doing so will void the warranty.
- Do not drill holes in the collector. Doing so will void the warranty.

Mechanical Installation

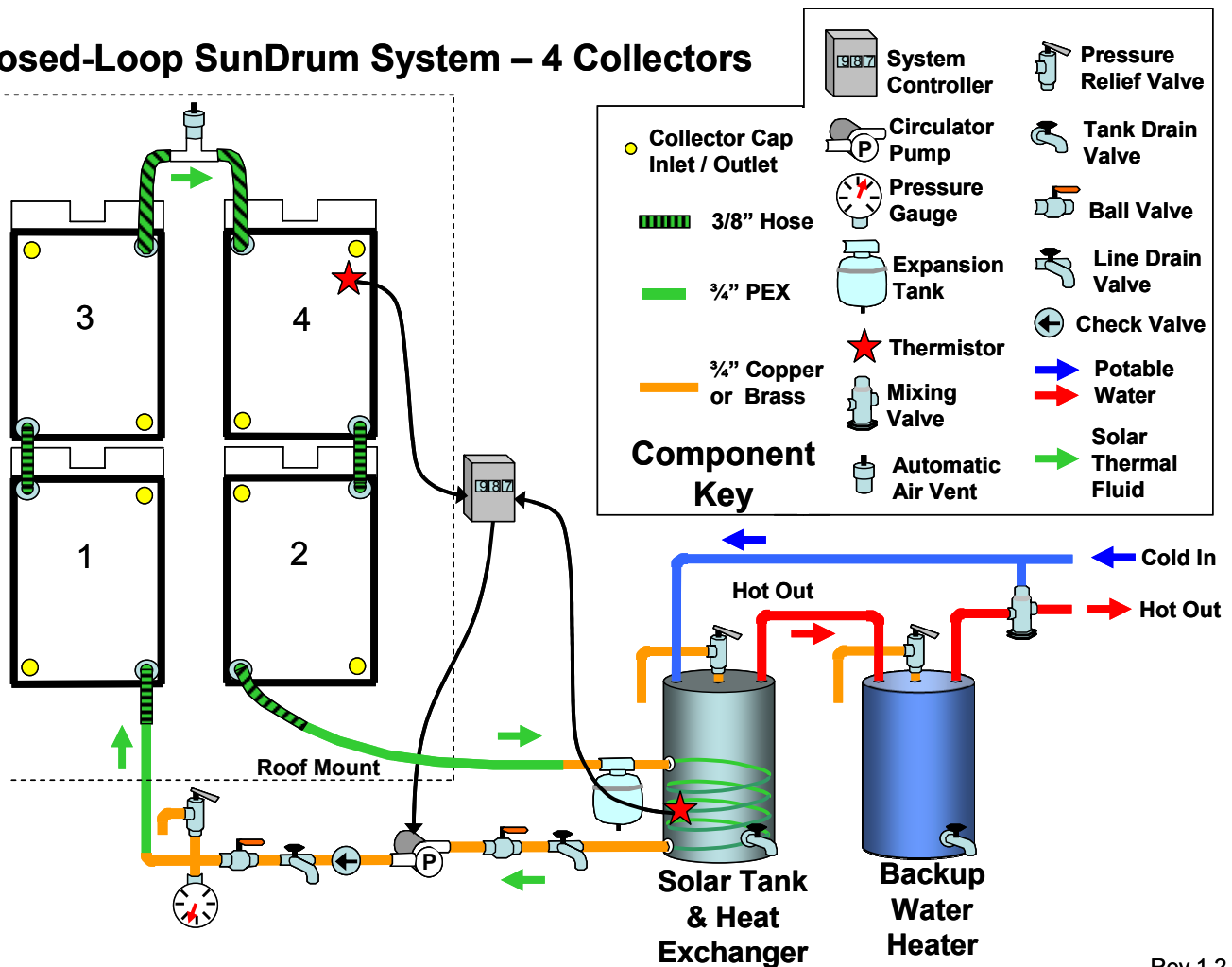
- Collectors must be securely fastened using mounting kits provided by SunDrum.
- Ensure collectors are not subjected to wind or snow loads in excess of the maximum permissible loads and are not subjected to excessive forces due to thermal expansion of the support structure.
- Always follow the mounting equipment vendors' installation instructions in addition to the instructions provided in SunDrum documentation.

Installation Safety

- Keep children away from the system and collectors when installing.
- Do not carry out installation work when there are strong winds.
- When installing collectors above ground, avoid any possible falling or other safety hazards by following appropriate safety practices and using required safety equipment.
- Follow all state and local building codes
- Ensure that all connections too potable water supply are completed by a licensed plumber.
- Ensure the electrical power is disconnected before mounting collectors to photovoltaic (PV) panels and before connecting modules to the array to avoid electrical shock. PV panels can generate dangerous and potentially lethal DC voltages when exposed to sunlight.
- Ensure that all electrical connections are inspected by a licensed electrician and that all connections to the electrical grid are completed by a licensed electrician.
- Collectors are designed to heat the fluid in the collectors when exposed to the sun. The collectors and the fluid in the collectors can easily reach temperatures which will cause 2nd and 3rd degree burns. Use extreme care when handling collectors. Always wear gloves and appropriate protective clothing when handling collectors.
- Collectors can produce significant solar glare when exposed to the sun. Adequate eye protection should be worn.
- Collectors must be grounded in accordance with the Installation Manual instructions.



Closed-Loop SunDrum System – 4 Collectors



Rev 1.2

SunDrum Solar Configuration Guide - 4 Collector System			
Qty	Description	Part #	Source
4	SunDrum Collectors	SDM100	SunDrum Solar
1	SunDrum System Configuration Kit	SDM300 - 4	SunDrum Solar
1	Single heat exchanger/storage tank	SBB150S 39 gal SSU-60SE SW-2-40R-L or SW-2-65-L	Stiebel Eltron SuperStor Solar ¹ Bradford White
7 gal	Propylene Glycol/Distilled Water mix		Plumbing supply
1	Mixing Valve		Plumbing supply
length per run	3/4" Heat PEX ²		Plumbing supply
length per run	2" PVC pipe for exterior UV shielding		Plumbing supply
length per run	7/8" ID by 1/2" wall insulation for exterior PEX		Plumbing supply
length per run	7/8" ID by 3/4" wall insulation for interior PEX		Plumbing supply
as needed	2" PVC Brackets		Plumbing supply

Note 1. SuperStor -SE models have a built in back up electrical heating element.

Note 2. Watts 3/4" heat PEX coupling to 1/2" MPT part name is PEX adapter 3/4c - 1/2 MPT. The Ferguson plumbing supply ordering number is WWP12B1208

Disclaimer of Liability

Since the conditions or methods of installation, operation, use and maintenance of the SDM100 collectors are beyond SunDrum Solar's control, SunDrum Solar does not assume responsibility and expressly disclaims liability for loss, damage, injury or expense arising out of or in any way connected with such installation, operation, use or maintenance of the collector.

The information in this configuration guide is based on SunDrum Solar knowledge and experience and is believed to be reliable; but such information including product specifications (without limitations) and suggestions do not constitute a warranty, expressed or implied. SunDrum Solar reserves the right to make changes to the product, specifications or this configuration guide without prior notice.