



DLP-20_{S,P,H} DUAL-LOAD PRIORITY CONTROLLER

Controls DHW plus Another Load

Priority Set By User

Adjustable Temperature Thresholds

- Remote Control Cabinet
- Three Digit Temperature Display
- Choice of Spa, Pool or Space Heating Ranges Available
- Optional "Drain on Freeze" Logic for Open Loop Systems
- Optional Recirculation Logic
- Overrides Priority if Appropriate to Increase Energy Collection



The Novan Energy Dual-Load Priority Controller was designed to fulfill the needs of a two-load solar heating system utilizing a single array of solar collectors. It is especially suited for domestic hot water systems in combination with a spa or hot tub. The unit can also control systems combining domestic hot water with either a swimming pool or a space heating load. Incorporated in this control is the ability to give priority to one of the two heating loads, according to the needs of the user. The unique logic of this control helps maximize the utilization of available solar energy for a two-load priority system.

In operation, the controller is very much like a standard differential thermostat. The On/Off differentials are 16°F on, and 3½°F off.

The standard control features three upper thresholds for control of the system. The domestic hot water threshold is user-adjustable, between 100°F and 160°F. The second user-adjustable threshold range will depend on which option is chosen. For systems heating a hot tub or spa, the threshold can be set between 90°F and 110°F. Pool heating systems can be set

between 70°F and 90°F, and space heating systems are adjustable from completely off to 180°F. The final domestic hot water threshold is factory-set at 180°F.

Normally, the control is designed to operate closed-loop systems. Options include the ability to run a draindown control valve with "drain on freeze" logic, or recirculation freeze protection.

A three digit LED temperature display is provided to monitor system temperature through the range of 60°F to 170°F for the four sensors used in the system. These four sensors are located in the top of the collector absorber plate, the top and bottom of the domestic water storage tank, and the lower or cooler portion of the spa, pool or space heating storage system.

The user operates the system by choosing which load will be in priority and setting a temperature threshold for each load. For example, if the domestic hot water system is in priority, the control will engage the domestic hot water heating system until the threshold temperature set on the dial is achieved. At this point the second load heating system will be engaged. If at any time

the domestic hot water system temperature falls below the desired temperature, the controller will re-engage the domestic hot water heating system and reheat that load to the threshold temperature set by the user. It will then automatically return to heating the second load. If both loads are satisfied, regardless of priority, the control will engage the domestic hot water system until the water has been heated to a final threshold of 180°F.

Loads will be switched on a priority basis only when there is both a demand for heat at that load, and sufficient differential between the collector temperature and the load temperature. For example if insufficient differential exists between collector temperature and the load in first priority, the system will heat the alternate load until sufficient differential exists to heat the first priority load. In this manner, available solar energy is not wasted.

Three separate 120 VAC pump outputs, as well as a 120 VAC diverting valve output, are provided. A SPDT low-voltage relay is available for operating a spa diverting valve. See reverse side for dimensions and specifications.

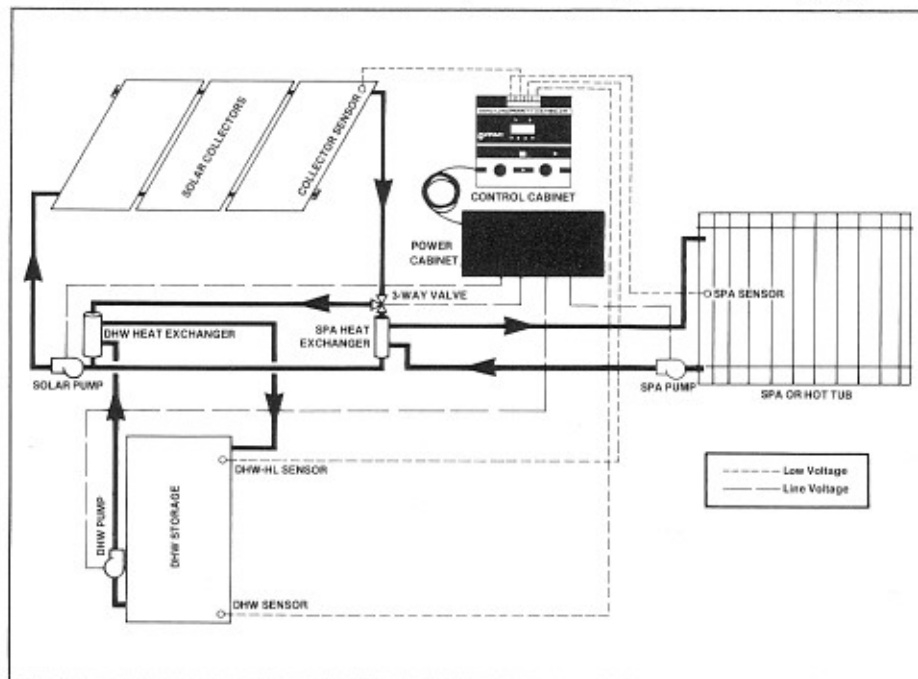
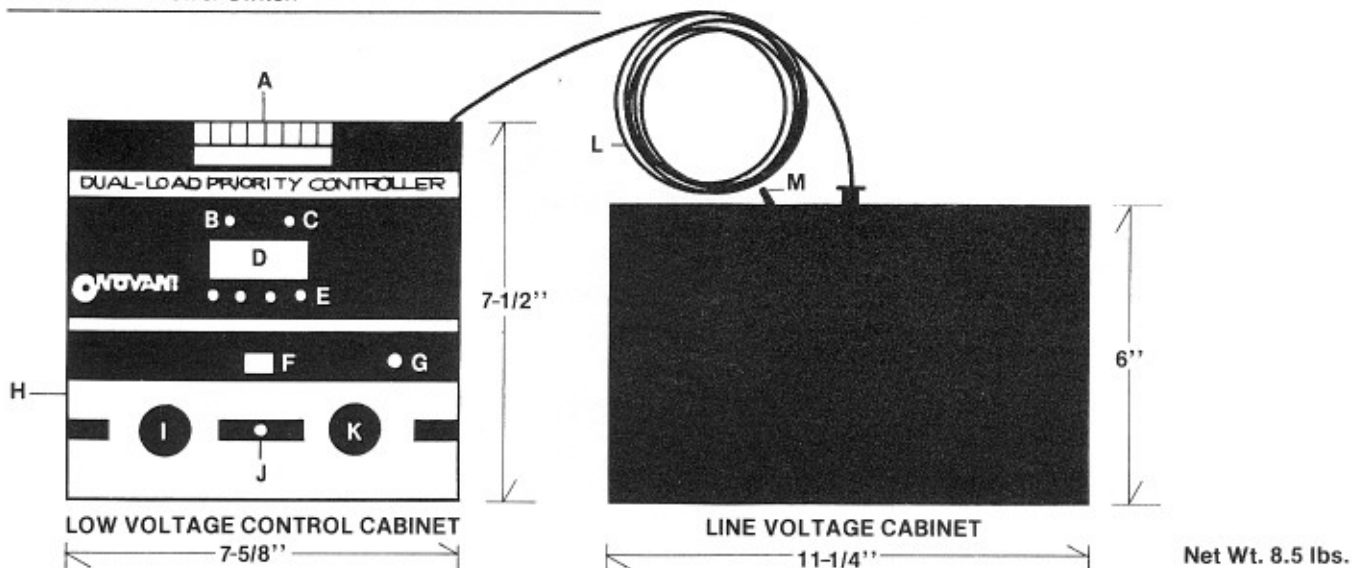
THE LEADER IN PRE-PACKAGED SOLAR SYSTEM TECHNOLOGY

DUAL-LOAD PRIORITY CONTROLLER

PART NO.	COMPONENT DESCRIPTION
A	Sensor Wire Terminals
B	Spa Mode Indicator Light
C	DHW Mode Indicator Light
D	L.E.D. Temperature Readout
E	Sensor Indicator Light
F	Sensor Selector Switch
G	Power On Indicator Light
H	Remote Spa Temperature Error Adjustment
I	Spa Threshold Adjustment
J	Priority Selector Switch
K	DHW Threshold Adjustment
L	10 ft. Cable for Remote Mounting
M	Power Switch

SPECIFICATIONS

INPUT AC — ("AC LINE") — 120 VAC, 50 HZ, 13 A
 DRAIN DOWN VALVE — ("DDV") — 120 VAC, 15 W
 DIVERTING VALVE — ("DIV VALVE") — 120 VAC, 15 W
 SOLAR PUMP — ("SOLAR PUMP") — 120 VAC, 1/20 HP, 1.5 A
 POTABLE PUMP — ("POT PUMP") — 120 VAC, 1/20 HP, 1.5 A
 SPA OUTPUT — ("SPA OUT") — 120 VAC, 1/4 HP, 7.2 A



ORDERING INFORMATION

When ordering a DLP-20 for spa or hot tub heating, specify a DLP-20-S. This is the standard control used on Novan dual-load modules, unless otherwise requested. For pool heating, order a DLP-20-P, and for space heating, a DLP-20-H. See the text on the reverse for the temperature ranges each model services. Be sure to indicate if either the "drain on freeze" or recirculation option is desired, when using the control in an open loop system.



NOVAN Energy, Inc.
 1630 N. 63rd Street • Boulder, CO 80301 • (303) 447-9193
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