Solar Thermal

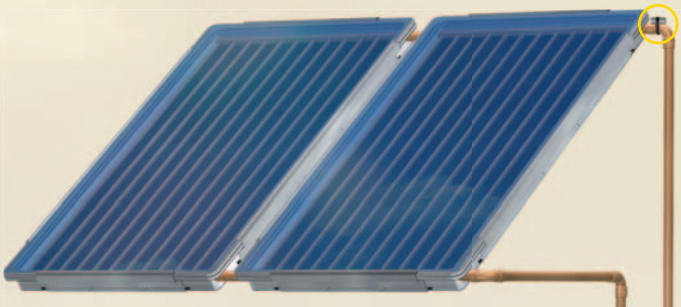
Control Systems

- Domestic Hot Water
- Pools
- Space Heating

tekmar®
Control Systems

Solar Operation With Intelligence

Each day the sun rises and sets, making solar energy a reliable yet intermittent source of energy. By measuring the temperature of the collector and the storage tank, a control determines when enough heat has been absorbed by the collectors for a pump to transfer the heat to the tank.



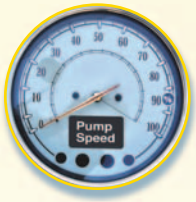
Source Sensor

Features that help protect mechanical equipment & reduce electrical consumption make tekmar Solar Controls an intelligent choice.

ENERGY SAVING FEATURES

Variable Speed Control

Take advantage of periods of low solar irradiance by operating the pump at a low speed. This provides a higher amount of heat transfer when compared to on/off pump operation. Variable speed operation also reduces electrical consumption while running at lower speeds.



SMART FEATURES

Energy Calculation

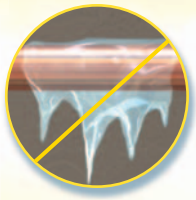
Find out how much heat has been transferred to the storage tank.

SYSTEM PROTECTION

Solar Drainback Operation

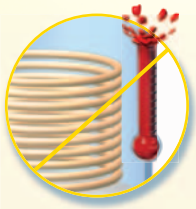
A booster pump is used to overcome additional pressure needed to fill the system in drainback applications. The system drains to help prevent the collectors from freezing or system components from over heating.

Freeze Protection



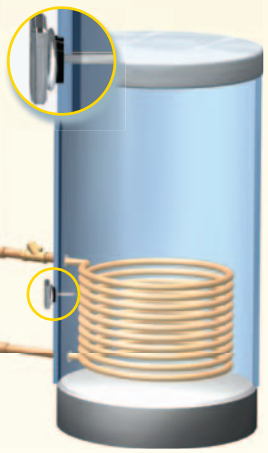
Transfer heat from the storage tank to help prevent the collectors from freezing when potable water is the heat transfer fluid.

Max Storage Setpoint



The control turns off the pump once the storage tank reaches a programmable maximum setpoint in order to avoid over heating.

Storage Sensor



Heat Dump Operation

During periods of high solar irradiance, excess heat can be transferred to a secondary load such as a pool or storage tank.

Concept illustration only.
Does not contain all components required for operation.

Solar Capable Controls

Difference Setpoint Control 156
- On/Off Pump Control
- Cost Effective Solar Controller

Difference Setpoint Control 155
- On/Off Pump Control
- Drainback/Draindown Operation

Difference Setpoint Control 157
- Variable Speed Pump Control
- Two Pump Outputs
- Four Modes of Operation

Universal Reset Control 363
- Storage Tank Mode Incorporates Solar System with Space Heating System

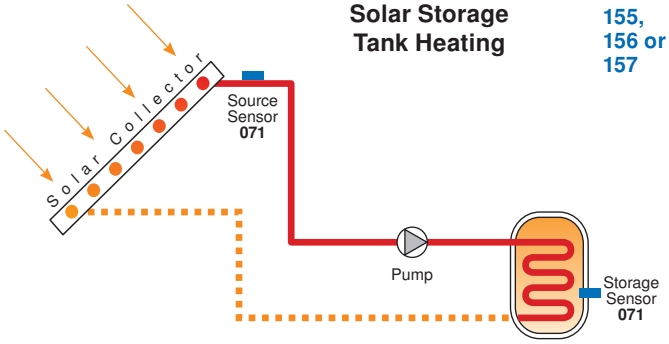
	156	155	157
Difference Setpoint Operation			
On / Off Pump Control	○	○	
Variable Speed Pump Control			○
Source Sensor	○	○	○
Storage Sensor	○	○	○
Auxiliary Sensor			○
Protection Features			
Solar Drainback Operation		○	○
Solar Draindown Operation		○	
Heat Dump Operation			○
Maximum Storage Setpoint	○	○	○
Minimum Source Setpoint	○	○	○
Smart Features			
External Heat Exchanger Operation			○
Supplemental Heat Operation			○
Freeze Protection			○
Test Routine			○
Energy Calculation	○	○	○
Display			
ΔT Temperature	○	○	○
Source Temperature	○	○	○
Storage Temperature	○	○	○
Variable Speed Pump % Output			○
Backlight			○
Power Requirements			
AC Power Supply	24 V	24 V	24 V
DC Power Supply	24 V	30 V	

Why Choose tekmar?

tekmar has over 25 years of experience controlling hydronic heating systems. With reliable, cost effective controls that are easy to install and program, there is no reason to settle for a less efficient system. Choose tekmar and benefit from our world class technical support, training and a network of experienced local representatives.

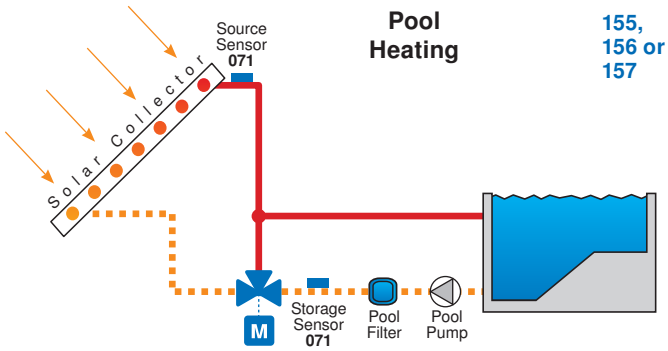
Solar Storage Tank Heating

155, 156 or 157



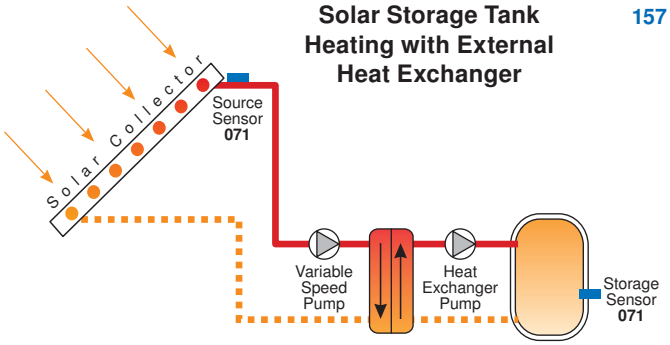
Pool Heating

155, 156 or 157



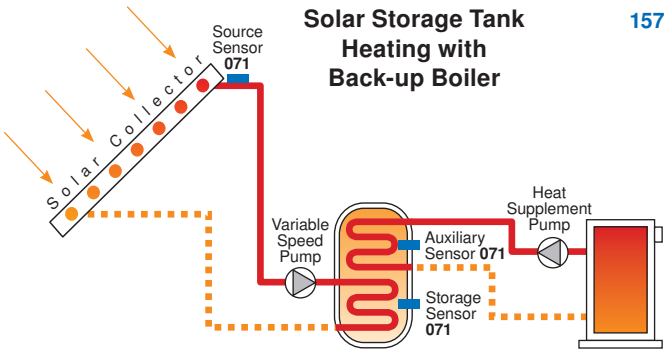
Solar Storage Tank Heating with External Heat Exchanger

157



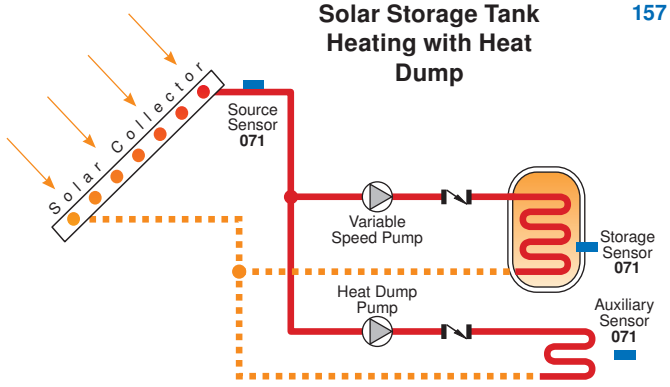
Solar Storage Tank Heating with Back-up Boiler

157



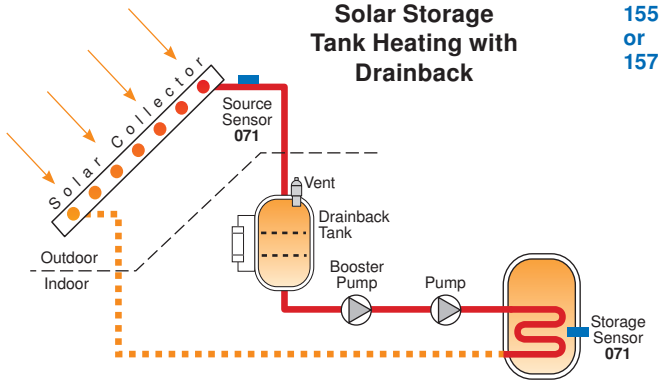
Solar Storage Tank Heating with Heat Dump

157



Solar Storage Tank Heating with Drainback

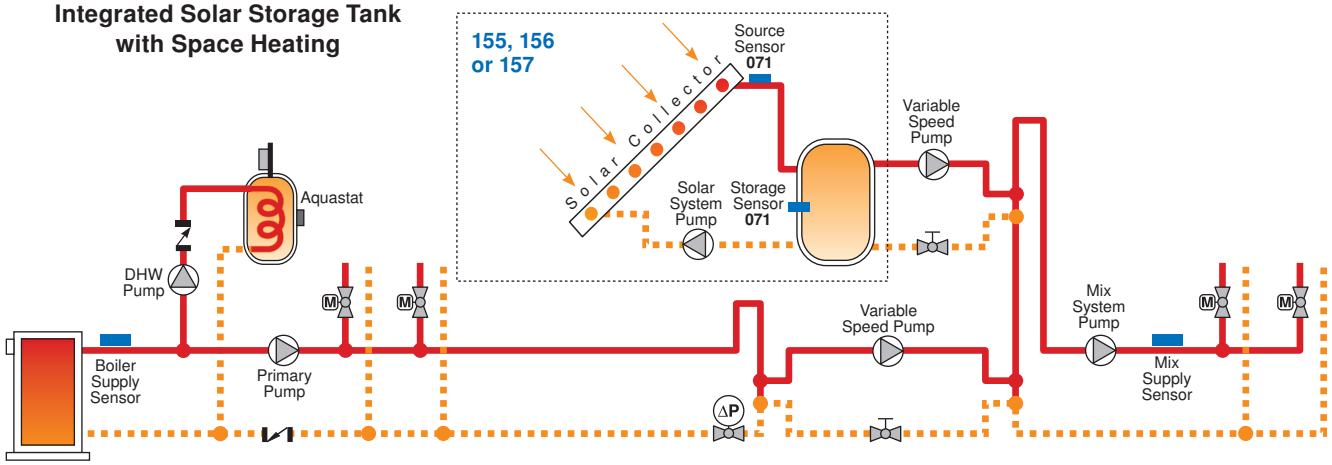
155 or 157



Integrated Solar Storage Tank with Space Heating

363

155, 156 or 157



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