



Description

The DIFT2 is a differential thermostat (solar controller) designed specifically for the domestic solar hot water market. It continuously monitors the temperature difference between a tank sensor and a panel sensor, and switches an external AC hot water circulation pump to facilitate optimal overall system energy efficiency.

Boil Protection

Water circulation is cut out at a tank temperature of 75°C (factory selectable) to protect the tank from boiling and minimize the risk of scalding.

Freeze Protection

Water circulation is initiated when panel temperature drops below 4.5°C (factory selectable) and stops when panel temperature reaches at least 7°C (factory selectable), to ensure water does not freeze in the pipes. For closed loop systems, freeze protection can be disabled (factory setting).

Status and Fault Indicators

The two status lights visible on the top lid provide information regarding faults and normal operation of the controller. The following table summarizes the status and fault indications.

Red Light	Green Light	Indication
Off	Off	Standby mode – pump off
Off	On	Normal operation
On	Off	Optimal temperature reached – boil protection
On	On	Freeze protection active
Flashing, slow or fast		Panel sensor disconnected or shorted
	Flashing, slow or fast	Tank sensor disconnected or shorted

"Faulty Panel Sensor" Operation (Factory Setting)

In case the panel sensor is faulty (disconnected or shorted), the controller will activate the circulation pump for a period of about 40 seconds every 40 minutes, as a precaution to avoid potential panel freeze damage. This operation will continue until the panel sensor fault is resolved. This option is factory-selectable. Please contact Kanitti for further details.

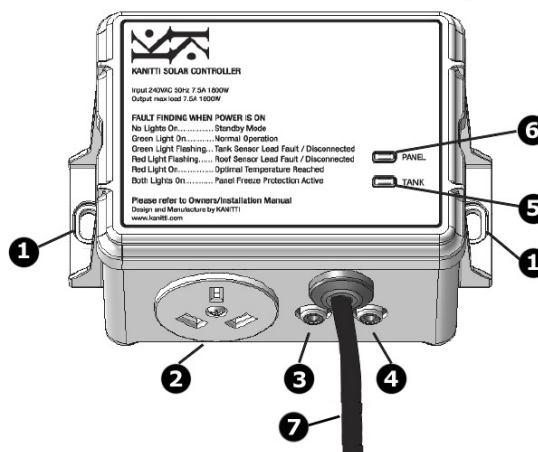
Installation Guidelines

To increase service life, it is recommended to use suppressors (RC filters) in parallel with the AC pump, or to use a water pump with built-in suppressors.

Technical Specifications

Power supply:	220VAC +/- 10%, 50Hz
Load:	up to 1800W (7.5A)
Power consumption:	<0.75 VA (< 6.6KW/h per year)
Dimensions (W x H x L):	130x65x90.5 mm
Material:	flame retardant, UV-stabilized polycarbonate
Color:	Cool Grey 2C
Pump "ON" differential:	4° C (factory selectable)
Pump "OFF" differential:	1° C (factory selectable)
Operating Temperature:	-10° - 65° C
Operating Humidity:	10%-90% non-condensing
Panel Sensor:	DR brass, 250°-rated sensor thermowell element, 3/4" NPT thread, Teflon leads, heat-shrink applied
Tank Sensor:	25x3.1mm mylar tube, 105°-rated sensor element, UL3266 leads
Connectors:	All RCA connectors are gold plated
Certifications:	SAA (Electrical Safety), RoHS
Service life:	500,000 operations (10 years)
Environmental protection:	conformal coating applied on electronics; Enclosure is rated IP20

DIFT2 Rev B – Outline



Part	Identification
1	Mounting Lugs
2	Pump Power Socket
3	Panel Sensor Connector
4	Tank Sensor Connector
5	Tank (Green) Lamp
6	Panel (Red) Lamp
7	Controller Power Lead



DIFT2

Technical Sheet

Rev B



Contact

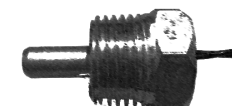
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Accessories

Tank Sensor – Mylar tube, 900mm wires, gold-plated RCA male connector



Panel Sensor – DR (Dezincification Resistant) Brass Thermowell, 2000mm Teflon leads, gold-plated RCA female connector



RCA-RCA wire for connecting the panel sensor, mounted on the solar collectors, to the solar controller
standard length: 18 meters
gold-plated male RCA connectors



Mechanical Drawings

