

GUARANTEE CONDITIONS

This appliance has a two-years guarantee limited to replacement of defective parts.

VERY IMPORTANT !:

The probe cable has to be kept as far away as possible from other electrical conductors.

We will not accept any responsibility for damage caused to the appliance by poor handling.

The guarantee does not include:

- Appliances with a damaged, effaced or altered series number.

- Appliances which have not been connected or used following the instructions that accompany it.

- Appliances which have been altered without the prior consent of the manufacturer.

- Appliances damaged by blows or liquid spills or gaseous emissions.

The maximum length recommended under actual standard must be less than 3 meters.

It is the installer's responsibility to fit electrical protection suitable for the installation (STANDARDIZED).

The installation of all wiring that enters or leaves should be done under pipe and a section of cable maximum of 2,5 mm².

Reserved the right of modify without prior notice.

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Cod:5557 ING.V1-01/2008

DESCRIPTION

This is a differential control with 2 relays. The first relay cuts in our out depending on the temperature difference between the sensors, and the second one cuts in or out as an alarm for the sensor temperature as predetermined in **Ar2**. (2nd relay **RAIL** only).

Typical set-up for a solar-panel installation:

When the temperature difference between the two sensors is greater than the value set in **dFa**, relay 1 (connected to a pump) cuts in, and the heat-transfer fluid in the circuit will circulate until **dFd** is reached.

When the collector temperature is lower than the value set in **Ant**, relay 1 cuts in to make the heat-transfer fluid circulate until the temperature set in **Ant** +2°C (differential) is reached, regardless of the tank temperature. When the temperature rises above the value set in **tAL**, **Ar2** cuts in:

In **AAC** mode (Storage-tank temp. alarm – sensor **T2**), it turns on relay 1, connected to the pump, so that the heat-transfer fluid starts to circulate, and relay 2, connected to the unit heater, to cool down the fluid; the relays are deactivated when the tank temperature falls below **tAL**-1°C (fixed differential) or when the temperature difference between the two sensors is less than **dFd**.

In **APL** mode (Panel-temp. alarm – sensor **T1**, mode used in installations with a draining system), it deactivates relay 1, connected to pump, for fluid circulation, and activates relay 2, connected to the panel-draining system; it turns off when the panel temperature falls below **tAL**-1°C (fixed differential).

In **ArO** mode (Storage-tank temp. alarm – sensor **T2**, mode used in Zone Valves Control Installation) it deactivates relay 1, connected to valve when the storage-tank **T^a** (T2) reach "tAL". In Rail mount version relay 2 activate.

TABLE OF PARAMETERS

Code	FUNCTION	FACTORY SETTING	RANGE
Cad	Tank sensor calibration adjustment	0	-9.0 to + 9.0°C
Cac	Collector sensor calibration adjustment	0	-9.0 to + 9.0°C
dFA	Activation differential	8	2 to 15°C
dFd	Deactivation differential	4	11 to 11°C
Ant	Anti-freeze option (fixed differential 2°C)	5	-20 to 10°C
Ar2	Second-relay alarm mode	AAC	AAC/APL/ArO
tAL	Second-relay alarm temp. (Fixed diff. at 1°C)	60	15 to 110°C
Pnt	Selecting the display temperature	tPL or tAC	tPL or tAC
tPP	Parameter-programming access time	5	3 to 40 secs.
PAS	Password	0 deactivated	0 to 99

OPERATION

1. The screen displays the sensor temp. selected in the parameter **Pnt**:

tAC = Storage-Tank Temperature.

tPL = Collector-Panel Temperature (factory-set)

2. If **OK** is pressed, the second temp. of parameter **tPL** is displayed.

3. Pressing **OK** for 5 seconds takes you into and out of forced operation of the relay 1. The screen displays **on1**.

4. Pressing **▲** for 5 seconds takes you into and out of forced operation of the relay 2. The screen displays **on2**.

5. Pressing **▼** for 5 seconds takes you into and out of forced stoppage. The screen displays **OFF**.

6. Press **TEST** to ascertain the preset values for the parameters **dFA**, **dFd**, **tAL** and **Ant** (the screen will display the parameter and its value); and finally "888" appears in the screen (check on the proper working of all the segments)

Note: go through steps 3 and 4 to check that your installation is properly set up.

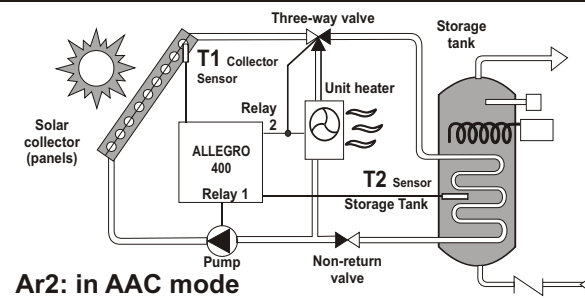
PARAMETER PROGRAMMING

1. On powering up, the display shows "----", "RL L", "----" and the collector temp.
2. If you wish to change the values set in the parameters, press **PRG** and hold it down for the time specified in **tPP** (the factory setting is 5 seconds), and then "CAD" is displayed.
3. Press **OK** to access the parameter value.
4. Press **▲** or **▼** to set the desired value. Press **OK** and the value is memorized.
5. Press **▲** to view the next parameter. Go back to step 3.
6. Press **PRG** or wait for 40 secs. without pressing any key to exit parameter-setting. The screen shows "----" and then the sensor temp. set in **Pnt**.

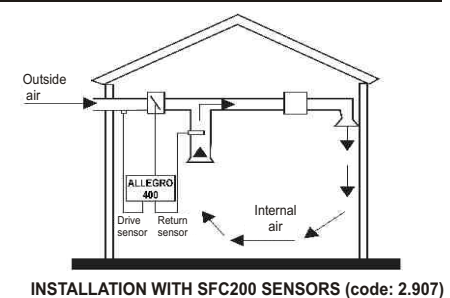
Note: the values are stored in a non-volatile memory so that they remain stored even when the equipment is not powered.

APPLICATIONS

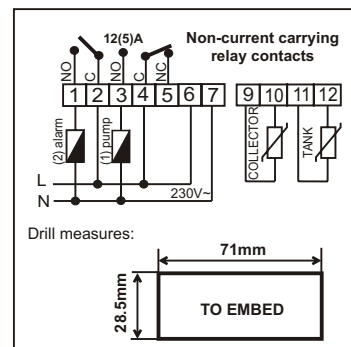
Solar circuit



Ventilation circuit



ELECTRICAL CONNECTION



WARNING SYMBOLS

- 1 LOAD/CARGA: A fixed light point below this symbol means "ON". The number indicates the relay to which the LED corresponds.
- 1 Tank-temperature alarm (parameter "tAL"): both relays are connected.
- 5 Sensor error: warns that the sensor or its cables are cut or disconnected. Deactivates the relays.
- 888 Parameter-table memorization error. Deactivates the relays.
- ErP Programming error: dFA must be greater than "dFd". Deactivates the relays.

TECHNICAL SPECIFICATIONS

- Display.....3 digit (red).
- Sensors.....2 PTC 2000, IP67, -40 to +140°C.
- Resolution.....0,1°C.
- Power supply.....230V~ +10%, -15%. 50/60Hz.
- Connections probe.....without polarity.
- Breaking power (contacts).....12(5)A 250V~.
- Connected wire section.....1,5mm².
- External box protection grade.....IP55.
- Working temperature.....-5°C to 45°C.
- Storage temperature.....-20 to 60°C.