

# 3P TCA7000 - RainForce Home

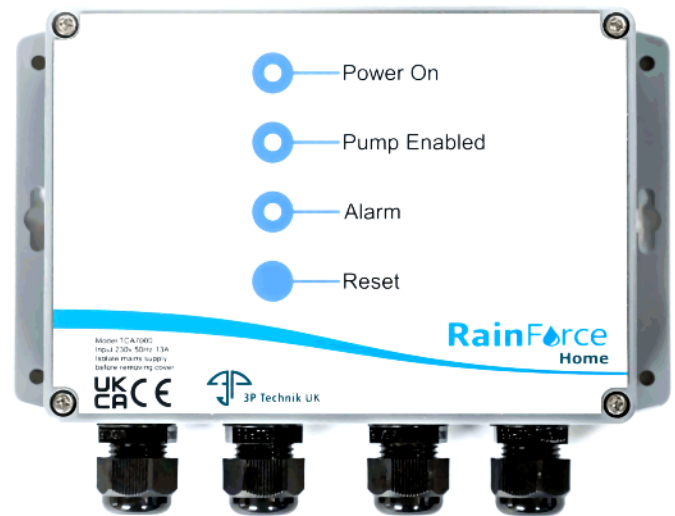
## Electronic Mains Cold Water Top-Up Controller

- **Microprocessor Controlled**
- **For use with automatic pressure controlled pumps, or with separate pump pressure switch**
- **20 metre Probe Cable (up to 100m available)**
- **Solenoid valve 1/2" BSP, (up to 2" BSP available)**
- **Float switch option instead of sensor probe**
- **Solid State Level Sensing (Conductivity)**
- **Limits Top-up Duration to Prevent Accidental Wastage**
- **Optional Pump Isolation During Top-up**
- **15 Modes to Suit all Tank Sizes**
- **Self-test Mode for Faster Install/commissioning**
- **Adjustable Top-up Overfill Delay**
- **Adjustable Top-up Timeout Alarm**
- **Automatic Anti-Blocking System (ABS) to avoid solenoid valve seizure.**
- **Complies Fully With UK Water Regulations**

### Features

Automatic mains water top-up for rainwater tanks with leak detection alarm.

- Top-up overrun timer to reduce frequent solenoid activation
- Pump restart monitoring to reduce motor temperature
- Wide range of timer settings to accommodate tanks of all sizes (including small header tanks)
- IP65 control panel can be installed indoors or outdoors
- Various probe length and solenoid valve options



### Operation

The Level Probe is suspended in the rainwater tank at the required minimum level. When the water surface falls below this level a solenoid valve supplies mains water to the tank until the probe is immersed again. A top-up overfill delay can be set to ensure a fixed amount of additional water is added to avoid frequent activation.

TCA7000 provides an optional pump power connection. If the pump is connected this way TCA7000 will switch it off at low water level to prevent the possibility of dry-running as well as starting the top-up cycle. Any single phase pump of up to 10 amps can be connected to the internal pump power terminals of the controller. The pump will re-activate when the probe becomes immersed, while also enforcing a maximum of 20 restarts per hour to optimise motor cooling. Note that this will not prevent an automatic pump which been incorrectly installed from overheating but will avoid overheating due to excessive power cycling if the top-up overfill delay is set to 0 and cycling of the top-up function and hence pump isolation occurs rapidly.

Unlike electromechanical systems, microprocessor control provides multiple settings for optimal supply of water with safeguards against over-run in the event of a component or tank failure.

### Settings

- Top-up overfill duration 0-240 minutes
- Time-out alarm duration 30-240 minutes + disable

An Anti-Blocking action is performed after every 3 days of solenoid valve inactivity. This reduces the likelihood of the solenoid valve becoming seized due to limescale or other factors.

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If the top-up cycle exceeds the selected top-up timeout alarm, an alarm will show and the unit will halt operation until reset. This is vital to meet regulatory requirements and avoid undue costs.

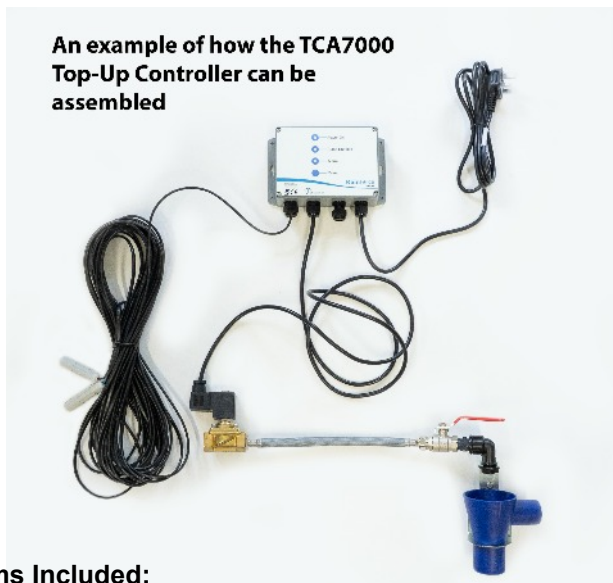
Includes 3P Tundish (only when supplied with 1/2" solenoid valve) with unique integrated overflow to meet the requirements of BS EN13076.

### Installation Summary

Position the level probe in the tank at the appropriate height. Connect the mains water via the flexible braided hose to feed gravity-feed into the tank through the solenoid valve and tundish.

Connect the Control Unit to mains power and optionally wire in an automatic (pressure controlled) pump to the control panel. The pump can be powered separately if dry-run protection is not required or is provided by an alternative solution.

Select operating mode according to the table shown in the manual using the internal switches.



#### Items Included:

- Control Unit
- Level Probe - 20m cable (other lengths available).
- Solenoid Valve - with 30cm braided hose and isolating valve (1/2" F BSP).
- 3P Tundish with overflow c/w wall mounting bracket, and elbow.
- Install and operating manual

### Specifications

Control Unit	
Dimensions	55mm x 171mm x 121mm
Weight	0.5kg
Enclosure Material	ABS
Ingress Protection	IP65
Supply Voltage	230/240VAC 50Hz
Power Consumption (Stand-by)	5 Watts
Pump Power Outlet	230/240VAC 10A
Electrical Insulation	Class 2
Electromagnetic Immunity	BS EN 50082-1
Electromagnetic Suppression	BS EN50081-1
Level Probe	
Type	Conductivity
Voltage	1.65 vdc
Cable Length	20m
Probe Material	Stainless Steel
Solenoid Valve	
Type	Servo Assist
Size	1/2"
Fluid Connections	1/2" FBSP
Max Working Pressure	10 bar
Flow Coefficient KV (lpm)	59
Voltage	230-240VAC
Power Consumption	5.5VA
Mounting Orientation	Any
Fluid Type	Clean Water
Operating Temperature	2 to 40c



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