

3P DTC200 Dosing Controller

Dosing & Mixing Control System

- **Automatic Chemical Dosing/Mixing Tank Control**
- **Fixed Level Control Of Treated Fluids**
- **Timed Dosing**
- **Timed Reaction Period**
- **230VAC 10A Outputs For Filling, Dosing, Mixing, Draining**
- **High/Low Level Alarms**
- **Works with almost all single phase pumps, valves, etc**
- **3 Phase and other voltages may be controlled via relays**
- **Designed, Built, Programmed and Assembled in the UK**



DTC200 Control Unit

Overview

The 3P DTC200 Tank Controller manages the filling, chemical dosing, agitation, reaction and emptying of a tank in a continuous cycle or on demand to a pre-set level and then activates a dosing pump with a known flow rate (usually peristaltic or diaphragm) for a set duration. Once this duration expires a reaction delay begins followed by activation of the tank draining output until a low level is reached and the cycle repeats.

Optionally the dosing function can be set to occur as the tank fills hence speeding the process. A separate agitator/aerator may be added and can be set to operate during at various stages during the cycle.

Tank draining and filling operations will both tolerate interruption, allowing for the tank to be filled as fluid becomes available, or drained as processed fluid is required.

Dosing and reaction/mixing timers can be set in 1 minute increments up to 240 minutes, and dosing can take place after or during filling. At all stages where a timed operation takes place a clear countdown timer is shown.

Level control is provided by switch inputs and the system is supplied with 4 x reed-type mini float switches which are typically installed either through the tank wall or onto a rail inserted from the top of the tank.

Floats are installed at the following levels:

- Low Alarm
- Low Set Point
- High Set Point
- Overflow Alarm

High and Low Level alarms are optional and can be de-activated if not required. A low level alarm does not affect operation, overflow alarm ceases operation and advances the cycle into drain mode.

DTC200 is suitable for precise dosing of bulk liquids for water treatment, batch chemical processing, waste water treatment, food processing applications, and bulk paint and dye mixing.

All outputs are capable of driving 230VAC up to 10A, and can be connected to relays or contactors for use with lower or higher voltages on non-voltage inputs of other equipment.

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Features

- Modular 'hot swap' of pumps and other devices
- Fixed tank level calibration
- Clear 'Time Remaining' display in minutes moving to seconds when below 1 minute
- Multiple pump model support at 230Vac 50Hz or any supply voltage/phase via contactors/overloads
- BMS Switched output
- Optional BMS serial output
- Fault Warning LED
- Swappable MCU chip (software)
- High and Low Level alarms, linked to BMS output.
- Overvoltage protection
- Brownout protection
- Watchdog timer
- Fused Outputs

Adjustable Settings

- Dosing Pump Timer 1 minute to 1000 hours in 1 minute increments
- Reaction Time 1 minute to 1000 hours in 1 minute increments
- High Level/Low Level alarms can be individually enabled/disabled
- Dose While Filling (concurrent) or Dose After Filling
- Agitation/mixing while Reacting, Dosing+Reacting, Filling+Dosing+Reacting, Full Time, or Not Enabled.
- Fault display
- Input test diagnostic screen
- Output test diagnostic screen
- Manual Stop - with BMS activation
- Restore Factory Default Settings

OEM Solutions

Usually supplied either as a panel and level sensor only, but can be offered to OEM customers as a package, comprising of the panel, pumps, cables, solenoids, hose kits, etc. We work with our customers to provide specific product bundles, with panel and software branded to your requirements.

We provide full training, design and technical support, and will customise the product and accessories to your requirements, and full UK based support and spare parts availability.

Benefits

Excellent configurability whilst retaining an intuitive menu driven user interface.

Made in Britain. Designed, built and programmed entirely in the UK by 3P Technik.

Full UK support, with customisations to hardware and software available with very short lead times.

Modular design allows extremely rapid swap-out of parts. Including hot-swap of connected accessories and sensors (no power-off).

Very low lead times. All spare parts stocked by us in the UK for immediate dispatch. We don't follow the 'buy to order' business model of continental manufacturers whose lead times are often unsuitable for UK clients.

We can supply not only the control equipment, but also pumps, filtration and all tank fittings.

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Accessories

RC3P Series 3 Phase 230v/400v IP65 Rated Connection Kits with contactors, thermal overload protection and optional over/under voltage detection, phase loss detection,

IP65 Rated Isolation Switches, IP68 Rated Cable joints, IP68 rated in-line plugs/sockets

A wide range of pumps and associated fittings

Technical Specifications

Control Panel	
Outputs	4 x Mains Voltage
Digital Inputs	4 x Switch Inputs
Width	240mm
Height	190mm
Depth	110mm
Material	ABS
Weight (control panel without cables)	1190g
Display	LCD 4 x 20 Monochrome
Backlight	Green
Keypad	Membrane
BMS	Volt-free contact
Supply Voltage	230V _{AC}
Power Consumption	Max 7W
Operating Temp Range	0 - 40°C
Protection Class	IP65, IK08, UL 94V0

Outputs	
Supply Voltage	230V _{AC}
Current	10A

Tank Level Sensors	
Type	Reed switch mini-floats
Measurement type	Absolute - Fixed
Switching differential	Approx 20mm
Fitting Position	Tank Wall Penetration or Rail Mounted
Mounting Hole Size	16mm
Accuracy	Absolute
Operating Temperature Range	-20c to +80c
Cable Length	500mm
Material	Polypropylene (PA, NBR or Stainless also available)
Compliance	Reach, ROHS

Digital Inputs	
Type	Solid state 15vdc
Suitable Switch Types	Any contact switch (including low current such as reed and thermal switches), Volt-free contacts (from alarm systems, etc)

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