

Pumps, Pumping Systems and Ancillaries

NEWTON CONTROL PANEL-PRO

Multi-Function Pump Control and Monitoring Panel

Rev 3.1 - 10 October 2017

PRODUCT CODE - CP2 & CP7

INTRODUCTION

The [Newton Control Panel-Pro](#) is a class-leading pump control panel with many unique features, which has been designed by Newton Waterproofing Systems to provide the ultimate in pump operation and diagnostics. The panel features interfaces for use with Newton battery backup and telemetry systems, as well as connections to whole house alarm and monitoring systems. The internal PCB is split into two separate circuits, ensuring that pumping will continue even if one of the control circuits should fail. This effectively means that the Newton Control Panel-Pro is two control panels within one case, offering unrivalled redundancy.

Self-diagnostic programs test the pumps on a weekly basis to ensure correct pump performance. The appointed service

engineer is automatically informed of any detected problem with either of the pumps if the Newton Dialer telemetry system is installed.

The Newton Control Panel-Pro will operate a maximum of two 750W 230V AC pumps. The panel is supplied with a vertical water level float switch and high water alarm float switch. The panel is designed to be used with an optional

[Newton Victron Battery Backup System](#), sized to suit the pumps and installed with sufficient battery power to

PURCHASE CODES

The Control Panel-Pro has a purchase code of CP2 for pumps with power supplies.

- CP2 Panel with [Newton Dialer](#) pre-fitted - Code CP7

PANEL SUPPLIED WITH DIALER FITTED - CP7

When the Control Panel-Pro and the Dialer are purchased together using purchase code CP7, the panel is supplied with the Dialer already securely mounted within the panel. All power and trigger wiring is pre-connected and the Dialer is already programmed to receive the trigger information from the panel.

The programmed triggers from the panel to the Dialer allow for the Dialer to give accurate information on a number of alarm occurrences within the panel:

1. Water level high
2. Pump requires attention
3. Pump mains failure

These warnings can be sent via text or voice (or both) to up to eight different landline or mobile telephone numbers.



BATTERY BACKUP

The Control Panel-Pro has the ability to receive two totally independent power supplies; one from the mains, and one from a correctly sized Victron Battery Backup System. The Power Converter should be sized as follows:

MultiPlus 12/1200/50 - Newton code BB2

- 2 x [Newton NP400](#) pumps with the panel set so that two pumps are not pumping at the same time. Duty assist disabled

MultiPlus 12/3000/120 - Newton code BB3

- 2 x Newton NP400 pumps with the panel set to allow both pumps to pump at the same time. Duty assist enabled
- 2 x [Newton NP750](#) pumps with the panel set so that two pumps are not pumping at the same time. Duty assist disabled
- 2 x Newton NP750 pumps with the panel set to allow both pumps pumping at the same time. Duty assist enabled

- Battery capacity of 400 Ah or greater is required

Quattro 12/3000/120 - Newton code BB4

- The Quattro 12/3000/120 is sold together with a 6 kVA remote start generator. All Newton Pumps up to 750W can be used with this system

PACKAGING & HANDLING

The panel is supplied in a reinforced and protective cardboard box. Please handle with care.

INSTALLATION INSTRUCTIONS

Please see the Operational Manual.

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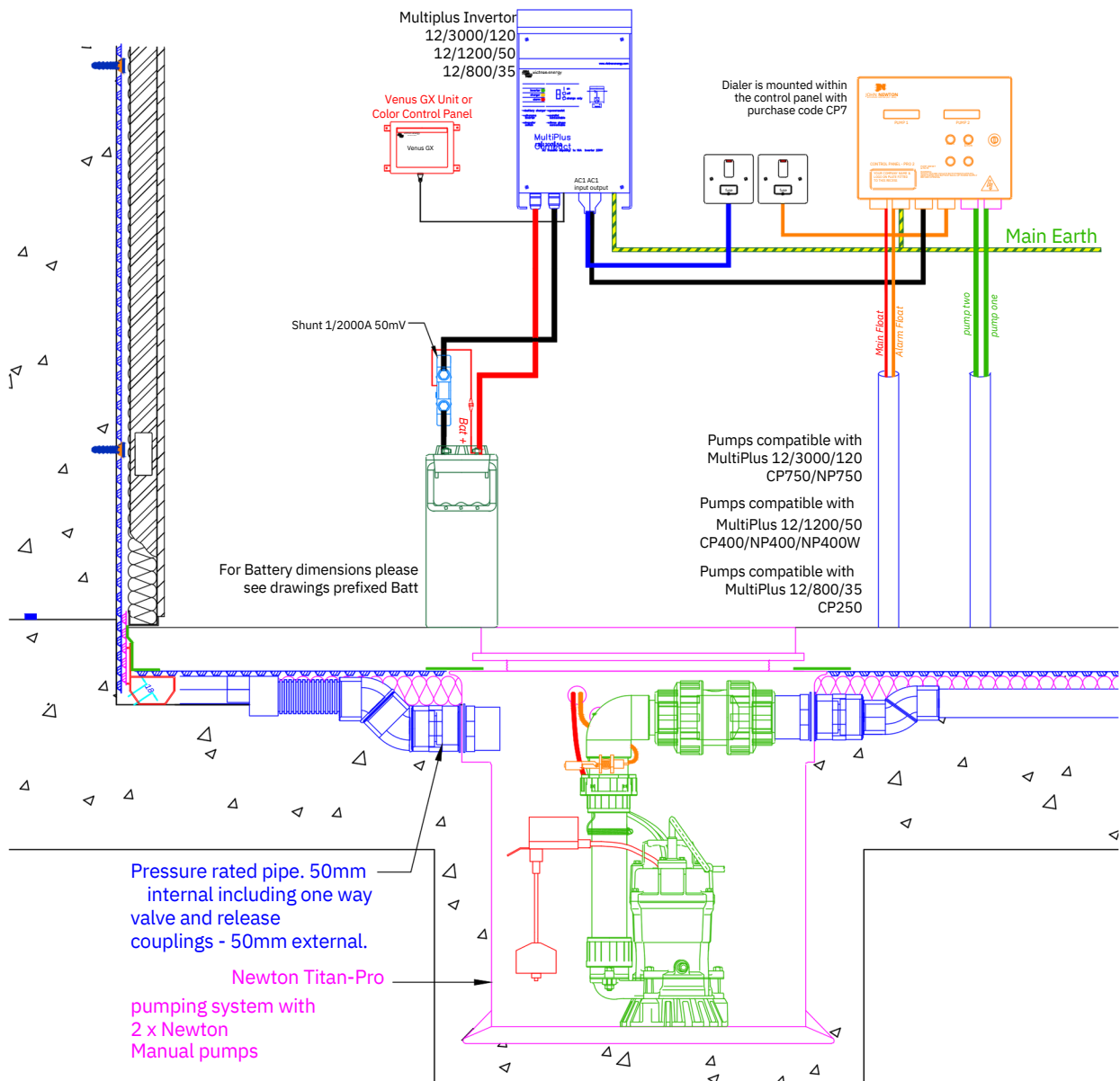
Multi-Function Pump Control and Monitoring Panel

TECHNICAL DATA

Features	Result	Units
Width	290.0	m
Height	240.0	m
Depth	94.0 or 17.0 if recessed into wall	m
Weight	3.94	m
Power supply	230 (+ Battery Backup Option)	m
Sounder volume (dB)	94	m
Switch Type	Vertical (Pumps) & Reed (Alarm)	kg

TYPICAL DETAIL

Provides full control, monitoring and telemetry capabilities to Newton pumps and Newton pumping systems of up to 750W. The drawing below shows a typical set-up where the Control Panel-Pro is connected to two pumps, a Newton Victron Power Inverter for battery backup protection and a Dialer for telemetry. Please note that the Dialer is not shown as it is fitted inside the panel only when purchased as code CP7.



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KEY BENEFITS

- Automatic alternate duty cycle
- Two independent power supply inputs - One for grid mains and the other for a battery-backed power supply via a Newton Victron Battery Backup System
- Alarm on power failure - Panel will alarm in the event of mains failure
- Automatic electrical current monitoring for each pump
- Automatic pump duty assist - If one pump cannot cope with the volume of water entering the sump, the second pump will auto-start to increase the pumping capability
- As well as the panel's audible alarm, an alarm output is sent to trigger the optional Dialer or home alarm at the time of a pump failure
- Automatic main float checking - If the main float fails or becomes disconnected, the alarm float automatically takes over as the level control float
- Automatic alarm float checking - An alarm checking signal is continually monitored to confirm the alarm float cables have been fitted correctly, not been tampered with or haven't been disconnected
- Each pump has its own totally separate electronic circuit
 - This allows for one pump to continue to operate if a fault develops in the pump that could damage the panel electronics. An alarm output is sent to trigger the optional Dialer in the event of a controller failure
- Automatic testing of each pump every 7 days - Tests ensure the pumps operate each week and will report any problems detected during the 3 second test with an alarm. Each control circuit has its own independent timer to ensure that each pump is tested at different times
- Alarm sounder options - Dip switches on the sounder allow for programming of up to 32 different alarm sounds with a fully adjustable volume control also included
- Each pump is controlled by a zero voltage solid state triac - The triac device is controlled by very fast switching electronics that can detect the change to 50 Hz cycle to initiate switching at zero voltage. Unlike mechanical relays or contactors, there are no moving parts to wear out or generate arcing dust or welding of contacts. This gives the Control Panel-Pro a life duty in the millions of pumping operations unlike a mechanical relay that can be as low as 100,000 cycles
- The panel monitors the power supply and will alarm if the incoming grid mains voltage fails
- The panel monitors the power supply and will alarm if the current to each pump is too high or too low
- The panel automatically checks that the correct power is being used by each pump. If the pump is disconnected, a pump fuse has blown or they are using too much power, the alarm will sound
- Engineer option to mute all sounds other than high water alarm - This can be set by the engineer after a full panel reset
- Each pump circuit has its own LCD display with a built in flash memory. Features include:
 1. Display & store the pump cycles and hours run in an independent flash memory chip for each pump
 2. Display any alarms with the description of the alarm; water level high, pump fault, high current, mains failure and sounder off
 3. Display the pump that is running, the current of the pump and the backup battery voltage, allowing the engineer to monitor pump efficiency and battery condition
 4. Display the voltage of the converter battery in both grid mains and converter-in-use modes
 5. Display if the panel has had the alarm sounder muted by the user
 6. Display has an engineer memory reset for resetting all timers and counters
 7. Display has a 'service due' setting to inform the user that a service is due on the system (this function can be selected by the engineer)
- All float switches are 12 VDC (low voltage) - Via two separate isolation transformers
- Each pump has a manual override button and a reset button - The pump button can be pressed at any time to operate the pump and the reset button to reset the display after an alarm (will not reset if pumping)
- Display memory resetting
- Engineer reset of counters and timers
- Sounder mute - If the sounder is beeping to warn of mains fail or pump fault, you can mute the sounder by pressing each mute / reset button twice. To remind the user of a muted fault, the mute function will cancel after 12 hours
- The Newton Control Panel-Pro is designed to be used with all or a selection of the following Newton pumping options:
 - A. A choice of Newton manual pumps of 400W and 750W
 - B. Newton Victron Inverter Battery Backup Systems (1200W or 3000W) to give continuation of pumping via the panel during power outage
 - C. Newton Dialer (fitted with purchase code CP7) that will alert up to 8 different landline or mobile phones with either text or voice confirmation of the sounding of the alarm
 - D. [Newton PA50 High Water Level Alarm](#) as a remote alarm in another location (requires twin core cable connection)
 - E. Whole house management system (supplied by others). Home automation relays are mounted on the PCB to allow panel warnings to operate other systems. These are volt free contacts. The relays operate for 5 seconds on pump fault, water high or mains fail. Note: mains fail is NC, the others are NO

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ASSOCIATED PRODUCTS

- Newton NP400 and NP750 pumps
- Newton [Titan-Pro](#) and [Newton Trojan](#) packaged pumping systems
- Newton Victron Battery Backup power inverters: MultiPlus 12/1200/50, MultiPlus 12/3000/120 & Quattro 12/3000/120
- Batteries: [NorthStar Batteries](#): NSB 60FT - 59 Ah, NSB 100FT - 99 Ah - 100 Ah and NSB 190FT - 191 Ah
- Newton Dialer PA5

LIMITATIONS

- Not suitable for use with pumps of over 750W
- Must be housed inside a dry environment

SPECIFICATION

Newton Waterproofing Systems are in partnership with RIBA NBS who publish details of our products and systems within their specification clause library to allow Architects ease of specification through their NBS Plus interface. NBS clauses can be accessed via the technical resources area of the web site where a live NBS Feed is available at [NBS Plus Live Feed](#)

Our website has drawings available for download in [Technical Drawings](#). A selection are also available via [FastrackCAD](#), as well as a range of BIM objects on the [NBS National BIM Library](#)

STORAGE

Store in dry conditions at temperatures between 5°C and 35°C. Do not expose to freezing conditions.

HEALTH & SAFETY

Use appropriate PPE. Use products only as stated within this Data Sheet and Operational Manual. Only trained and qualified professionals should undertake electrical installations.

WARRANTY

The panel is supplied with a one-year back to base warranty which is dated from either the date of purchase or a proven date of installation. If the unit develops a fault during the warranty period, Newton Waterproofing Systems Ltd will repair or replace the unit under warranty. Contact the Newton sales office for a returns form which explains the returns procedure. The warranty will be invalidated if the unit is damaged because of improper handling, storage or installation, and in such cases a repair charge may be applicable.