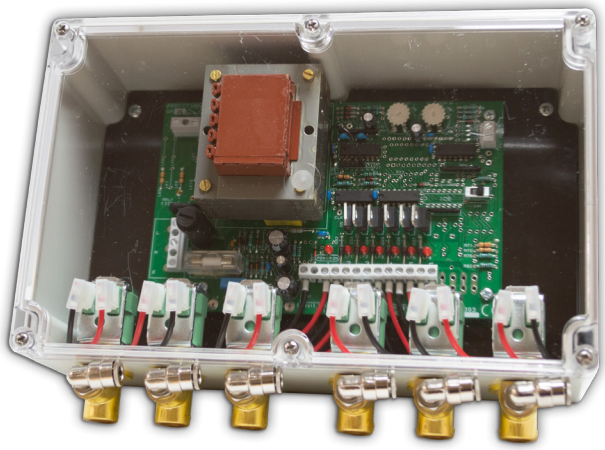
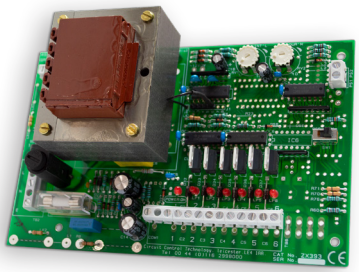
ZX393 1-6 Way Sequence Controller





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System Overview

The **ZX393 Sequence Controller pcb** is the pulsing heart of our range of tried and tested Reverse Jet Stations. Aimed primarily at Dust Extraction and Air Flow applications, this sequencer has an electronic control system and responds to a simple volt-free open circuit. The unit is fully versatile for input voltage, output voltage, number of ways, pulse length and time between pulses.

You select the number of ways by ordering a 6 way unit. Each unit has an on-board selector to pulse any number of ways you like up to the nominal. In other words, a 6 way unit covers all the options up to 6 ways.

Input and output voltages are available from 12Vdc to 24Vdc, or 110Vac to 240Vac - see the table on page 2 for a breakdown. This table also details the options available on the various models - options like Fan Rundown, Multiple Cycling of Outputs, Delay before Pulsing, Fast Clean Control, Enhanced Wattage Output (can fire 2 valves on a single pulse) and top entry terminals.

Pulse Duration and Pulse Interval are adjustable as standard on all models.

The ZX393 is offered as a naked PCB ASSEMBLY or housed in a robust, IP65 rated, plastic enclosure as a SEQUENCE CONTROLLER or complete with pilot valves (and pipe fittings if required) - also in an IP65 plastic enclosure - as a REVERSE JET STATION.

Reverse Jet Stations can be ordered with the following number of solenoids fitted - 1, 2, 3, 4, 5, 6.

Rev. D / 27.01.21

CIRCUIT CONTROL TECHNOLOGY

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Models and Options

The following is a table of models (-G...) available in the ZX393 Sequence Controller PCB. The features incorporated with each model are shown as well as a reference drawing number.

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	FEATURES	REFERENCE DRAWING
-G4	110 / 220 / 240Vac	110Vac	Pressure Switch Control (PSC)	ZX393G4600
-G9	12Vdc	12Vdc	Pressure Switch Control (PSC)	ZX393G9600
-G10	24Vdc	24Vdc	Pressure Switch Control (PSC)	ZX393G10600
-G15	110 / 220 / 240Vac	24Vdc	Pressure Switch Control (PSC) Enhanced Wattage Output	ZX393G15600
-G31	110 / 220 / 240Vac	24Vac	Pressure Switch Control (PSC) Enhanced Wattage Output	ZX393G31600
-G33	24Vac	24Vac	Pressure Switch Control (PSC)	ZX393G33600

Drawing references shown are all for 6 way boards.

To order by part number, start by stating the board type, “ZX393” followed by the “-G...” number. e.g. a “6W ZX393-G15” is a 6 way ZX393 pcb with 240/110Vac in, 24Vdc out, pressure switch control only.

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Set-up Procedure

The following is a flow chart of the set-up procedure for the ZX393 Sequence Controller PCB. The options available at each stage are explained in an easy to follow format.

STAGE 1

Power Supply

Wire an isolated power supply into appropriately marked terminals at lower-left hand area of the board.
DO NOT SWITCH ON
Double check that supply is correct for model ("G" no.) and wired into correct terminals.
On 240/220/110Vac input models ensure that the LINK adjacent to the power terminals is in the sockets appropriate to the incoming voltage. For safety reasons, this link is factory set for 240V.

STAGE 2

Pressure Switch Control (PSC)

This unit pulses when there is an open circuit across terminals PS1 and PS2. Connect the volt-free N/C contacts of a pressure switch across these terminals to cause the board to pulse whenever pressure opens the contacts! Of course it doesn't have to be a pressure switch, you can use any volt-free contacts to automate pulsing. Switching SW1 (PSC) to the "OFF" position will override (open circuit) the PS1/PS2 terminals and pulse the board - use this facility for testing and comissioning.
The normal operating position for this switch is the "DLY" setting. This allows a short time delay after PS1/PS2 goes open circuit before pulsing starts so that short term transient pressure signals do not precipitate premature pulsing.

STAGE 3

Number of Ways

Sets the number of outlets to be pulsed in one cleaning cycle.
Simply push the "SET" flying lead on the PCB onto the appropriately marked pin in the row adjacent to it! e.g. "2" for 2 ways, "3" for 3 ways, etc.

STAGE 4

Moment of Truth

This is the time you find out if you've got the power supply connected correctly. For your own peace of mind and safety - check it again.
Set the PSC switch (SW1) to "OFF" and TURN THE POWER ON!!
After a short interval, No.1 output will pulse, then No.2, No.3 and so on. Red LED's adjacent to each output will flash in turn to indicate whch one is pulsing.

STAGES CONTINUE ON PAGE 4

Set-up Procedure - Continued

STAGE 5

Set Interval and Duration

The “INTERVAL” potentiometer (RV1) controls the time delay between successive output pulses. This is adjustable over a range of apprximately 4 to 60 seconds (turn clockwise to increase).

The “DURATION” potentiometer (RV2) controls the length or “time on” of each pulse. This is adjustable over a range of approximately 40 to 300 milliseconds (turn clockwise to increase).

LEAVE IT SAFE

Turn off the power - Set PSC switch to “DLY”.

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Technical Specifications

Unit	Part Number ZX393
Power Supply / Power Consumption	Volts:- Refer to table on page 2. Amps:- Less than 500mA
Input Fuse	Depending on Model Number.
Output Fuse	Depending on Model Number.
Mains Failure	In the event of power interruption, the unit will operate to specification when the supply voltage is re-instated.
Startup Sequence	The unit is arranged so that pulsing will start as soon as an open circuit has been established across terminals PS1/PS2 for a few seconds.
Indication	Red LED indicates “Power On”, others light up to show which output is pulsing during cycling.
Ambient Temperature At Board Surface	-10 to +45°C
Storage Temperature	-20 to +70°C
Sequence Controller	The ZX393 is also available enclosed within an IP65 rated platic box. Just add “/E0” to the Part Number immeditely after the model (-G...) number. Non-standard enclosures are also possible, or we can mount your ZX393 integrally with other equipments (e.g. Pressure Switch) on request. Please consult Circuit Control’s sales department for more information.
Reverse Jet Station	The ZX393 can be used to drive any normally configured pilot valve, and we offer a variety of commercially available solenoid valves as standard in our Reverse Jet Stations - with or without rapid-fit or compression pipe fittings. Please consult Circuit Control’s sales department for more information.
External Signals	The ZX393 conforms to current regulations regarding proper operation within zones of electrical interference. Nevertheless, we recommend that connections to external equipments are kept as short as possible, made with screened cable earthed at one end and/or via an interposing relay.
Mains (ac) Supplies	To ensure the reliable operation and longevity of your ZX393, any mains supply should not be a branch off a line carrying power to equipment containing rectifiers and/ or thyristors (e.g. welders, variable speed drives, battery chargers, etc.). Keep supply cables away from other power carrying conductors. A free-standing mains filter is available if needed.