KX7700A-G15 RJ DP Multi Valve Controller

CONTENTS

System Overview

The **KX** range is designed to serve reverse jet dust extraction systems and formulated specifically to address their needs.

The KX7700A-G15 RJ DP Valve Controller offers a fully self-contained solution to multi valve control, incorporating on-board solenoid valves and differential pressure sensing. This unit incorporates the latest in Micro-processor technology in a compact enclosure, affording unparalleled levels of user friendliness, system flexibility and tamper-proof operation.

Capable of running up to 12 on-board solenoid valves, the system may be extended by matching external serial Drone units, so that up to 180 valves can be accommodated in a comprehensive sequence cycle.

The **KX7700A-G15 RJ DP Valve Controller** takes care of system control. Using just four push buttons and the high resolution LCD display, all aspects of system operation can easily be programmed for optimum performance.

Rev. K / 30.10.24

KX7700A-G15 RJ DP Multi Valve Controller

Features

Advanced Micro-Processor Control

◊ Operating at over a million instructions per second, the onboard micro-processor provides ease of use and a level of control which was virtually impossible with old plc or Cmos systems.

Onboard EPROM Memory

◊ This feature ensures that system settngs are retained during power failure or disconnection of the Master Controller.

Easy To Use 4 Button Control

- MODE: Move forward through options
- UP: Increases values selected by mode
- DOWN: Decreases values selected by mode
- START/STOP: Run or halt the system

High Resolution LCD Display

◊ Easily view and adjust system setup.

◊ Displays pressure readings in real-time.

◊ Monitor system status.

◊ Intelligent back-lighting to reduce power consumption and aid display visibility when needed

Built-in Differential Pressure Sensor

◊ The KX7700A-G15 RJ DP has its own internal differential pressure sensor. This allows display of and reaction to differential pressure changes without the requirement for additional hardware and electrical connections.

Real-Time System Monitoring

◊ Whilst the system is running, Differential Pressure (DP) and system status can be monitored in real-time. Differential pressure is displayed constantly whenever the Controller is running as well as the number of valves currently being pulsed in the cleaning sequence.
One quick glance at the display will tell the operator the system status and position in the cleaning cycle

Built-in Solenoid Valves & Slave Power Suply

◊ The KX7700A-G15 RJ DP is fully self contained and is supplied as standard with solenoid valves on-board, therefore keeping installation as simple as possible. The unit has an on-board power supply which may be used to power the extension slave units directly if required.

Cleaning Failure Warning (Relay 1)

◊ The system is designed to expect effective cleaning to have taken place within 5 full cycles. If this is not the case, Relay 1 will activate for 5 seconds.

Cleaning Running (Relay 2)

◊ Each time the Controller has completed one full cycle, Relay 2 is activated for 1 second.

Features - Continued

Fan Rundown - Separate Cleaning Cycle For System Fan Stop

◊ A separately programmable cleaning cycle is provided for optimum filter performance. This operates whilst the main system fan is not running and can be preset for a number of cycles (1-10).
This is initiated when a volt free normally closed contact is aplied across the 24V & FAN terminals. A short delay will take place (30 sec. approx.) then the cleaning cycle/cycles will start. Once the Controller has completed the set amount of cycles, it will go into a holding state until the contact has been opened.
Please note: This facility will override all other inputs.

System Control

◊ The KX7700 has 3 different types of control settings:
DP Sensor
The Controller will start cleaning when the max pressure setting is achieved, and stops cleaning when the min pressure setting is achieved.
DP Pressure Switch
The Controller will clean when a momentary signal is connected across 24V, DIG or a 24V DC supply is connected to the DC REM input terminals. If the signal is maintained, the Controller will run continuously.
Bypass
The Controller will run regardless to the state of 24V, DIG and REM input terminals.

4-20 Milliamp Output

◊ The unit features an optional 4-20mA output which may be used to send pressure information to other devices or system controllers. This feature enables the KX7700 to communicate with any device that will accept this type of input and allow integration into virtually any application.
To add this optional feature to your order, simply add “4-20” on the end of the order number (without quotes)

KX7700A-G15 RJ DP Multi Valve Controller

Technical Specifications

Controller	Part Number: KX7700A-G15
Input Supply	115/230Vac (-10%)
Input Fuse	2 Amp HBC 20mm.
Output Fuse	Not required on this model type.
Power Connections	INPUT: 1.5mm 10 Amp side entry insulated terminal block marked: 240, 110, N, E OUTPUT: 1.5mm 10 Amp side entry plug and socket insulated terminal block marked: 24V+, EARTH, 0V (fused)
I/O Connections	11 way 16 Amp insulated terminal block with wire protector - designated: 0V, SERIAL, DIG, 24V, RL2, RL1, O12, O11, COM, FAN We recommend screened cable is used with 0V, SERIAL, DIG and 24V I/O connections.
Power Loss	In the event of power loss, the unit will cease to operate, but will remember its operational settings. Operation will recommence as soon as the voltage level comes within the input suply limits.
Output Voltage	24VDC Regulated.
Output Load Per Outlet	10W continuous, 22W pulsed into solenoid valves.
Startup Sequence	The unit will always start at output 1.
Pressure Scale	0-700mm WG.
Construction	Solid state micro-processor components mounted onto a double-sided fibreglass PCB with component mask.
Indication	Valve numbers 1-12 (or up to 180 with Drone units) will be displayed on the LCD as each output is energised in sequence
Ambient Temperature At Board Surface	0 to +45°C Storage Temperature: -10 to +60°C
Vibration Spec	Not greater than BEAMA Group 2.

KX7700A-G15 RJ DP Multi Valve Controller

Technical Specifications - Continued

Conducting Materials	Standard PCBs can be supplied with their surfaces coated with a layer of Parylene C, a material that is to MOD standard 59-47/4, and MIL-1-460C. This treatment reduces the risk of damage through moisture.
Enclosure Protection	Polycarbonate box with removable clear cover (manufactured to IP65). Size: 340mm x 150mm x 100mm

The manufacturer reserves the right to change product design and specifications at any time and without prior notice

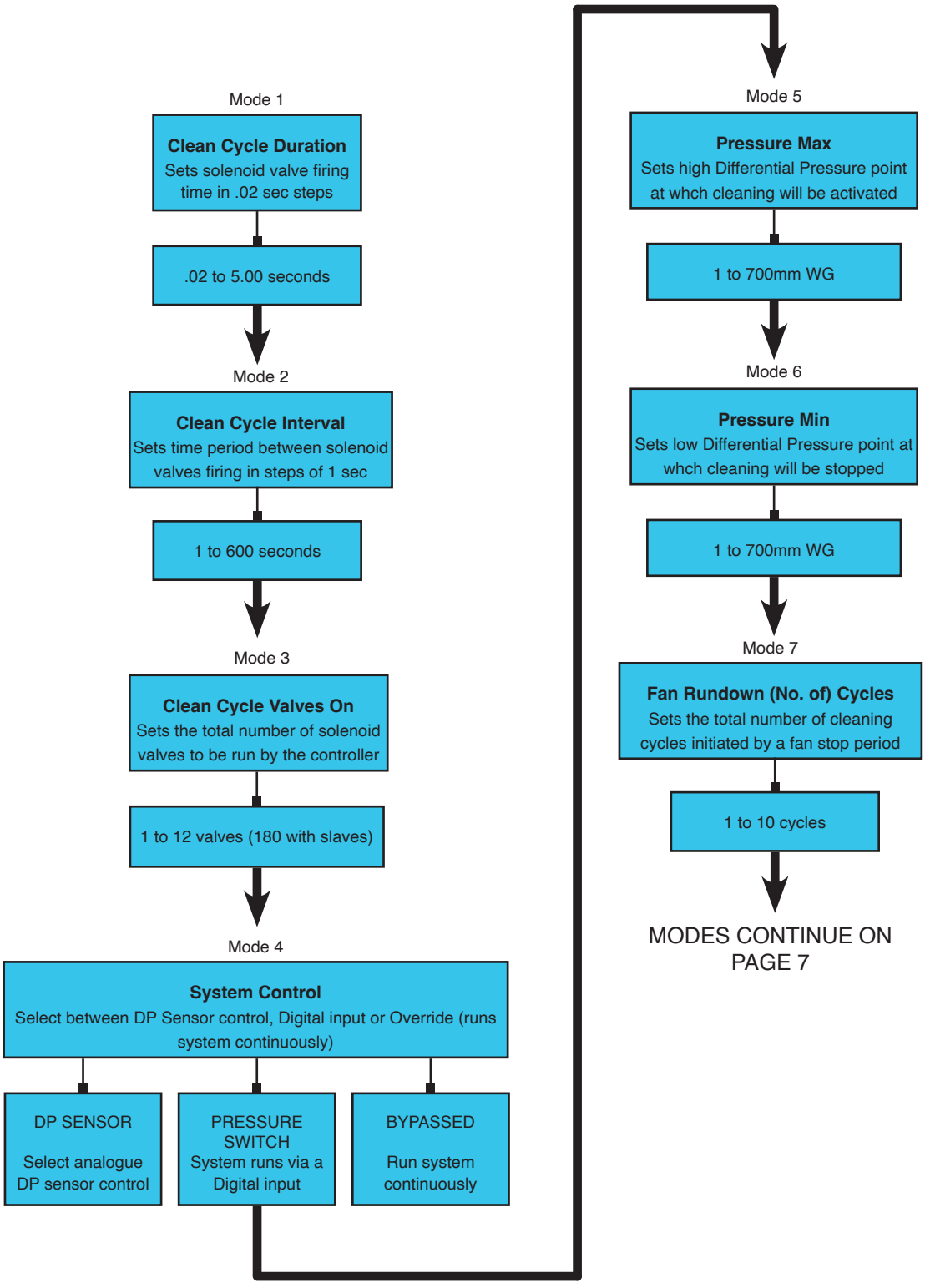
*****Important Information*****

Please do not site this controller in close proximity to Frequency inverters or Electrostatic switching devices and treat all cabling as you would for data applications.

KX7700A-G15 RJ DP Multi Valve Controller

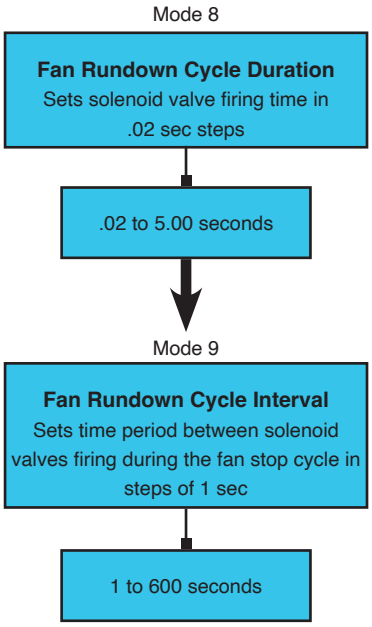
Progammable Features

The following is a flow chart of the programmable settings available on the KX7700A-G15 RJ DP Valve Controller. The options available in each mode are explained in an easy to follow format.



MODES CONTINUE ON PAGE 7

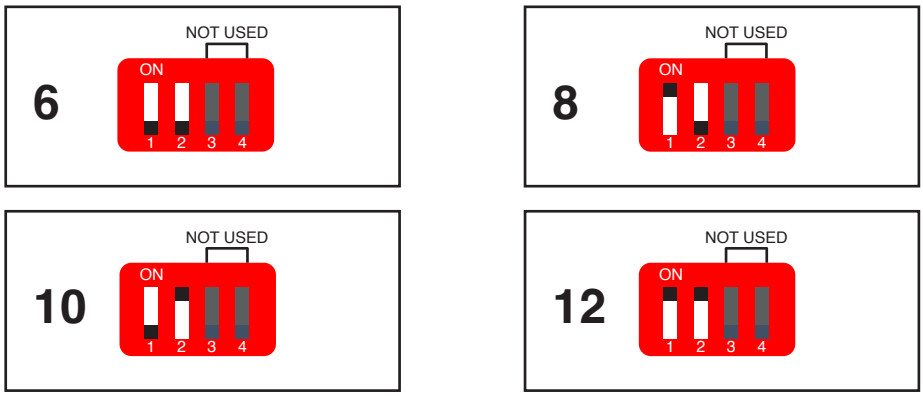
Progammable Features - Continued



KX7700A-G15 RJ DP Multi Valve Controller

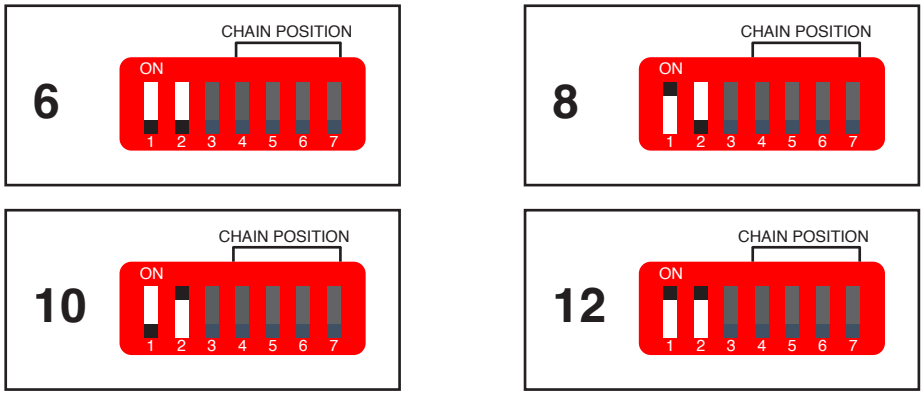
Binary DIP Switch (Controller and Drone)

Controller: Valves Installed



This setting should reflect the number of solenoid valves actually installed in the Controller unit.

Drone: Valve Outputs

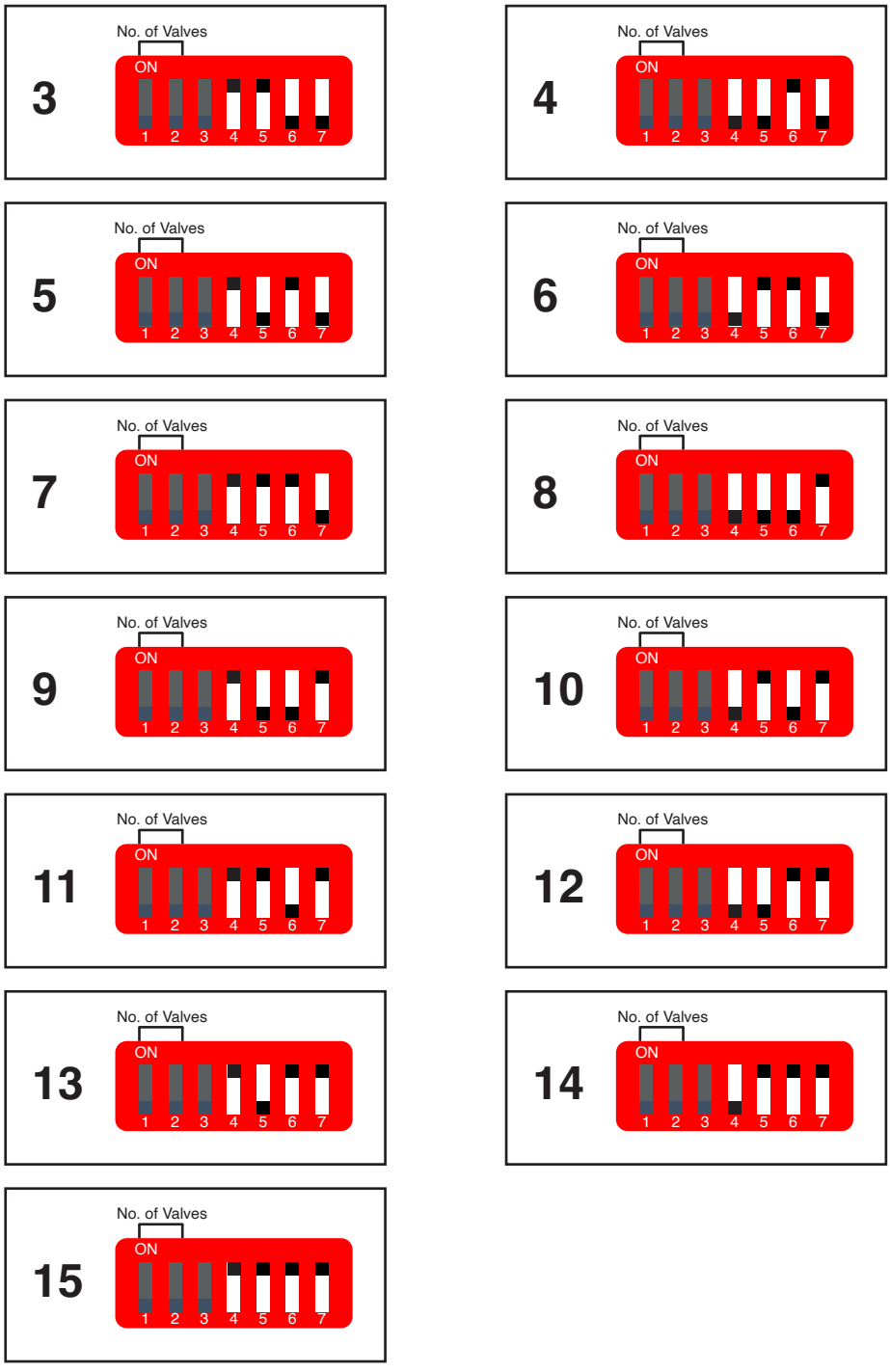


This setting should reflect the number of solenoid valves actually installed in the Drone unit.

Controller and Drone combination will pulse any number

Drone: Chain Position (continued on page 9)

KX7700A-G15 RJ DP Multi Valve Controller



This setting determines a Drone unit's firing position in a chain. Any Drone selected in position 1, will fire its valves simultaneously with the Controller. No more than 4 valves should be selected to fire simultaneously in a chain.
N.B. The Controller's position is always 1 (one) and does note require setting.

KX7700A-G15 RJ DP Multi Valve Controller

Technical Drawing