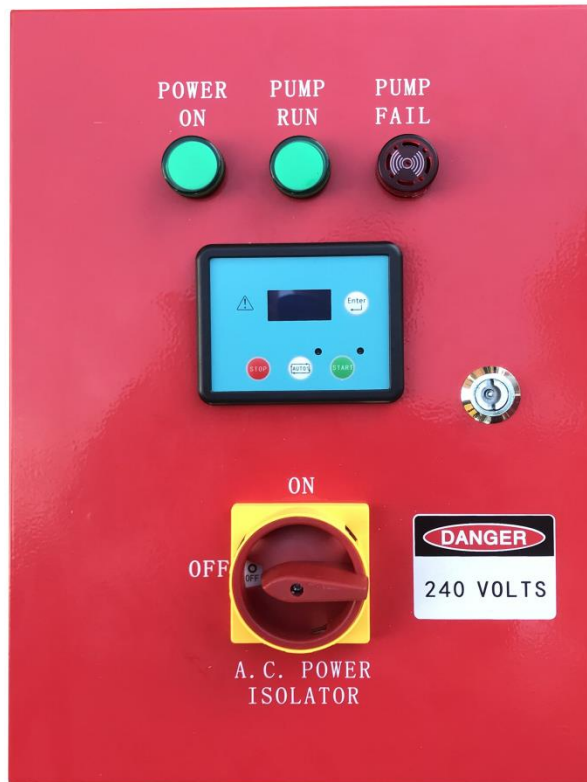


JACKING PUMP CONTROLLER

INSTRUCTION MANUAL



1. INTRODUCTION

1.1 Safety

This technical document is intended to cover most aspects associated with the installation, application, operation, and maintenance of Jacking Pump Controller (JPC). It is provided as a guide for authorized and qualified personnel only in the selection and application of JPC controller. If further information is required by the purchaser regarding particular installation, application, or maintenance activity, please contact Smoothflow or authorised sales agent or an installing contractor.

1.2 Warranty

No warranties, expressed or implied, including warranties of fitness for a particular purpose of merchantability, or warranties arising from course of dealing or usage of trade, are made regarding the information, recommendation and descriptions contained herein. In no event will Smoothflow be responsible to the purchaser or user in contract, in tort (including negligence), strict liability or otherwise for any special, indirect, incidental or consequential damage or loss whatsoever, including but not limited to damage or loss of use of equipment, plant or power system, cost of capital, loss of power, additional expenses in the use of existing power facilities, or claims against the purchaser or user by its customers resulting from the use of the information and descriptions contained herein.

1.3 Safety Precautions

All safety codes, safety standards, and /or regulations must be strictly observed in the installation, operation, and maintenance of this device.



CAUTION

COMPLETELY READ AND UNDERSTAND THE MATERIAL PRESENTED IN THIS DOCUMENT BEFORE ATTEMPTING INSTALLATION, OPERATION, OR APPLICATION OF THE EQUIPMENT. IN ADDITION, ONLY QUALIFIED PERSONS SHOULD BE PERMITTED TO PERFORM ANY WORK ASSOCIATED WITH THIS EQUIPMENT. ANY WIRING INSTRUCTIONS PRESENTED IN THIS DOCUMENT MUST BE FOLLOWED PRECISELY. FAILURE TO DO SO COULD CAUSE PERMANENT EQUIPMENT DAMAGE.

1.4 Product Overview

JPC controller is a comprehensive, multi-functions digital display, electrical driven pump controller. It is designed to meet the needs of markets worldwide. It fully complies to AS2941-2013 and NFPA-20.

2. PROTECTION FUNCTIONS

No.	Protection Functions	Screen Display	Function Descriptions
1	AC Voltage Too Low	Under-Ac Voltage	➤ Pump will stop when AC power supply is under lower-limit. Alarm on with flash light
2	AC Voltage Too High	Over-Ac Voltage	➤ Pump will stop when AC power supply exceeds upper-limit. Alarm on with flash light
3	Motor Is Overloaded	Over-Ac Current	➤ Overload current can be setup. When the current is higher than setup value, pump will stop.
4	Pump dry-run	Under-Ac Current	<ul style="list-style-type: none"> ➤ Low current protection when pump run without water ➤ Setup low current value. When running current is lower than setting value, the pump will stop to work. ➤ The pump won't work until reset button is pressed.
6	Standby Mode	Ready	➤ The pump set is on standby mode and ready to work.
7	Operation Mode	Running	➤ The pump set is in operation.

3. INTRODUCTIONS OF LIGHTS & BUTTONS

Item No.	Buttons / Lights	Colour / Functions	Function Descriptions
1	Power On	Green Indicator Light	<ul style="list-style-type: none"> ➤ Light on for AC input power normal ➤ Light on for AC input power normal,
4	Pump Run	Indicator Light	➤ Light on when pump runs.
2	Pump Fail	Red Indicator Light	<ul style="list-style-type: none"> ➤ Light on for voltage too high for AC input power. Alarm on with flash light. The pump won't start. ➤ Light on for voltage too low for AC input power. Alarm on with flash light. The pump won't start. ➤ Light on for current too high. Alarm on with flash light. The pump won't start.
6	Alarm	Alarm With Flash Light	➤ Alarm when pump fail
7	Start	Green Button	<ul style="list-style-type: none"> ➤ Manual start button ➤ Pump starts when pressing start button ➤ The small light above start button is on after pressing start button
8	Stop	Red Button	<ul style="list-style-type: none"> ➤ Manual stop button ➤ Press button, pump will stop working.
9	A. C. Power Isolator	Rotary Switch	➤ Control AC power ON and OFF.
10	AUTO	Working Mode	<ul style="list-style-type: none"> ➤ Working model selection ➤ When Auto Button pressed down, the pump will work in auto mode. ➤ The small light above auto button is on after pressing auto button

4. PARAMETER SETUP

- [1] Press ENTER button, you entered into parameter setup interface after 3 seconds;
- [2] Press START button to move cursor to the item for modification.
- [3] Press ENTER button to select that item.
- [4] Press AUTO button to increase the value.
- [5] Press START button to decrease the value.
- [6] Press ENTER button to confirm the value after modification.
- [7] Press STOP button to quit from the interface of Parameter Setup.

5. PARAMETERS LIST

Parameters	Range	Factory Settings	Descriptions
1. Pressure-Full Range:	(0-100.00)Mpa	1.6	➤ DC 4~20mA pressure transducer range (max pressure value)
2. Under Pressure:	(0-100.00)Mpa	0	➤ Low pressure setting. When system pressure is lower than this value, the pump will start. ➤ If the pressure transducer is not used for pump start, the setting is ZERO (function disabled)
3. Start Delay:	(0-3600S)	4	➤ Pump will start after start delay when receipt of start signal. ➤ Pump won't start if start signal disappeared in time setting.
4. Over Pressure:	(0-100.00)Mpa	1.0	➤ When system pressure reaches this setting, pump will enter into stop-delay.
5. Stop Delay:	(0-3600S)	2	➤ Pump will stop after stop-delay when receipt of stop signal.
6. Motor Rated Current :	(0-1000)A	11.5	➤ Motor full load Current
7. Current Ratio:	(0-1000)	20	➤ Keep factory setting
8. Over AC Current:	(0-200)%	110%	➤ Upper limit of AC current. ➤ Pump won't work when Over AC current
9. Over Cur Delay:	(0-3600)S	10	➤ Alarm time delay when Over AC current
10. Under AC current	(0-200)%	50%	➤ Lower limit of AC current. ➤ Pump won't work when Under AC current
11. Under Cur Delay	(0-3600)S	6	➤ Alarm time delay when Under AC current
12. Over Voltage:	(0-1000)V	280	➤ Upper limit of AC voltage. ➤ Pump won't work when Over AC Voltage
13. Under Voltage:	(0-1000)V	180	➤ Lower limit of AC voltage. ➤ Pump won't work when Under AC Voltage
14. Voltage Delay:	(0-3600)S	4	➤ Alarm time delay when Over-AC Voltage or Under-AC Voltage
15. Over Isd Current:	(1-10) Ir	3	➤ Times of wink overload current (used for starting)

6. MAJOR COMPONENTS

No.	Name	Part No.	Description
1	Micro-Process	XBB20	<ul style="list-style-type: none"> ➤ Auto and manual control ➤ Displays: AC voltage/current, system pressure ect. ➤ Monitoring: AC power, motor protection. ➤ Buttons: start, stop, pump stop/reset, parameter setting.
2	12V POWER	CH1203	<ul style="list-style-type: none"> ➤ DC 12V power supply
3	AC Rotary Switch	A C POWER ISOLATOR (ZK0)	<ul style="list-style-type: none"> ➤ General isolator for AC 240V power ➤ When on “ON” position, the door of controller can’t open.
4	Current transformer	CT1-3 30/5	<ul style="list-style-type: none"> ➤ Used for measuring motor load current
5	AC Contactor	KM1	<ul style="list-style-type: none"> ➤ Start & Stop
6	Buzz (Alarm)	HA1	<ul style="list-style-type: none"> ➤ When alarm conditions occur, alarm sound on with flash light
7	Air switches	QF1, QF2	<ul style="list-style-type: none"> ➤ Used for measuring and protecting

7. INSTALLATION AND ELECTRICAL CONNECTIONS**7.1 Mounting**

Carefully unpack the controller and inspect thoroughly.

FPSC type of controllers is designed for wall-mounting or stand mounting. NOTE the controller is not free standing and must be bolted securely to a wall or a stand. The weight is about 30KG.

7.2 Electrical Connections**NOTICE**

ALL CABLE ENTRIES MUST ENTER VIA THE BOTTOM OF THE CABINET. DRILLING OR INSTALLING CONDUIT ON THE TOP OF CONTROLLER BOX WILL VOID WARRANTY.

All electrical connections should meet national and local electrical codes and standards

The controller should be located or so protected that it will not be damaged by water escaping from pumps or pump connections. Current-carrying parts of the controllers should be a minimum of 300mm above floor.

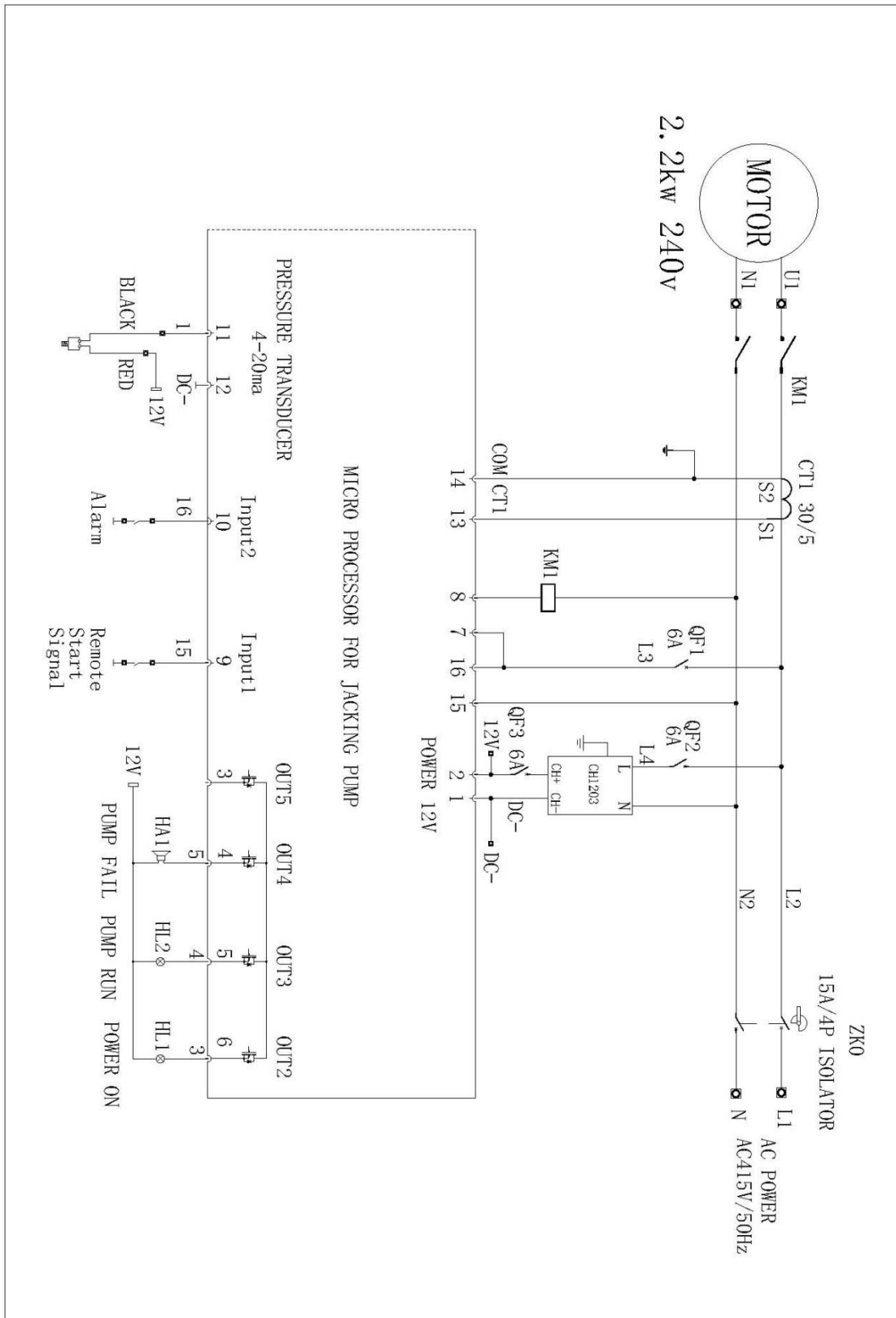
Prior to starting, verify all data on the nameplate such as battery voltage, AC line voltage.

Inspect all electrical connections, components, and wiring for any visible damage. Correct if necessary. Ensure that all electrical connections are tightened before operation.

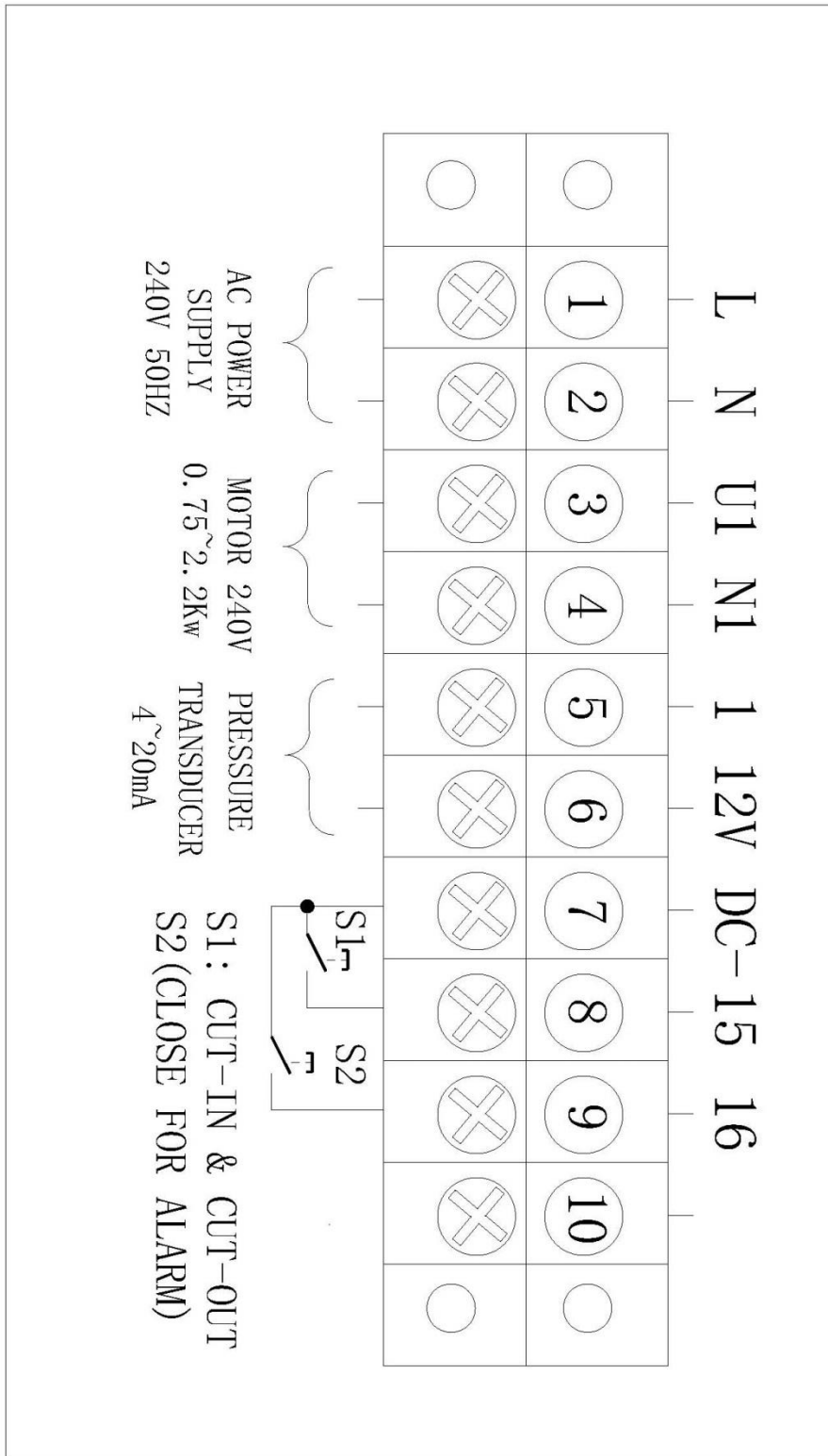
Refer to the appropriate field connection drawings provided with this manual, for all wiring information pertaining to the incoming AC power supply, batteries and motor wirings.

All terminals are numbered.

8. WIRING DIAGRAMS



9. TERMINALS FOR OUTPUT





Pumping Equipment Manufacturers

Smoothflow has established in 1997, and a primary pump importers and pumping equipment manufacturers. Smoothflow is also a major supplier of fire hydrant systems including booster assemblies. Our aim is providing quality products with excellent service.

The Major Products Manufactured & Supplied:

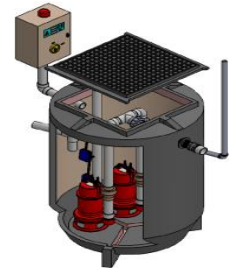
- Industrial Pumps.
- Submersible Pumps
- Approved Galvanised Pipes
- Grooved Fittings
- Booster Assemblies
- Fire Pumps
- Pumping Stations
- Stormwater Pumpset



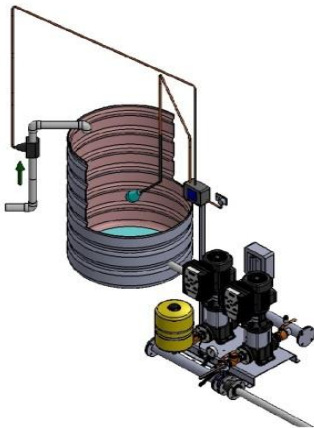
Diesel and Electric Fire Pumps To AS2941-2013



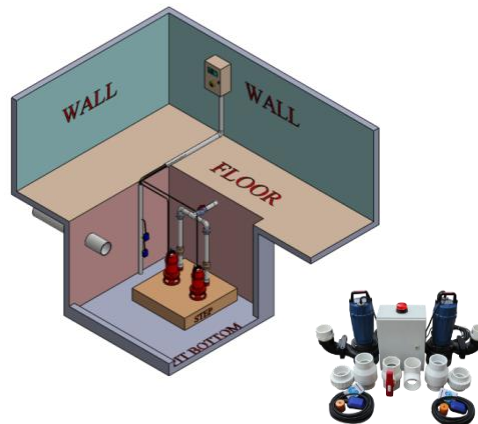
Domestic Cold Water Pumpset With Variable Speed Controller



Pumping Station Sewer & Stormwater



Rainwater Reuse Systems Single & Dual Submersible Pumps



Stormwater Pumpkits Single & Dual Submersible Pumps



Hot Water Circulation Pumpset Controlled By Timer Or Temperature



Filtration System for Rainwater Reuse Pumping System



HVAC Pumpsets



Waste Water Pumps