

# MODEL PC-1

## PUMP CYCLING CONTROLLER



# Instruction Manual

V1.1

**SIS**tec  
Specialised Industrial Systems

# OPERATION

The SIStec PC1 electronic pump controller automatically regulates the ON and OFF periods of pump equipment, by monitoring the current flow of the pump while operating under normal load conditions and switching the pump OFF when the sump runs dry. The pump is then restarted after a time calculated from the condition of the jumper settings and the amount of time taken to drain the sump. In this way a regular ON OFF cycle is maintained and automatically adjusted to balance the flow rate of the pump and the flow rate into the sump.

# JUMPER SETTINGS

Connecting the following jumpers selects a "cycle time".

One link must be made. No link or more than one link will prevent proper operation.

- Link.....17 - 18 = 2.5 min.
- Link.....17 - 19 = 5 min.
- Link.....17 - 20 = 10 min.

With no jumper connection between terminals 15 and 16 the previous cycle times are multiplied by 2.

For convenience a switch can be connected between terminals 15 and 16.

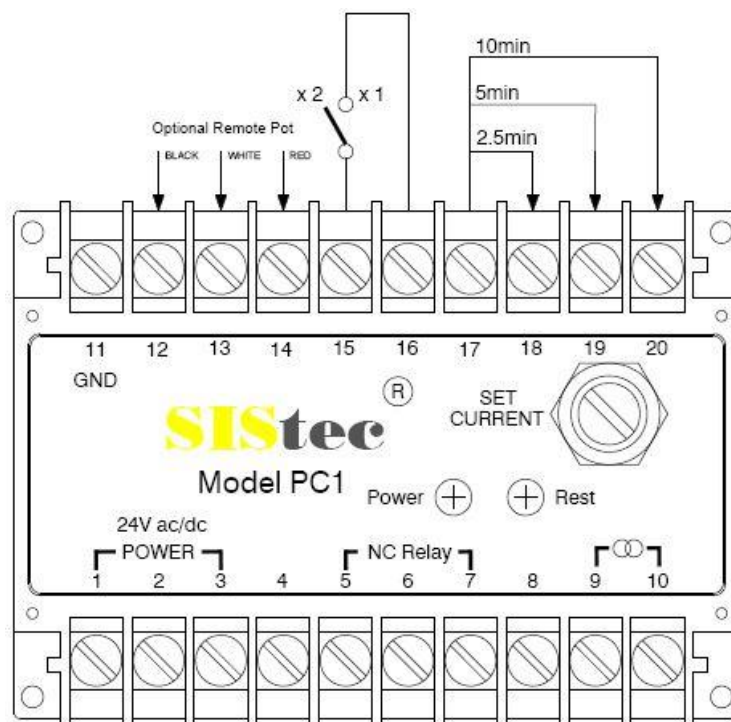
- Closed Contact...15 - 16 = multiply by 1.
- Open Contact.....15 - 16 = multiply by 2.

- Minimum rest time = 20 seconds
- Minimum run time = 3 seconds
- Maximum rest time = 20 minutes (Link 17 - 18 closed and 15-16 open)
- Maximum run time = Continuous

The cycle time is divided into a RUN and a REST time. The rest time is equal to the cycle time minus the run time.

E.g. For a cycle time of 10 minutes. If the pump runs for 6 minutes, it will restart after 4 minutes.

If the pump runs for longer than the cycle time and then stops, the controller will rest for a minimum of 20 seconds before restarting.



## CURRENT TRANSFORMER

A standard current transformer is required to supply a monitoring signal to the controller. The secondary current of the transformer should supply approximately 1A to the controller when the pump is running at normal load.

MOTOR CURRENT AMPS	CURRENT TRANSFORMERS - No. PRIMARY TURNS				
	150:1	75:1	50:1	30:1	50:5 (10:1)
1					10
1.10 - 1.25					8
1.25 - 1.50					7
1.5 - 1.7					6
1.7 - 2.0					5
2.0 - 2.5					4
2.5 - 3.0					3
3.3 - 5.0				6	2
5 - 10			5	4	1
10 - 12			4	3	
12 - 16			3	2	
16 - 25		3	2	1	
25 - 50	3	2	1		
50 - 75	2	1			
75 - 150	1				

## ELECTRICAL CONNECTIONS

Power for the controller is connected to terminals 1 and 3.

The current transformer is connected to terminals 9 and 10.

The control circuit for the pump motor is connected to the normally closed relay output terminals 9 and 10.

The cycle time selection links are connected between terminals 17-18 = 2.5 min, or 17-19 = 5 min or 17 -20 = 10 min and optional 15-16 = mult by 2 if required.

## ADJUSTMENT

Loosten the SET CURRENT locking nut.  
Rotate the SET CURRENT control screw fully counter clockwise.

Start the pump, and once it is no longer pumping fluid, rotate the SET CURRENT screw slowly clockwise until the pump stops. The Rest LED will then come on.

Tighten the SET CURRENT locking nut.

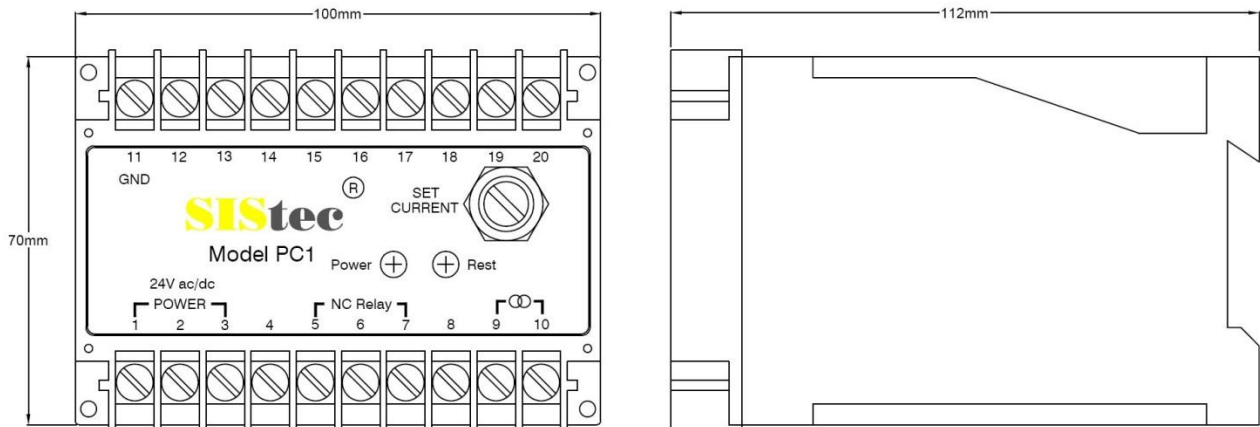
The pump will restart once the rest time has expired. The Rest LED will go out, and the controller will automatically monitor and regulate the pump operation.

When de-energised the output relay is normally closed. The pump will continue to run if power is removed from the controller.

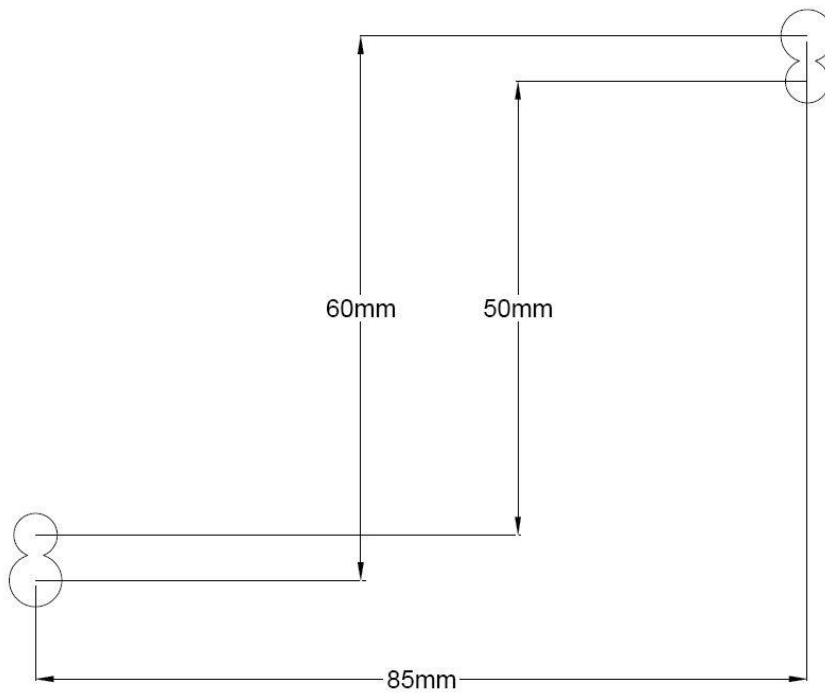
## MOUNTING

The SIStec PC1 pump controller can be secured to a standard 35 mm DIN rail or screwed to a plate using two M4 or M5 screws through holes at the rear of the case

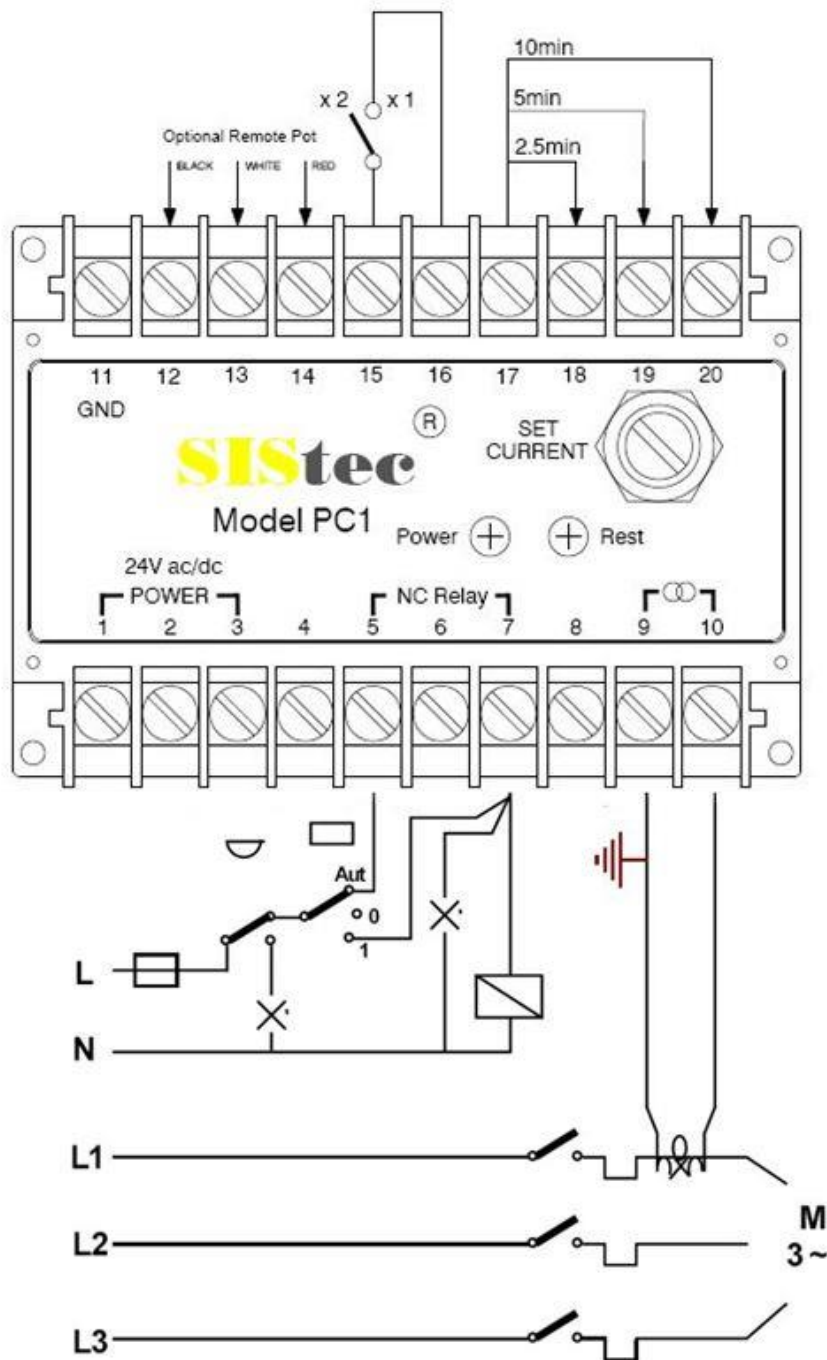
## DIMENSIONS



## DRILL PLAN



# WIRING EXAMPLE



SIS Technologies Pty Ltd

ACN 009 254 040 ABN 21 009 254 040

Unit 3, 63 Walters Drive, Osborne Park W.A.6017

P.O. Box 79, Mount Hawthorn W.A. 6915

WESTERN AUSTRALIA

Tel: (08) 9444 8005 Fax: (08) 9444 8006

Int.Fax: +61 8 9444 8006 [www.sistec.com.au](http://www.sistec.com.au)

**SIS**tec  
Specialised Industrial Systems

Suppliers and Manufacturers of Process Control Instrumentation