

PMPCO Pump Change-Over Modules

The PMPCO is an automatic change over two relay output module for use with Direct Digital Controllers or in a stand-alone mode.

Applications include the control of chilled water pumps and any duty standby application.

LEDs indicate relay output status and on board jumpers select Auto/On/Off, if required an optional remote Auto/On/Off switch can be supplied.

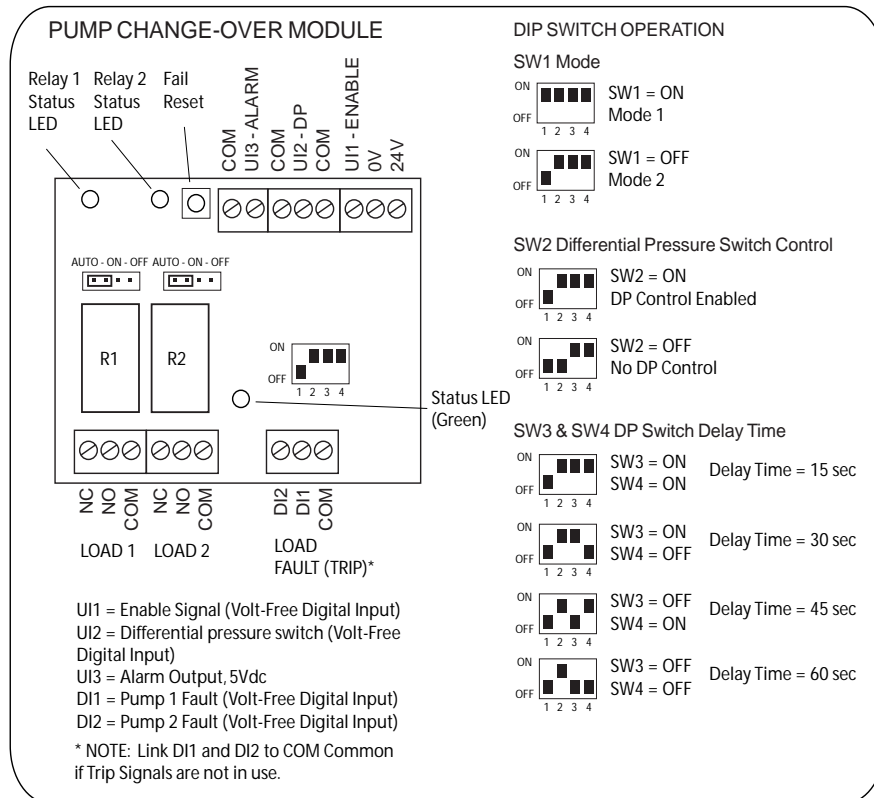
Features

- Microprocessor Based
- Provides 2 x SPDT Relay Output Channels
- LED Relay Status Indication
- LED Indication of Normal Fail State
- Auto/On/Off Jumper for System Check-Up
- DIP Selectable Fail Time (for DPS)
- Load Fail Inputs (Trips)
- Alarm Output
- DIP Switch Selectable Operating Mode
- DIN-Rail Mounting



Model Type	Model	Description
	IO-PMPCO	Pump Auto Change-Over Module with Duty Fail Monitoring
Technical Data	Power Supply	24Vac/dc (+/-15%) @ 60 mA
	Output Contacts	10A @ 240Vac (resistive)
	Output States	Jumper Selectable (Auto/On/Off)
	Digital Input Signals	U11: Enable (volt-free digital input) U12: Differential Pressure Switch (volt-free digital input) D11: Load 1 Fail (volt-free digital input) D12: Load 2 Fail (volt-free digital input)
	Operating Modes	DIP Switch Selectable Pressure Fail Time 15/30/45/60 seconds DP switch change-over enable Fail Reset
	LED Relay Indication	ON when relay energised
	LED State Indication	ON when in normal Flashing when in fail state
	Alarm Output	Alarm Output Terminals 5Vdc <20mA (ON when in alarm)
	Wiring Terminals	Rising Clamp 0.5..2.5mm ² Cable
	Operating Temperature	-10..50°C
Dimensions	W80 x H60 x D50 mm	

Installation and Wiring Details

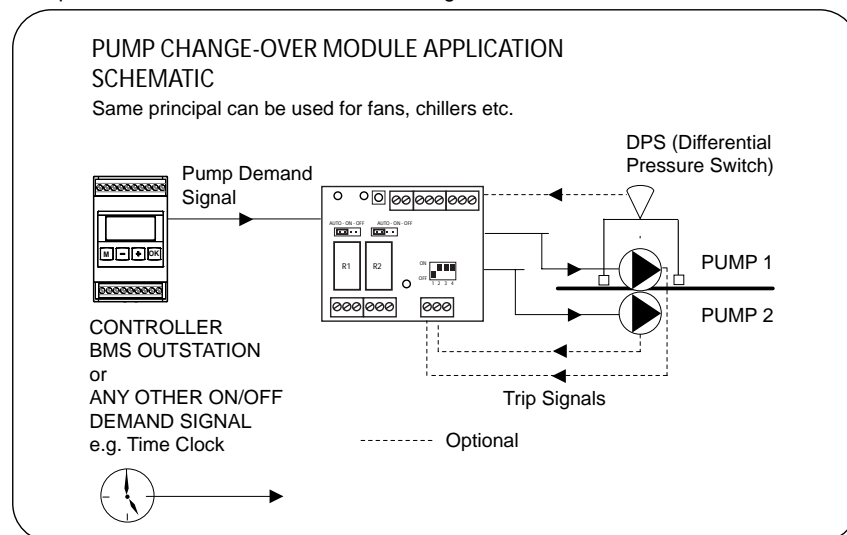


Description of Operation

Normal Operation

The module is designed for a permanent 24 Vac power supply, on initial power up and the enable input UI-1 present for 4 secs, the module will select load 1 as lead and energise relay 1.

The input UI-2 monitors the DP or water flow switch, after an adjustable DIP switch selectable delay, the input must be closed. DP switch monitoring can be disabled.



Differential Pressure Switch (DPS) Fault Operation

Bit switch SW2 needs to be set in ON position to enable Differential Pressure monitoring. Using bit switches SW3 and SW4 the required delay time for the DPS is set (15, 30, 45 or 60 seconds).

If the UI-2 Differential Pressure (DP) input has not closed after the delay time, the lead relay will de-energise and the lag relay will be energised. The UI-2 DP input will again be monitored, if the input does not close, lag relay will remain energised and the green LED will flash indicating fault. If the DP closes the lag load will remain energized and the green LED will be flashing.

During the normal operation when the enable input UI-1 is closed and if the UI-2 pressure switch opens, the lead relay will de-energise and the lag relay will be energised.

Load Fault Operation (Trips)

The inputs DI-1 and DI-2 monitor their respective loads, if Load 1 is lead and the input DI-1 opens, then Relay 1 will de-energise and Relay 2 will energise, this condition will remain until the fail reset switch has been pressed (or power to the unit is cycled).

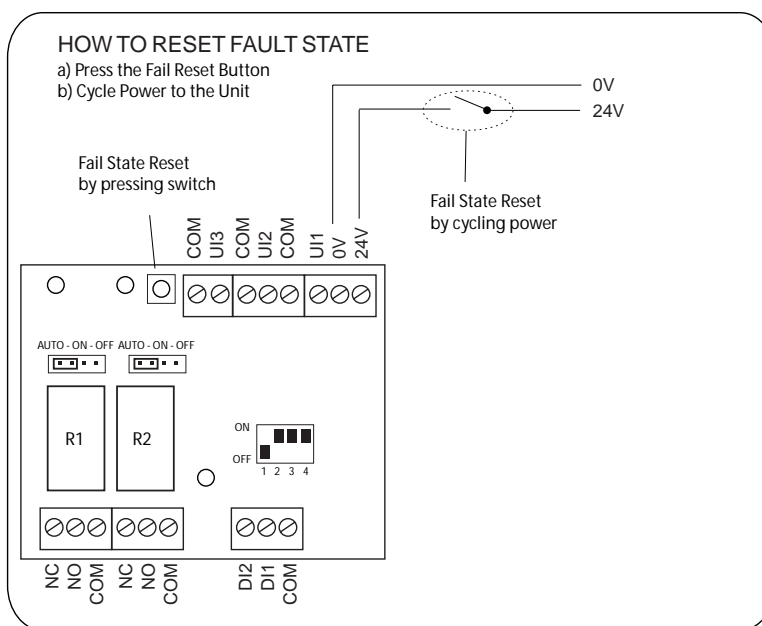
If Load 2 is lead and the input DI-2 opens then Relay 2 will de-energise and Relay 1 will energise, this condition will remain until the fail reset switch has been pressed (power to the unit is cycled).

In both cases the green LED light will flash indicating fault.

NOTE: If Load Fault Trips are not require link DI1 and DI2 to Common to disable the fault trip functionality.

Fault Reset

Once the lead load fault has been cleared and the fail reset switch has been pressed the lag relay will de-energise and the lead relay will energise and the green light will be ON. The fault state can also be reset by cycling the power to the pump change-over module after which the relay 1 will be selected as a lead load.



Remote Changeover of Loads

Mode 1

The lead load can be changed via the digital input UI-1, if the UI-1 is opened for more than four seconds and closed again within ten seconds the loads will changeover.

If the digital input UI-1 remains open for more than fifteen seconds then both loads will de-energise. Upon digital input UI-1 closing then the load that was lead will again energise.

Mode 2

The lead load can be changed via the digital input UI-1. If the UI-1 is opened for more than four seconds and closed again within ten seconds the loads will changeover.

If the digital input UI-1 remains open more than fifteen seconds then both loads will de-energise. After ten seconds, upon digital input UI-1 closing, then the load that was lead will become lag and the lag load will become lead.

Power Fail Restart

On returning from a power failure relay one will be selected as lead.