



PSM-420

Power Switching Module



The PSM-420 power switching module is a safety power switch. It combines solvent level monitoring with safety.

When organic liquids are pumped with an automated system such as a preparative HPLC system with flow rates higher than 5 ml/min, it is advisable to install an independent system for power cutout in case of a full waste in order to prevent dangerous spillages of organic and toxic solvents in the lab.

The PSM-420 operates as the main power supply of your system (e.g. a prep. HPLC system) or at least of the pump. In case of an alarm it cuts off power automatically.

The PSM-420 is used in combination with the Solvent monitor SM-411, see Fig. 1.

Safety and Comfort

With a single power switch all pumps which are connected to the PSM-420 are turned on. In case of an alarm (waste full) all pumps are switched off. The power off function may be configured with a delay in order, that a running process can be finished first.

Waste

The PSM-420 cuts power immediately when the signal for a full waste is active. When the timer waste is switched on, the power is switched off within the delay set for the timer depending of the volume left in the waste container.

Eluents

The PSM-420 only switches off power within the delay set if the timer for an empty eluent is activated (ON). If it is OFF, no power switch off is performed.

Software response

Software response is a watch dog function. When it is activated (ON)

it asks for a signal (contact closure) in regular intervals e.g. every 4 minutes to reset the timer.

This function may be useful to monitor the correct operating mode of the controlling software e.g. when your system is running over night.

General alarm

The PSM-420 has an additional digital input for an arbitrary alarm signal.

Timer adjustment

Timer adjustment is done via a terminal program on a computer.

Manual ON/OFF

Besides the main power switch each of the 4 power outputs has its own switch for manual ON/OFF. An LED for each power output indicates the effective power state. (Even when the manual switch is ON the power may be off because of a safety shutdown).



Electrical connections

The PSM-420 has 1 power input and 4 power outputs.



Two redundant interfaces are available for signal input.

Technical data

Electrical connections:

power input: 1x 110/220 V
power output: 4x 110/220V

Fuse: 6A

Interface:

2x I/O signal, DB25f

Mode:

Pos. 1 - 9

Functions/Switches:

- Power ON/OFF
- Power relay ON/OFF
- Power out ON/OFF (4x)
- Timer eluents ON/OFF
- Timer waste ON/OFF
- Software response ON/OFF

Dimensions:

20.5 x 28 x 10 cm (w x d x h)

Weight: 2.5 kg

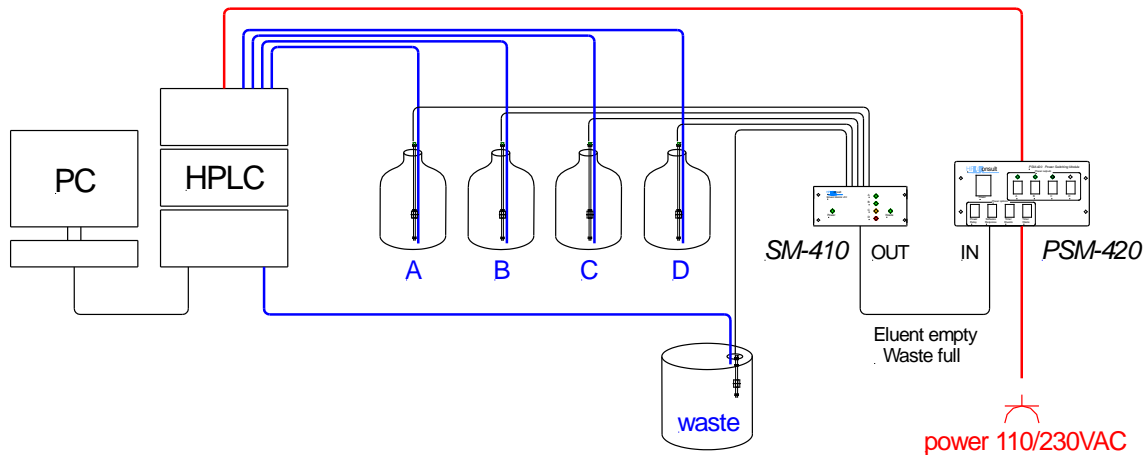


Fig. 1 Installation scheme

Input signals

All digital inputs may be configured individually as a contact closure (NO) or as a contact opener (NC).

the PSM-420 is working fail safe. This means that the system detects a broken cable or a badly plugged connector and triggers a power shut down within the timer conditions set.

Fail safe design

The signal transmission from the level monitoring system SM-411 to