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Saunders® VUE Intelligent Sensing Technology



Field Wiring Manual



CRANE®

ChemPharma Flow Solutions

Saunders® VUE Point to Point Wiring

The P2P version of M-VUE and I-VUE sensors is equipped with a PNP element that will replace:

- Mechanical sensors (SPDT) rated for 24 VDC
- 2 and 3 Wire proximity sensors rated for 24 VDC, 100 mA

Saunders VUE sensors must always be connected to a power supply in order to function correctly. The maximum power consumption per sensor is:

- 24 VDC
- 35 mA (sensor without solenoid valve)
- 63 mA (sensor with solenoid valve)

Power supply allocation:

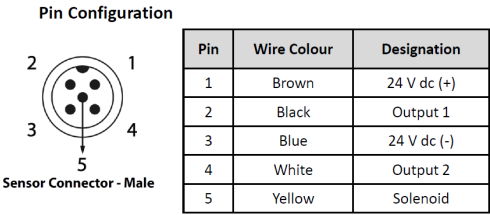
Field conversion of Opti-Set (or other switches) to VUE **sensors requires a permanent connection to a 24 VDC power source** as the sensors contain electronics necessary to perform continuous sensing, calibration and local diagnostics. Power sources are readily available in many parts of existing installations:

- a. Pharmaceutical skids
- b. Electrical cabinet
- c. Electrical junction box

IMPORTANT! All units installed in hazardous areas must be installed according to local electrical standards

Saunders® VUE Point to Point Wiring

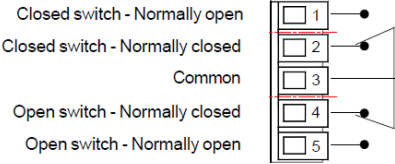
VUE sensor pin configuration



Mechanical switch 24 VDC (SPDT) to VUE sensor

OptiSet Terminal	VUE Sensor PIN allocation	Signal Description
See NOTE 2	1	(+) 24 VDC
CLOSED Position (Terminal 1)	2	Output 1
Common Negative at PLC (Terminal 3, see NOTE 3)	3	(-) 24 VDC
OPEN Position (Terminal 5)	4	Output 2
Only used if Solenoid Valve is present	5	Solenoid Control

OptiSet Terminal



NOTE 1: OptiSet Terminals 2 and 4 are not used by VUE sensors

NOTE 2: (+) 24VDC must be provided to Pin 1 of the VUE sensor from an external power supply source (Wiring Diagram Page 6)

NOTE 3: (-) 24 VDC must be wired to the (negative) side of the power supply and connected to Pin 3 on the VUE sensor and the negative supply to the PLC (Wiring Diagram Page 6)

VUE sensors with **3 wires** will :

- Detect *ONE* position or control *ONE* solenoid

VUE sensors with **4 wires** will:

- Detect *TWO* positions (*Open and Closed*) or
- Detect *ONE* position and control *ONE* solenoid

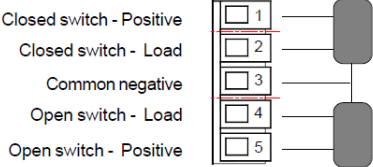
VUE sensors with **5 wires** will:

- Detect *TWO* positions (*Open and Closed*) and control *ONE* solenoid valve

3 Wire Proximity to VUE sensor (PNP)

3 Wire Proximity sensor Terminal	VUE Sensor PIN allocation	Signal Description
(+) 24 VDC (Terminals 1 or 5)	1	(+) 24 VDC
CLOSED Position (Terminal 2)	2	Output 1
Common Negative at PLC (Terminal 3)	3	(-) 24 VDC
OPEN Position (Terminal 4)	4	Output 2
Solenoid control (additional terminal if required)	5	Solenoid Control

OptiSet Terminal



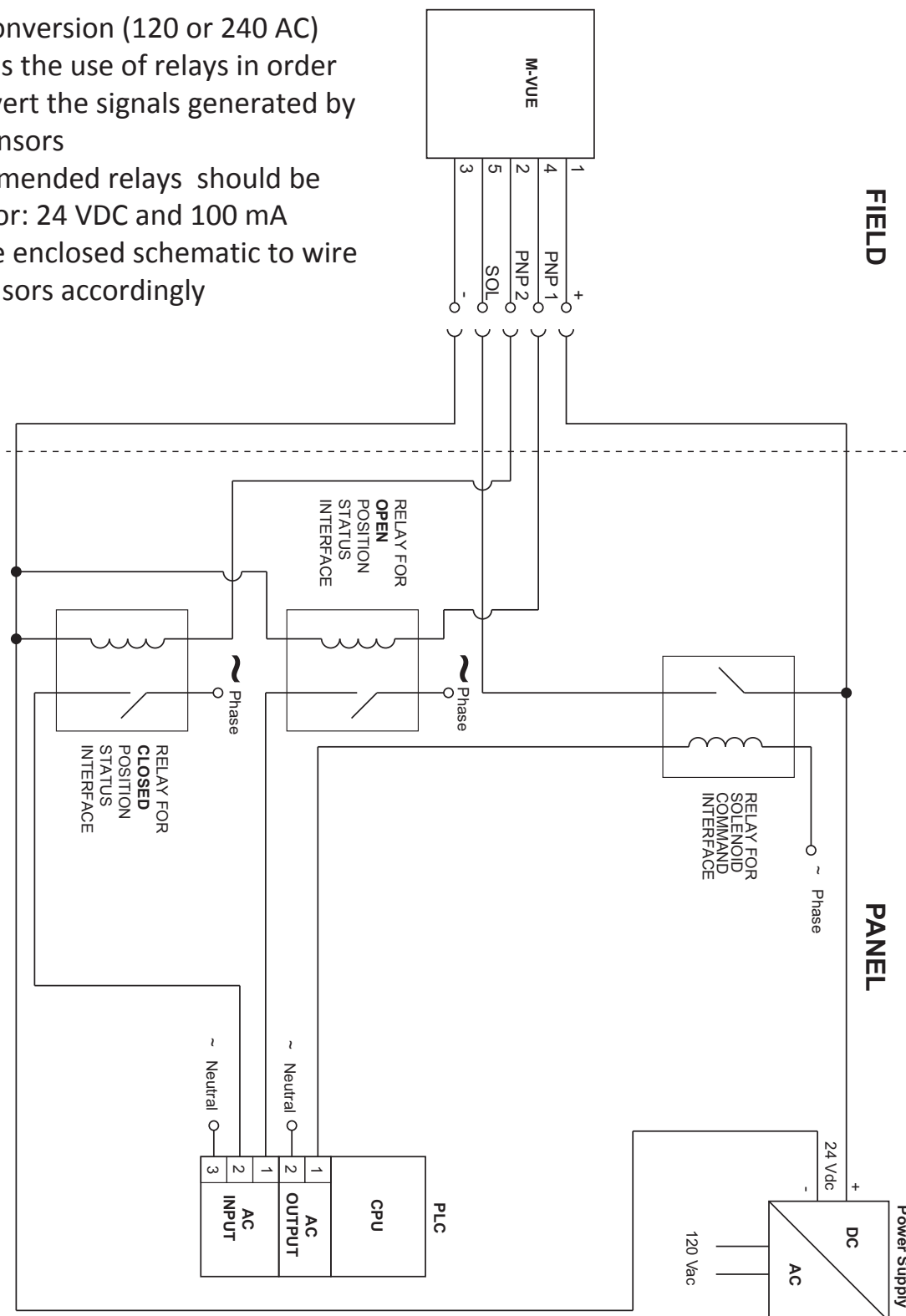
NOTE 1: OptiSet Terminals 1 and 5 are used to supply +24 VDC to the internal proximity sensors. Either wire can be used to provide power to VUE sensors.

NOTE 2: If 2-Wired proximity sensors are used; make sure VUE sensors are supplied with constant 24 VDC to pins 1 and 3.

Saunders® VUE Point to Point Wiring

120 AC to 240 AC Relay connection

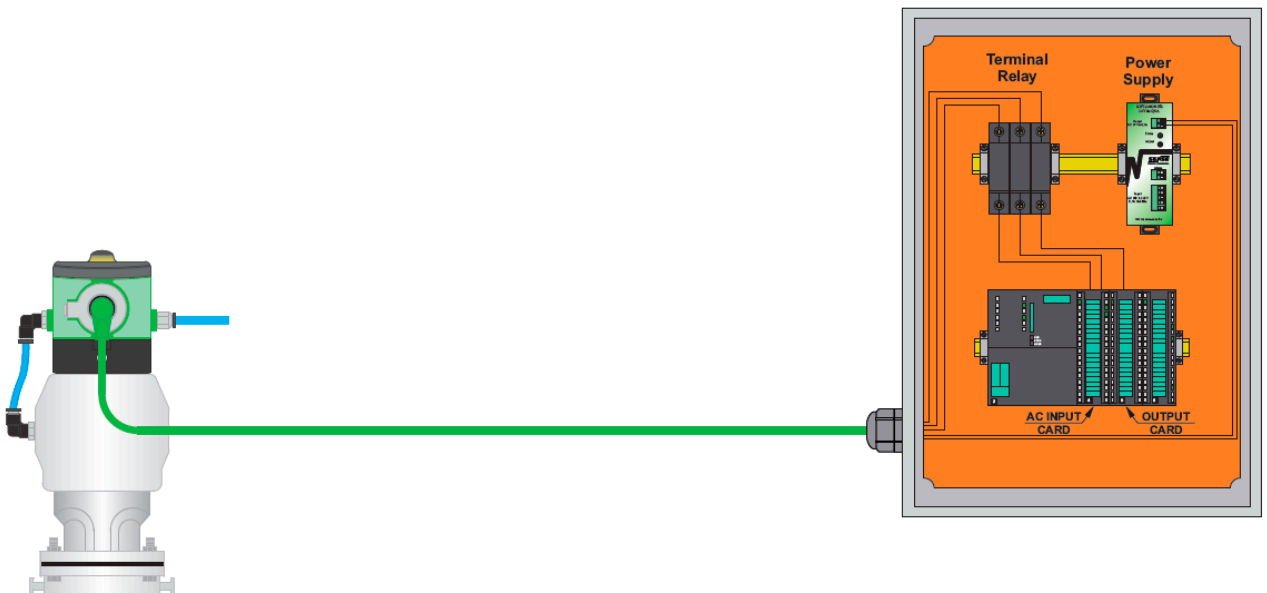
- Field conversion (120 or 240 AC) requires the use of relays in order to convert the signals generated by VUE sensors
- Recommended relays should be rated for: 24 VDC and 100 mA
- Use the enclosed schematic to wire the sensors accordingly



Saunders® VUE Point to Point Wiring

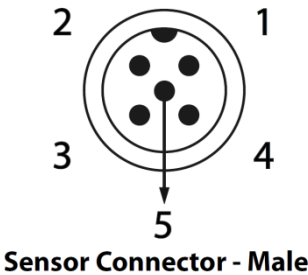
120 AC to 240 AC Relay connection

- An electrical panel can be used to contain the accessories (power supply, relays and cables)
- Please consult SAUNDERS for additional information

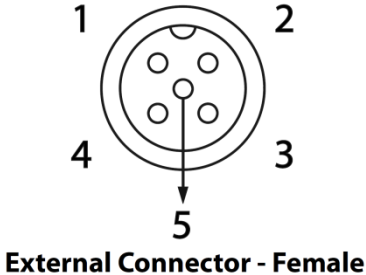


Saunders® VUE Point-to-Point Wiring

Pin Configuration

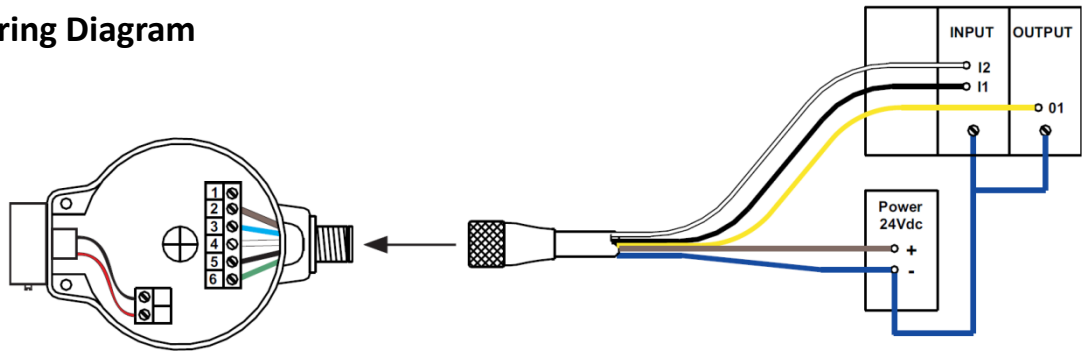


Pin	Wire Color	Designation
1	Brown	24 V dc (+)
2	Black	Output 1
3	Blue	24 V dc (-)
4	White	Output 2
5	Yellow	Solenoid



Output 1 indicates when the valve is **CLOSED** and sends this signal to the PLC input card
Output 2 indicates when the valve is **OPEN** and sends this signal to the PLC input card.
These outputs can be reversed in the “Output Option” within the corresponding menu

Wiring Diagram



Notes: For IVUE units without integral solenoid there is no pin 5.
To bypass the integral solenoid (to instead use a panel mounted solenoid) the pin 5 (yellow wire) is isolated or connected to the (-) 24VDC (pin 3)

Note: The wiring configurations and colours in this manual relate to Saunders supplied cables only.
If alternative cables are used, ensure the correct wire relates to the correct pin

Saunders® VUE Notes

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Please register your Saunders® I-VUE at: www.saundersI-VUE.com to access important installation information, download Electronic Data Sheets (EDS), and receive notifications of required firmware upgrades.



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