

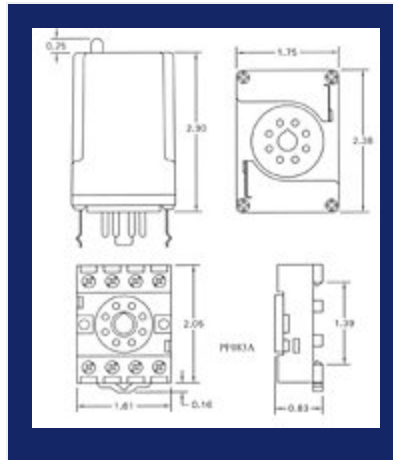


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## ITEM # 030-120-118, INTRINSICALLY SAFE RELAY (ISR)

The Intrinsically Safe Relay ISR provides a safe and reliable method of load control when interfaced with a contact closure in a hazardous location. When the control switch input is closed between pins 1 and 8, the output relay becomes energized, and the LED is illuminated. When the control switch input is open, the output relay is de-energized, and the LED is turned off. This IS Relay is UL913 and provides intrinsically safe circuits for use in Class I, Groups A, B, C, D Class II, Groups E, F,

[+ more](#)



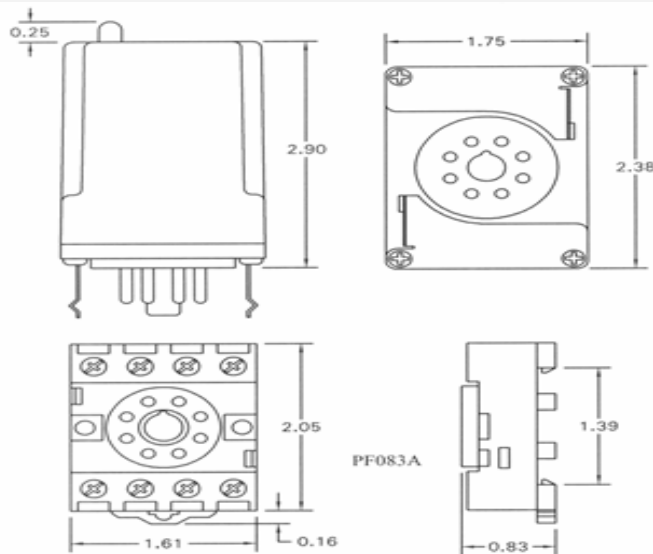
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### Specifications

UL File No.	#E189808
Operating Voltage (AC)	120 V
Operating Voltage Tolerance	± 10%
Relay Type	SPST
Base Terminal Configuration	8 Pin, Round
Socket Terminal Configuration	8 Pin, Din Rail Mount with Special Locking Tab

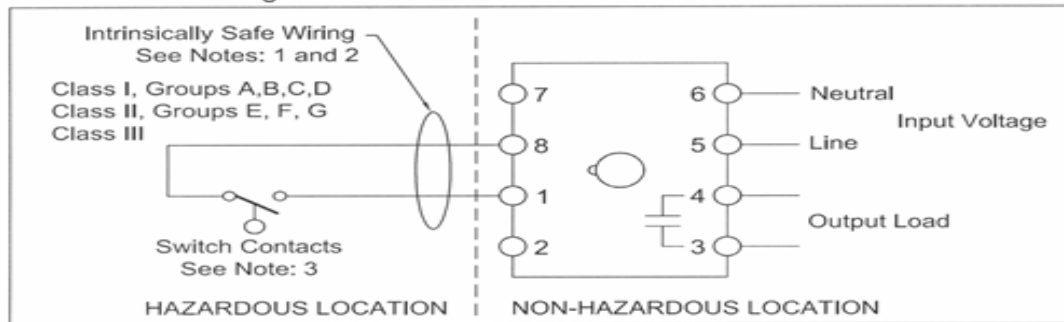
Supply Frequency	50/60 Hz
Agency Approval	UL 913
Output Current	10 A
Power Consumption	1.25 V·A
Operating Temperature	-20 to +60 °C
Storage Temperature	-45 to 85 °C
Enclosure Material	Polycarbonate Plastic
Base Material	Phenolic

## UL Control Drawing



UL Control Drawing No. 0301

Revision Date: 3-28-05



Notes for UL Control Drawing 0301:

1. All intrinsically safe wiring shall be separated from non-intrinsically safe wiring. Refer to article 504 of

the National Electric Code (ANSI/NFPA 70) for installation of intrinsically safe wiring.

2. Maximum distance between unit and switch contacts is 1000 feet.

3. Switch contact shall be any non-energy storing or generating switch type device containing no capacitance or inductance.

4. Device must be installed in MPE socket P/N DS-8-A or PF083A and with locking clips attached to base.

5. Cable capacitance plus intrinsically safe equipment capacitance ( $C_i$ ) must be less than the marked capacitance ( $C_a$ ) and cable inductance plus intrinsically safe equipment inductance ( $L_i$ ) must be less than the marked inductance ( $L_a$ ) shown any barrier.

6. The simple apparatus (Float Switch) connected to the ISR shall not be mounted on other electrical apparatus that has a voltage and current rating higher than the ISR (See Entity Parameters VOC and ISC below). A simple apparatus (Such as a Float Switch) is defined as an electrical component or combination of components of simple construction with well-defined electrical parameters that does not generate more than 1.5 V, 100 mA and 25 mW, or a passive component that does not dissipate more than 1.3W and is compatible with the intrinsic safety of the circuit in which it is used.

7. If the electrical parameters of the cable are unknown, then a capacitance value of 60pF/ft - and an inductance of 0.20uH/ft are to be used.

8. Entity Parameters:  $V_{oc} = 9.33$  V,  $I_{sc} = 0.218$  mA,  $C_a = 3.6$ uF,  $L_a = 100$  mH