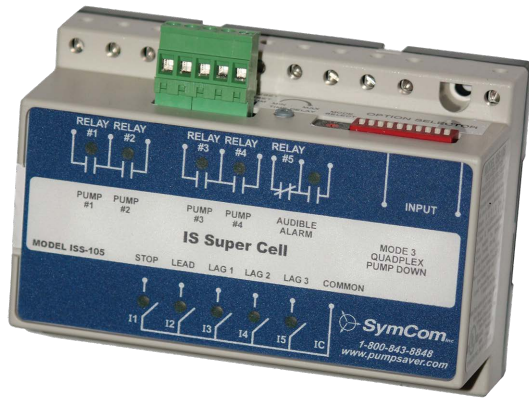
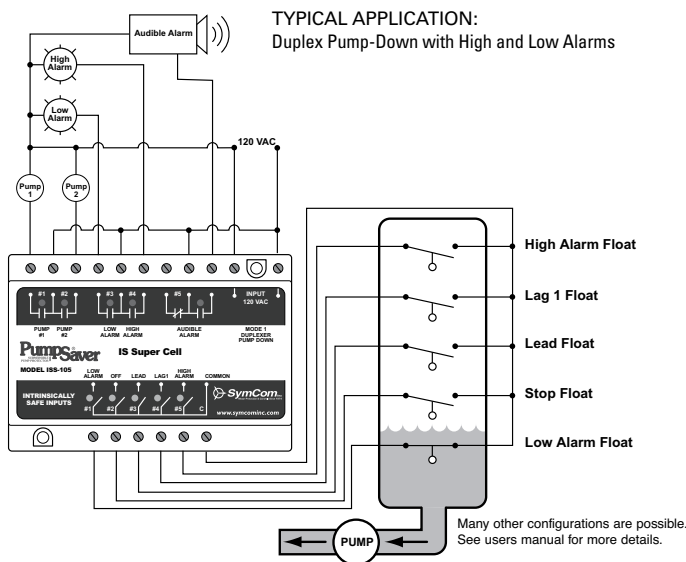


# ISS-105 SERIES

## Five-Channel Intrinsically Safe Switch



### Wiring Diagram



### Description

The ISS-105 is a “smart” five-channel intrinsically safe relay and pump controller. The ISS-105 can be configured for pump-up or pump-down applications or as a five-channel relay covering a wide variety of applications.

The ISS-105 has a long list of features that are needed for multiple pump applications and can indicate low, high and out-of-sequence alarms. If an out-of-sequence alarm occurs, the skipped pump(s) will be started as intended.

The Model ISS-105 can be set-up to do non-alternating control, alternating control and alternating control with one non-alternating pump. The non-alternating pump is intended for use with an emergency or jockey pump. The ISS-105 can start an emergency pump once every 50 cycles to keep it working freely. Using the built-in DIP switches, individual pumps can be disabled when taken out of service for repair or maintenance.

### Features & Benefits

- 5 intrinsically-safe input channels meeting UL913 Sixth Edition
- 4 normally open output relays and 1 SPDT output relay
- Field selectable pump control options
- Monitors float sequencing and sends signal to alarm if out-of-sequence condition occurs
- High and/or low alarm options depending on the number of pumps and settings
- Output contacts for audible alarm
- Meets IEC EMC standards for Electrical Fast Transients (EFT), Electrostatic Discharge (ESD) and Radio Frequency Immunity (RFI)
- DIN rail or surface mountable allows flexibility in panel installation
- User-selectable alternator/non-alternator option
- Non-alternating pump option for emergency or jockey applications
- Pump disable switches make it easy to disable individual pumps when they are out for service or repair
- Adjustable lag pump delay for all pumping modes
- Adjustable delay-on-make/break timer in five-channel relay mode
- Finger-safe terminals meet IEC 61000 safety requirements

### Ordering Information

MODEL	LINE VOLTAGE	DESCRIPTION
ISS-105	120VAC	Intrinsically-Safe & Pump Controller
ISS-105-ISO	120VAC	Intrinsically-Safe Only
ISS-105-ISO-3	120VAC	3-Channel Intrinsically-Safe Only
ISS-105-ISO-4	120VAC	4-Channel Intrinsically-Safe Only
ISS-105-ISO-F	120VAC	ISO with Fast Trip Relays

# ISS-105

## Specifications

### Input Characteristics

**Supply Voltage** 120VAC  
**Frequency** 50\*/60Hz

### Functional Characteristics

**Probe Sense Voltage** 5vdc continuous

### Output Characteristics

**Relay Output Rating**  
**Pilot Duty** 480VA @ 240VAC, B300  
**General Purpose** 7A @ 240VAC  
**Relay Contact Life (Electrical)** 100,000 cycles min. @ rated load  
**Relay Contact Life (Mechanical)** 10,000,000 cycles

### General Characteristics

**Temperature Range** -40° to 55°C (-40° to 131°F)  
**Maximum Input Power** 5 W  
**Wire range** 12 to 20 AWG  
**Recommended Terminal Torque** 3.5 to 4.5 in.-lbs. (max. 4.5 in.-lbs.)

### Provides Intrinsically-Safe Circuits in the following locations:

Division 1 and 2  
Class I, Groups A,B,C,D;  
Class II, Groups E,F,G;  
and Class III

### Entity Parameters

$V_{oc} = 16.8V$        $\frac{P_o = V_{oc} \cdot I_{sc}}{4}$   
 $I_{sc} = 1.2mA$   
 $L_a = 100mH$   
 $C_a = 0.39\mu F$

### Standards Passed

**Electrostatic Discharge (ESD)** IEC 61000-4-2, Level 3, 6kV contact, 8kV air.  
**Radio Frequency Immunity (RFI)** IEC 61000-4-3, Level 3, 10V/m  
**Fast Transients** IEC 61000-4-4, Level 3, 4kV input power  
2kV inputs/outputs

### Safety Marks

#### UL

UL913 Sixth Edition (File #E233355)

#### Dimensions

**H** 94.06 mm (3.703"); **W** 127.64 mm (5.025");  
**D** 59.69 mm (2.350")

#### Weight

1.2 lbs. (19.2 oz., 544.31 g)

#### Mounting Method

35 mm DIN rail or Surface Mount  
(#6 or #8 screws)

\*Note: 50Hz will increase all delay timers by 20%.