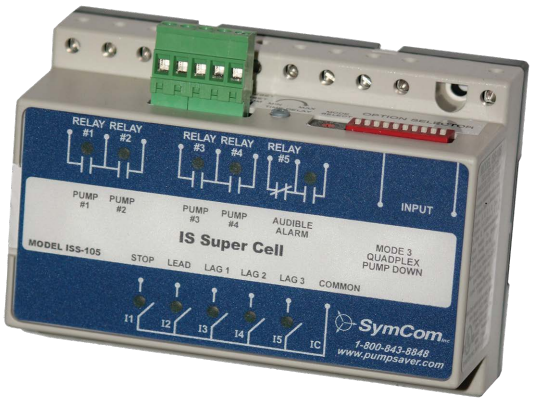
ISS-105 SERIES

Five-Channel Intrinsically Safe Switch



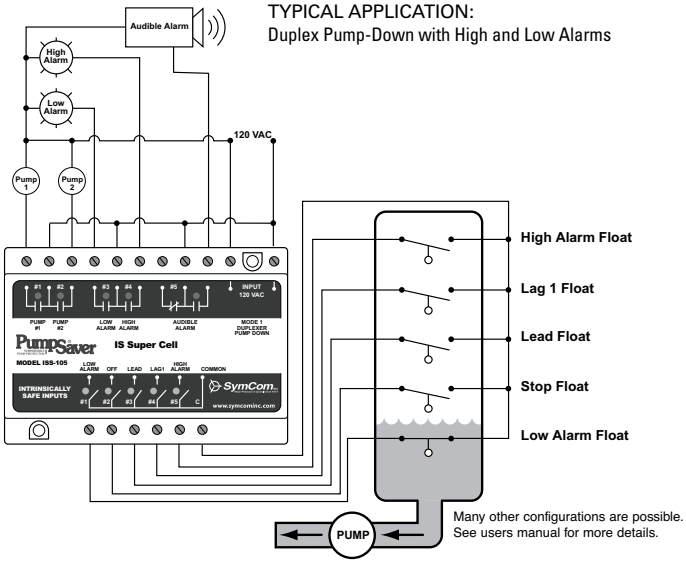
Description

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.

Wiring Diagram



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

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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 I_{sc} = 1.2mA L_a = 100mH C_a = 0.39uF

$$Po = \frac{Voc * Isc}{4}$$

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%.

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