

ISS-105 SERIES

Five-Channel Intrinsically Safe Switch



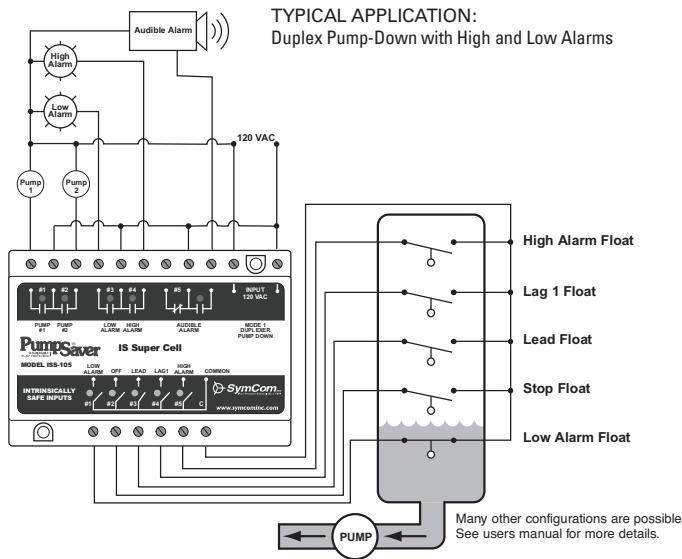
Description

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



For dimensional drawing see: Appendix, page 511, Figure 12.

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

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

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%.