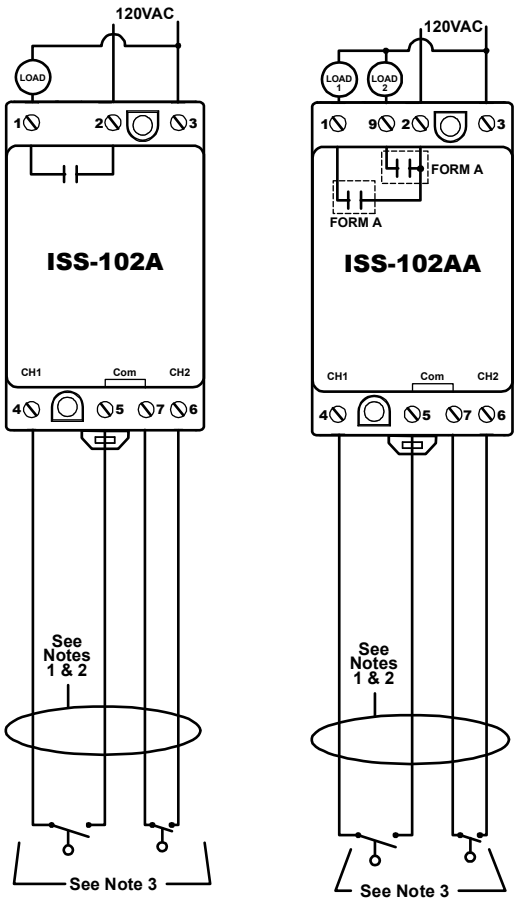
# ISS-102 SERIES

## Two-Channel Intrinsically Safe Switch




## Wiring Diagrams




**For more wiring diagrams and notes, see next page.**

## Description

The ISS-102 is a two-channel, intrinsically-safe switch designed for multiple uses including a pump-up/pump-down (latching) controller or two-channel switch. LEDs indicate the state of the intrinsically-safe inputs and output relays and user-selectable options are available including a variable resistance threshold for float inputs. The ISS-102 enclosure is surface or DIN rail mountable.

**-LC** Each input channel is active when the corresponding switch is closed. When the lag input (CH2) is activated, the output closes. Applying latching logic, the output contact remains closed until the lead (CH1) and the lag (CH2) inputs are deactivated. Sensitivity is fixed at 100kOhms with a debounce time delay of 2 seconds.

**-DCS** This dual-channel switch has two Form A output relays. Two LEDs illuminate the output state of their respective Form A relay. Resistance probes or switches can be used on its inputs. Sensitivity is fixed at 100kOhms with a debounce time delay of 0.5 seconds.

**-MC** By selecting the proper functionality through the DIP switches, you can define a pump-up or pump-down, single or dual channel non-latching switch. The sensitivity adjustment (4.7k-100kOhms) allows you to define the input impedance at which the output relays (one Form A & one Form C) will change state, with a debounce time delay of 0.5 or 2 seconds.

## Features & Benefits

| FEATURES | BENEFITS |
|---|---|
| **Finger-safe terminals** | Meets IEC 61000 safety requirements |
| **Compact design for DIN rail or surface mount** | Allows flexiblility in panel installation |
| **LED status indicator** | Visual indication of relay engagement |
| **Two input channels** | Flexibility for pump up/pump down latching controller or two-channel switch applications |

## Ordering Information

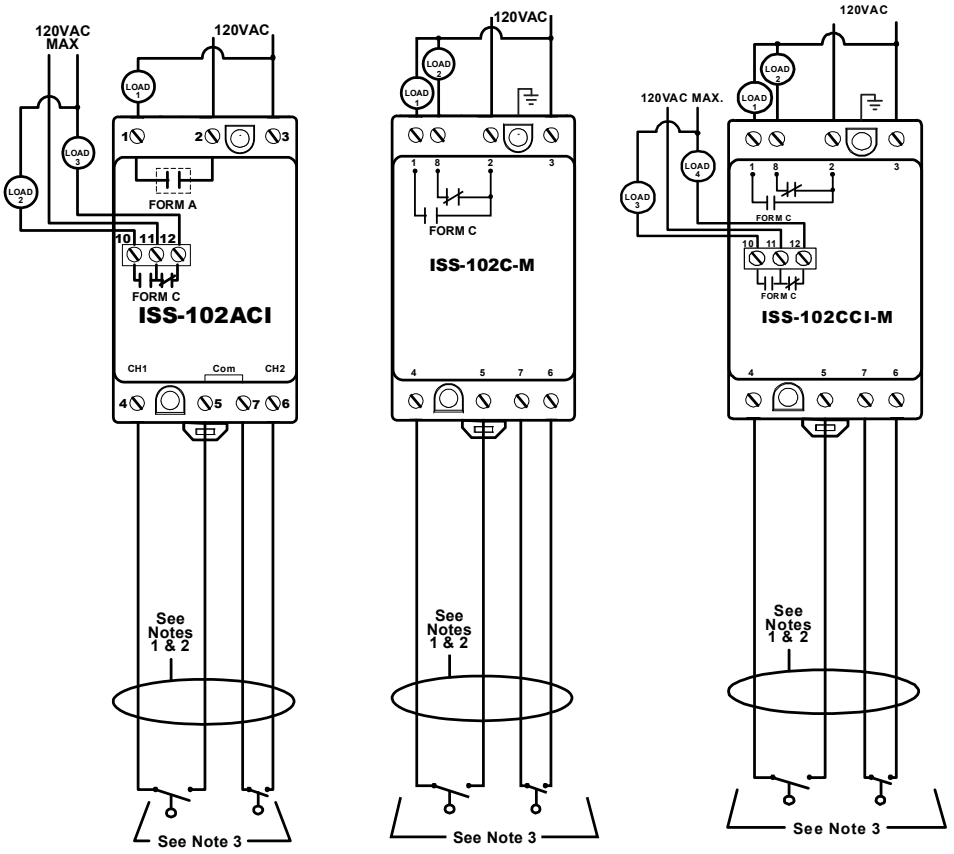
| MODEL | LINE VOLTAGE | DESCRIPTION |
|---|---|---|
| ISS-102A-LC | 120VAC | Latching Controller |
| ISS-102AA-DCS | 120VAC | Dual Channel Switch |
| ISS-102ACI-MC | 120VAC | Multi-function Controller |
| ISS-102C-M-LC | 120VAC | MSHA* evaluated |
| ISS-102CCI-M-MC | 120VAC | MSHA* evaluated |

* Mine Safety and Health Administration

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# ISS-102 SERIES

## Wiring Diagrams (continued)




**NOTES:**

1. Maximum distance between unit and switch contact is 10,000 feet.
2. All non-intrinsically-safe wiring shall be separated from intrinsically-safe wiring. Description of special wiring methods can be found in the National Electrical Code ANSI/NFPA 70, Article 504 Intrinsically-Safe Systems. Check your state and local codes for additional requirements.
3. All switch contacts shall be non-energy storing, containing no inductance or capacitance.

## Specifications

### Functional Characteristics

| | |
|---|---|
| **Debounce Time** | 0.5 or 2 seconds |
| **Probe Sense Voltage** | 5vdc pulsed |

### Output Characteristics

| | |
|---|---|
| **Output Contact Rating** | |
| **Pilot Duty** | 180VA @120VAC, C150 |
| **General Purpose** | 5A @120VAC |
| **Relay Contact Life (Electrical)** | 100,000 cycles min. @ rated load |
| **Relay Contact Life (Mechanical)** | 10,000,000 cycles |
| **Output Relay Type** | |
| **ISS-102A-LC** | One Form A |
| **ISS-102AA-DCS** | Two Form A |
| **ISS-102ACI-MC** | One Form A & One isolated Form C |
| **ISS-102C-M-LC** | One Form C |
| **ISS-102CCI-M-MC** | Two Form C (one isolated) |

### General Characteristics

| | |
|---|---|
| **Temperature Range** | -20° to 55°C (-4° to 131°F) |
| **Maximum Input Power** | 2 W |
| **Wire Range** | 12 to 20 AWG |
| **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;
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 |

### Safety Mark

**UL** — UL913 Sixth Edition (File #E233355) (except Models ISS-102C-M-LC & ISS-102CCI-M-MC which have been evaluated by MSHA)

| | |
|---|---|
| **Dimensions** | **H** 88.9 mm (3.5"); **W** 52.93 mm (2.08"); **D** 59.69 mm (2.35") |
| **Weight** | 0.7 lb. (11.2 oz., 317.51 g) |
| **Mounting Method** | 35mm DIN rail or Surface Mount (#6 or #8 screws) |

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