

918AC Series System Interface Input Module

Installation, Operation, and Maintenance Instructions

The 918AC Series is designed to allow one to four Intrinsically Safe, normally open or normally closed, dry contact Input Modules to be installed. These may be installed in the field to add additional inputs to an existing System Interface.



Failure to follow any or all of the warnings and instructions in this document could result in a hazardous liquid spill, which could result in property damage, environmental contamination, fire, explosion, serious injury or death.



Le fait de ne pas se conformer à l'un ou l'autre des avertissements ou à l'une ou l'autre des directives apparaissant dans ce document pourrait donner lieu à des déversements de liquides dangereux, lesquels pourraient engendrer des dommages matériels, des risques de contamination environnementale, d'incendie ou d'explosion, des blessures graves ou la mort.

Specifications

The 918AC Series System Interface is intended to be located in an Ordinary Location. Its inputs are intrinsically safe for use with Class I, Division 1 Group D, T4 Hazardous location with either normally open or normally closed dry contacts.

WARNING: This is an intrinsically safe device and must be wired in accordance with National Electrical Code Article 500. This device and its wiring may not share any junction box, conduit, or raceway with any other type circuit or wiring. Do not perform live maintenance. Do not substitute components with anything other than Morrison Bros. Co. components. Care must be taken to avoid an ignition hazard from impact or friction with the enclosure.

AVERTISSEMENTS: Cet appareil intrinsèquement sécuritaire doit être branché conformément à l'article 500 du code électrique national. Il se peut que ce dispositif et son câblage ne partagent pas de boîte de connexion, de conduit ou de canalisation avec un autre type de circuit ou de câblage. Ne menez pas de travaux de maintenance sous tension. Ne remplacez les composantes que par des composantes de Morrison Bros. Co. Assurez-vous d'éviter le risque d'inflammation pouvant découler d'un impact ou de friction avec l'enceinte.

Entity Parameters for Channel Inputs (Terminal P1 on each Dry Contact Input Module)

VOC = 4.935 VDC	ISC = 99.697 mA	Ca = 0.37 μF	La = 1.43 μH	PO = 0.123 W
------------------------	------------------------	------------------------------------	------------------------------------	---------------------

Operating Temperature

-40°F to 140°F (-40°C to 60°C) to 100% humidity

Maximum Wiring Distance

Maximum wiring distance between Alarm and input device is 5000 ft

Installation and Testing



Warning

- **Fire Hazard** – Death or serious injury could result from spilled liquids.
- You must be trained to install or maintain this alarm. Stop now if you have not been trained.
- Any modification of this unit beyond what is outlined in this instruction will void product warranty.
- For your safety, it is important to follow local, state, federal and/or OSHA rules that apply to working inside, above, or around the storage tank and piping area. Use all personal protective equipment required for working in the specific environment.
- This device is intended to be used as an auxiliary warning to the operator of an abnormal condition of the system, such as a possible overflow situation and should not be the only system in place to prevent an unwanted condition, such as preventing a tank from overflowing. It is the sole responsibility of the operator to continuously prevent any spillage regardless of the situation.
- Tanks could be under pressure. Vapors could be expelled from tank vents, piping, valves or fittings while performing maintenance. Vapors could catch fire or cause an explosion. **Avoid** sparks, open flame, or hot tools when working on tank system.
- Use a dampened cloth when cleaning the alarm enclosure to prevent static buildup and discharge.
- In the event of malfunction, contact Morrison Bros. Customer Service.



Avertissements

- Risque d'incendie – Un déversement de liquide pourrait entraîner des blessures graves ou la mort.
- Vous devez avoir reçu une formation pour installer cette alarme ou en assurer la maintenance. Arrêtez-vous immédiatement si vous n'avez reçu aucune formation à cet effet.
- Toutes les modifications apportées à cette unité autres que celles indiquées dans ces directives engendreront l'annulation de la garantie du produit.
- Pour assurer votre sécurité, il est important de vous conformer à la réglementation locale, d'État, fédérale ou OSHA régissant les travaux à l'intérieur, au-dessus ou autour du réservoir de stockage et de la zone de canalisation. Utilisez tout l'équipement de protection individuelle exigé pour travailler dans l'environnement spécifique.
- Cet appareil est destiné à être utilisé comme mécanisme avertissant l'opérateur d'un état anormal du système tel une situation de remplissage excessif et ne devrait pas être le seul système en place pour empêcher un état indésirable, par exemple, un réservoir qui se remplit trop. L'opérateur a l'entière responsabilité de s'assurer continuellement de prévenir tout déversement, quelle que soit la situation.
- Les réservoirs pourraient être sous pression. Des vapeurs pourraient être expulsées des conduits d'aération, des canalisations, des soupapes ou des raccords du réservoir durant la maintenance. Les vapeurs pourraient s'enflammer ou engendrer une explosion. Évitez les étincelles, les flammes nues ou les outils chauds lors de travaux menés dans le système du réservoir.
- Utilisez un linge humide pour nettoyer l'enceinte de l'alarme afin de prévenir l'accumulation d'électricité statique et les décharges.
- En cas de défaillance, communiquez avec le service à la clientèle de Morrison Bros.

Note: As defined in Article 501 – Class 1 Locations of NFPA 70, this apparatus and its connected wiring are intrinsically safe. Under normal conditions this apparatus and its wiring cannot release sufficient energy to ignite a specific ignitable atmospheric mixture by opening, shorting, or grounding.

WARNING:

Interconnect wiring between the sensor(s) and the System Interface unit must be kept totally isolated and separate from any other wiring. This wiring must not share any junction box, conduit, raceway, or fixtures with circuits other than those defined by NEC as being intrinsically safe for all Class 1 locations. These inputs are ground referenced and only require “basic insulation.”

AVERTISSEMENTS:

Le câblage d’interconnexion entre la jauge et l’unité d’alarme doit être complètement isolé et distinct du reste du câblage. Le câblage ne doit partager aucune boîte de connexion, aucun conduit, aucune canalisation, ni aucun accessoire avec des circuits autres que ceux définis par NEC comme étant intrinsèquement sécuritaires pour tous les emplacements de classe 1.

Ces entrées sont référencés à la masse et nécessitent seulement “isolation de base.”

Steps to Install an Input Module

1. Preparation

- a. Remove power from the 918AC System Interface.
- b. Open the front cover of the System Interface by releasing the two cover latches and swinging the cover open.
- c. Remove and retain the two screws with their flat washers. Remove the metal cover of the intrinsically safe section (see Figure 1).

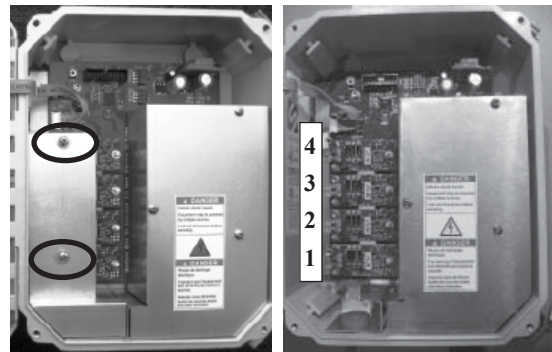


Figure 1 - Input Module positions

2. Installation

- a. Locate the first open Input Module location. Modules are to be installed with Channel 1 at the bottom and each additional module in successively higher locations.
- b. Remove the fastener for that Input Module location (cap head screw in positions 2 and 3 and a 1” standoff in positions 1 and 4). Retain the fastener.
- c. Carefully position the INPUT MODULE in place making sure the connectors are mated properly as shown in Figure 2
- d. Using the thumb and index finger of each hand, press the INPUT MODULE into place. A “click” should be heard as the retaining standoffs click into place. See Figure 3

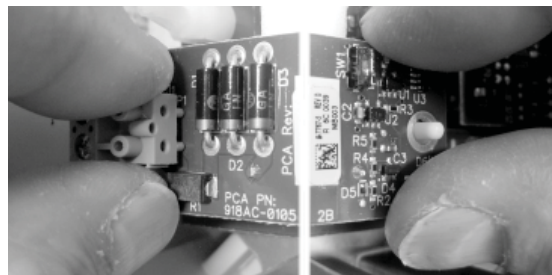


Figure 3 - Pressing the INPUT MODULE into place

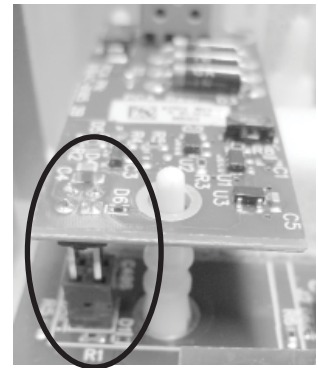


Figure 2 - Proper placement of the INPUT MODULE

- e. Secure the Input Module in place by replacing the fastener retained in step 2.b above and snug in place.
- f. Repeat for each additional INPUT MODULE to be installed

Steps to Wire and Configure the Input Module

Input Module(s)

1. Wiring

- a. Run two oil and gas resistant wires from each input device to the location where the System Interface will be mounted. Enter the enclosure through the LEFT bottom opening ONLY. If a junction box is used, do NOT attach the wires of the input device(s) at this time. If the input device is a Normally-Closed contact, connect the two wires together at the device end. If the device is a Normally-Open contact, verify that the two wires are not connected to one another.

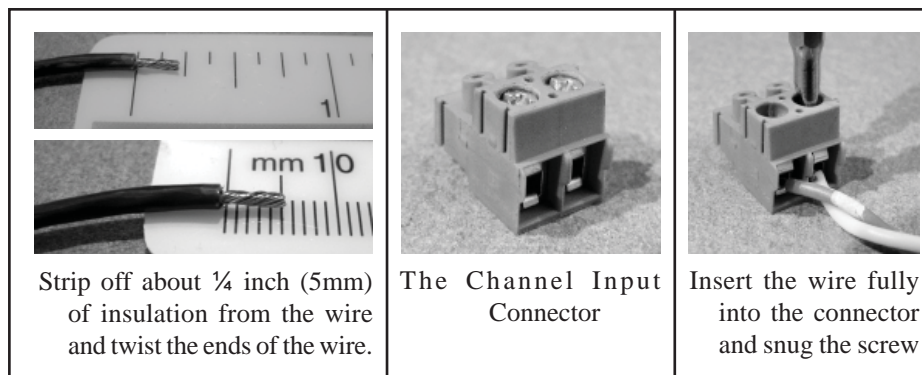


Figure 5 - Wiring the Channel Input Connector

- b. Connect the two wires from each input device to the two screw terminals for each channel input of the Channel Input Connector (P1) for each Input Module (see Figure 5).
- c. Verify that they are securely held in the connector by gently tugging on them.
- d. Plug the connector onto the Channel Input pins of the Dry Contact Input Module (see Figure 4).

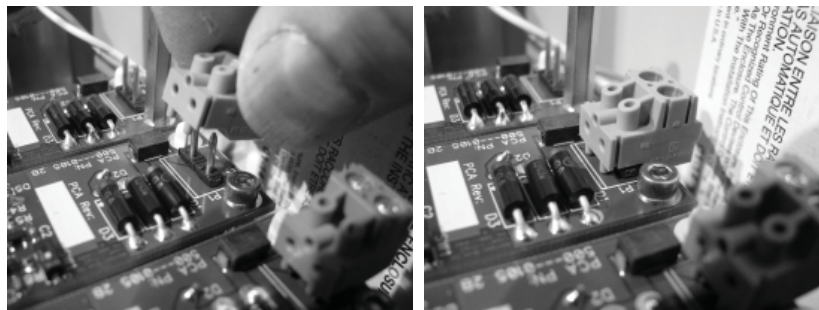


Figure 4 - Plug the Channel Input Connector onto the Channel Input Pins of the Input Module

- e. Repeat steps 1.a through 1.d for each remaining Input Channel.

2. Configuration

- a. **For Normally Open Contact Input Devices:** If the input device to be connected to a particular Dry Contact Input Module utilize normally open contacts, verify that the DIP switch on that module, SW1, is in the “ON” position (see Figure 6).
- b. **For Normally Closed Contact Input Devices:** If the input device to be connected to a particular Dry Contact Input Module utilizes normally closed contacts, place the DIP switch on that module, SW1, in the “OFF” position (see Figure 6).

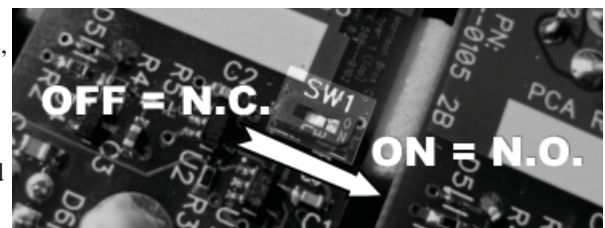


Figure 6 - Configuring Input Mode with SW1

3. Completion

- a. Inspect all of the wiring to verify that it has been done properly. Correct any discrepancies and re-inspect.
- b. When the installation has passed inspection, reinstall the cover over the Intrinsically Safe section of the System Interface.
 - i. Place the cover in place and very loosely install the screws with their flat washers as shown in Figure 7
 - ii. Gently push the cover over to the wall of the enclosure and secure in place with the screws.
 - iii. Snug the screws down.
- c. Close and latch the cover of the 918AC System Interface.
- d. Apply power to the system
- e. Test. Please refer to the Installation, Operation and Maintenance document for the 918AC System Interface (918AC-0142 PP) for Testing.



Figure 7 - Installing the I.S. cover

Operation and Maintenance

This Input Module is an integral part of the 918AC System Interface. As such, its Operation, Testing and Maintenance must be accomplished as part of that overall system. Refer to 918AC Series System Interface Installation, Operation, and Maintenance Instructions (918AC-0142 PP).