918AC Series System Interface Output Module

Installation, Operation, and Maintenance Instructions

The 918AC Series is designed to allow one to four dry contact Output Modules to be installed. These may be installed in the field to add additional outputs 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 Output Modules have both normally open and normally closed dry contacts rated up to 240 Volts at 5 Amps. These may be configured to respond to any combination of input channels (none to all in any combination). The Output Module may also be configure to operate in either a Normally Deactivated (default) or Normally Activated ("Failsafe" alternative) mode.

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.

Output Module Contact Rating for each Dry Contact Output Module
240 Volts
5 Amps

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

Installation and Testing

WARNINGS

- **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 overfill situation and should not be the only system in place to prevent an unwanted condition, such as preventing a tank from overfilling. It is the sole responsibility of the operator to continuously prevent any spillage regardless of the situation.

(WARNINGS continued on next page.)

WARNINGS *(continued)*

- 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 Output 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 three screws on the Facilities Section. Remove the metal cover (see **Figure 1**).

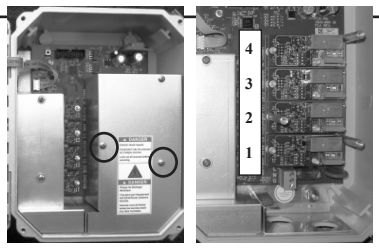


Figure 1 - Output Module positions

2. Installation

a. Locate the first open Output 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 Output Module location (cap head screw in positions 2 and 3 and a 1.75" standoff in position 1, 2 and 4). Retain the fastener.

c. Carefully position the OUTPUT 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 OUTPUT MODULE into place. A "click" should be heard as the retaining standoffs click into place. See **Figure 3**

e. Secure the OUTPUT MODULE in place by replacing the fastener retained in step 2.b above and snug in place.

f. Repeat for each additional OUTPUT MODULE to be installed.

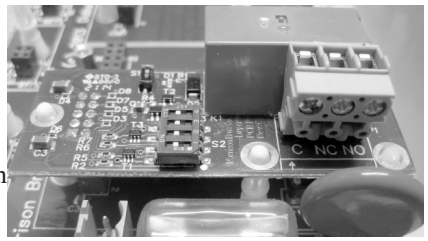


Figure 2 - Proper placement of the OUTPUT MODULE

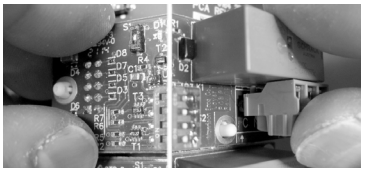
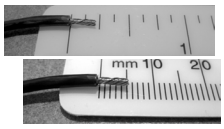


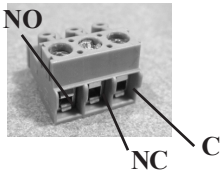
Figure 3 - Pressing the OUTPUT MODULE into place

Steps to Wire and Configure the Output Module

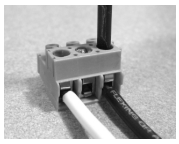
NOTE: The 918AC "outputs" do not provide any power of themselves; these are dry-contact switches only. Supplied power runs <u>through</u> them to control your devices.



Strip off about ¼ inch (5mm) of insulation from the wire and twist the ends of the wire.



The Channel output Connector



Insert the wire fully into the connector and snug the screw

Figure 4 - Wiring the Channel Output Connector

1. Wiring

a. Wiring shall be in accordance with the National Electric Code and local regulation. Enter the enclosure from the right bottom hole only.

b. Strip the wire as shown in Figure 4.

c. Insert the wire fully into the connector & snug the screw.

d. Repeat 1.b through 1.c above for the remaining wires as required by your application.

i. "C" → "COMMON"

ii. "NO" → "Normally-Open" contacts (C → NO only when relay is activated)

iii. "NC" → "Normally-Closed" contacts (C → NC only when relay is de-activated)

iv. Verify that the wires are securely held in the connector by gently tugging on them.

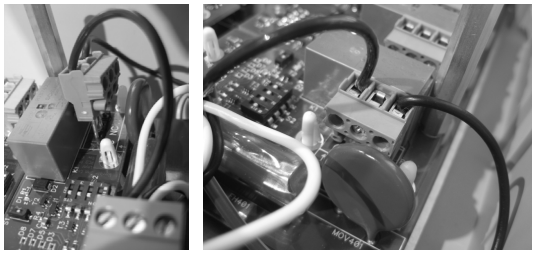


Figure 5 - Plug the Channel Output Connector onto the Channel Output pins of the Output Module

e. Connect the Output Connector to the Output Module connector, P1, as shown in Figure 5.

f. Repeat 1.a through 1.e for each remaining Output Module.

2. Configuration

a. **Alarm Channel:** Configures a Dry Contact Output Module to respond to specific input channels. Each Output Module may be configured to be activated by one or more input channels in any combination. This is accomplished by setting DIP switch positions one through four of S2 either ON (selecting a channel) or OFF (not selecting a channel). See **Figure 6.**

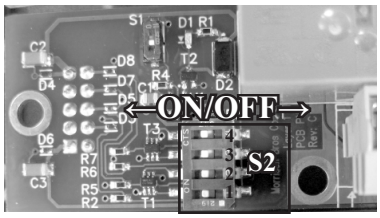


Figure 6 - Configuring the OUTPUT MODULE

i. Locate the four position DIP switch, S2, on the Output Module to be configured (see **Figure 6**).
ii. Place DIP switch Position One in the “ON” position to configure the output module to respond to Input Channel One or in the “OFF” position to configure the Output Module to not respond to Input Channel one.
iii. Place DIP switch Position Two in the “ON” position to configure the output module to respond to Input Channel Two or in the “OFF” position to configure the Output Module to not respond to Input Channel two.
iv. Place DIP switch Position Three in the “ON” position to configure the output module to respond to Input Channel Three or in the “OFF” position to configure the Output Module to not respond to Input Channel three.
v. Place DIP switch Position Four in the “ON” position to configure the output module to respond to Input Channel Four or in the “OFF” position to configure the Output Module to not respond to Input Channel four.

b. **Relay Mode:** Configure the Dry Contact Output Module as Normally-Deactivated or Normally-Activated (fail-safe) See **Figure 7.**

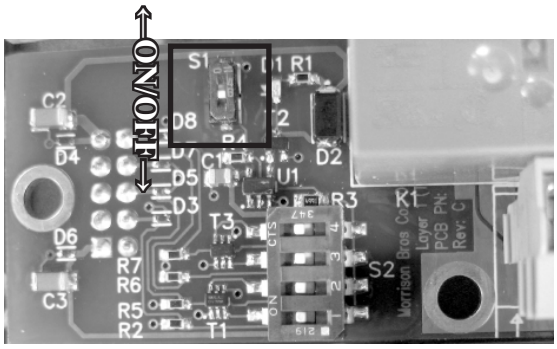


Figure 7 - Configuring the OUTPUT MODULE

i. Locate the single position DIP switch, S1, on the Output Module to be configured (see Figure 7).
ii. Place this DIP switch in the “OFF” position if the output is to be configured as Normally-Deactivated.
iii. Place this DIP switch in the “ON” position if the output is to be configured as Normally-Activated (Failsafe).

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 Facilities section of the System Interface.
   i. Place the cover in place and install the screws as shown in Figure 8
   ii. 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 8 - Installing the Facilities Cover

Operation and Maintenance

This Output 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).