ADVANCE

Remote Monitored Input / Output Modules

GAI-TRONICS® HUBBELL

Features

- **Up to eight monitored inputs and eight monitored relay outputs**
- **Able to accept either voltage-free "dry" contacts or +/-24V dc "wet' contacts**
- **Stainless steel weatherproof enclosure**

Options

- **FSK communication – uses the system page line to transfer data to and from the ADVANCE cabinet**
- **RS-485 uses a dedicated data cable to transfer data**

Models 378-00x Remote Monitored Input Module and **379-00x Remote Monitored Relay Module** are used in ADVANCE/SmartSeries™ systems to remotely interface with external systems and devices.

FSK units communicate with an ADVANCE cabinet via the system page line in exactly the same way as SmartSeries™ handset stations and speaker amplifiers. No additional cabling is required, and distances of up to one mile from the ADVANCE cabinet are possible.

RS-485 units use a separate data cable to communicate with and ADVANCE cabinet.

The model **378-00x** monitors up to eight input circuits. Each circuit is activated by either a normally-open or normally-closed voltage-free contact or by the presence or absence of a 24 V dc input voltage. When using voltage-free contacts, the 378-00x can supervise the cabling between itself and the remote contact closure device. The cable is monitored for open circuits, short circuits and ground faults. Any faults are automatically reported to the ADVANCE cabinet Master Control Unit (MCU). Each input circuit can be programmed to initiate one of the following functions in the ADVANCE system:

- Activate/reset an alarm
- Reset all alarms
- Report a fault condition
- Reset the MCU

The model **379-00x** provides eight relay output circuits. Relay outputs are typically used for switching power to signaling devices such as beacons or strobes but can be used for any switching application that does not exceed the relay's current rating. Relay circuits can be programmed to activate during system alarms, pages, or trouble condition.

The model 379-00x also contains eight input circuits. Input circuits can be used supervise the cable integrity connecting the relay output to the signaling device. During an inactive state, the cable is monitored for open circuit, short circuit and ground fault conditions. If a cable fault is detected, the relay circuit will not activate, preventing a possible dangerous condition. Any fault conditions are automatically reported to the MCU.

For each relay circuit not requiring supervision, one input circuit is available for other functions. Inputs are activated and programmed in the same way as the model 378-00x.

Specifications

Part Numbers and Descriptions

378-001 . . . . . Remote FSK Monitored Input Module Station
378-002 . . . . . Remote RS-485 Monitored Input Module Station
379-001 . . . . . Remote FSK Monitored Relay Module Station
379-002 . . . . . Remote RS-485 Monitored Relay Module Station

Electrical

Power requirements . . . . . 120 V ac, 50/60Hz @ 0.7A max

Field Outputs/Inputs

Multiple N.O. Input

Contact closure resistant (activated) . . . . . 1KΩ max.
Open fault detection . . . . . 65KΩ minimum
Ground fault detection . . . . . less than 200KΩ to ground

Single N.O. / N.C. Input

Contact closure resistant . . . . . 3KΩ maximum
Open fault detection . . . . . 65KΩ min.
Ground fault detection . . . . . less than 200KΩ to ground
Wire-to-wire short fault detection . . . . . less than 200KΩ

Wet Contact Input

DC input voltage range . . . . . 20-30 V dc (24VDC nominal)

Unsupervised Relay Output (379-00x ONLY)

Maximum current draw (per output) . . . . . 5A @ 24 V dc or 240 V ac
Maximum DC switching voltage . . . . . 150 V dc
Maximum AC switching voltage . . . . . 240 V ac

Supervised Relay Output (379-00x ONLY)

Maximum current draw (per output) . . . . . 5A @ 24 V dc or 132 V ac
Maximum DC switching voltage . . . . . 150 V dc
Maximum AC switching voltage . . . . . 132 V ac
Open fault detection . . . . . 65KΩ minimum
Ground fault detection . . . . . less than 200KΩ to ground
Wire-to-wire short fault detection . . . . . less than 1KΩ

Loop Supervision Limitations

Cable limitations . . . . . 100KΩ maximum loop resistance
Resistance across loop (excluding end-of-line device) . . . . . 100KΩ minimum

Terminals

Minimum conductor size . . . . . No. 28 AWG (0.5mm^2)
Maximum conductor size . . . . . No. 12 AWG (3.0mm^2)

Mechanical

Enclosure material . . . . . No. 16 gauge 316 stainless steel
Dimensions . . . . . 13.0 W x 14.3 H x 6.23 D inches (330 W x 363 H x 158 D mm)
Weight 18lbs (8.25kg)

Environmental

Temperature range . . . . . -22° F to +158° F (-30° C to +70° C)
Relative humidity . . . . . 95%, non-condensing