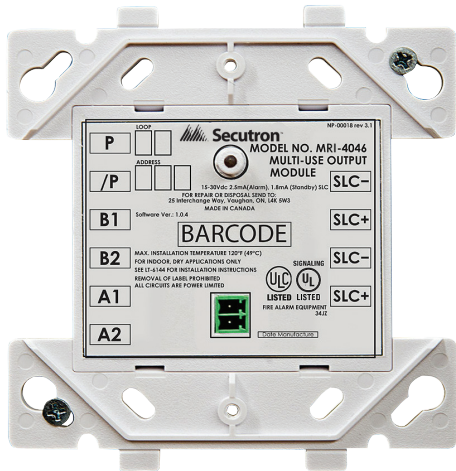


MRI-4046

SUPERVISED OUTPUT/FIRE PHONE MODULE



Features

- Any combination of MRI-4000 series devices up to 240 can be connected on a single SLC
- Mounts in a standard 4" square or double gang electrical back box
- Indicating LED provides module status.
- Same device can handle NAC, Speakers and Fire Telephone applications.

Description

The MRI-4046 Supervised Output Module is an intelligent addressable module designed to be used with a compatible fire alarm control unit, providing high rates of information exchange and fast and secure responses.

The MRI-4046 Output Module controls speakers, Notification Appliances or Fire-Phones.

The module is compatible with MGC FT-300A and FH-100A Fire-Phones. A supervision/busy tone "ON" is provided for an off-hook handset.

The module supports class A or B:

- One circuit rated 2A, 24VDC (NAC)
- One circuit rated 2A 25VRMS (Speaker)
- One circuit rated 0.5A 70VRMS (Speaker)
- Fire Phone

An internal EOL resistor is provided for Class A operation.

The module has a panel controlled LED indicator. The LED flashes during normal operation and stays ON steadily when the device is in alarm condition.

The address of each module is set using the MIX-4090 programming tool. For setting the address on this device, disconnect it from the loop, or ensure that the loop to which is connected is both disconnected from the panel and shorted across the SCL+ and SLC- inputs at the device. Failing to take either of these steps may change the address programming of previously configured sensors on the loop.

Benefits

- A single stocked device type covers three application:
 - Supervised powered output
 - Speaker 25V/70V
 - Fire phone
- Supports group activation capability for fast reaction time.
- No jumpers or special hardware setting for specific applications.
- Can handle Class A or Class B device wiring. No external EOL required for class A operation.
- Device automatically selects application (mode) as directed by the panel configuration at start-up



Technical Specifications

Normal Operating Value	15 to 30 VDC
Maximum Alarm Current	2.5mA (LED on)
Average Operating Current	1.8mA with 22K EOL
Max Fire Phone Wiring Resistance	150 Ohms
Temperature Range	32°F to 120°F (0°C to 49°C)
Humidity	10% to 93% Non-condensing
Wiring Range on all terminals	22 to 12 AWG
Dimensions	4 5/8"H x 4 1/4" W x 1 1/8" D
Mounting	4" square by 2 1/8" deep box

NAC Wiring

The total drop from the power supply output to the devices should not exceed 1.8V. This includes the riser drop and the MRI-4046 device line drop. If the riser is connected to several MRI-4046, the total riser load current must be used to calculate drop. The following tables provide a useful approximation.

Max. riser length from power supply to last MRI-4046				
Riser Current	#18AWG	#16AWG	#14AWG	#12AWG
500mA	210ft (64m)	335ft (102m)	535ft (163m)	850ft (259m)
1A	105ft (32m)	165ft (51m)	265ft (82m)	425ft (130m)
1.5A	70ft (21m)	110ft (34m)	175ft (54m)	280ft (86m)
2A	50ft (16m)	80ft (26m)	130ft (41m)	210ft (65m)
2.5A	40ft (13m)	65ft (21m)	105ft (33m)	170ft (52m)

Maximum line length from MRI-4046 to last device with worst case riser loss				
Line current	#18AWG	#16AWG	#14AWG	#12AWG
100mA	350ft (107m)	560ft (171m)	890ft (272m)	1400ft (432m)
250mA	140ft (43m)	220ft (68m)	355ft (109m)	565ft (173m)
500mA	70ft (21m)	110ft (34m)	175ft (54m)	280ft (86m)
1A	35ft (11m)	55ft (17m)	90ft (27m)	140ft (43m)
2A	15ft (5m)	25ft (9m)	45ft (14m)	70ft (22m)

Speaker line wire selection (70VRMS line)

The maximum voltage drop on a 70V line should not exceed 7V from the amplifier to the last speaker to limit power loss to 1dB. The following tables provide a useful approximation.

Maximum riser length from amplifier to last MRI-4046				
Riser Wattage	#18AWG	#16AWG	#14AWG	#12AWG
15W	1900ft (584m)	3000ft (929m)	4900ft (1479m)	7700ft (3135m)
30W	950ft (290m)	1525ft (460m)	2425ft (740m)	3850ft (1175m)
60W	480ft (145m)	760ft (230m)	1210ft (370m)	1925ft (585m)

Maximum line length from MRI-4046 to last speaker with worst case riser loss				
Line Wattage	#18AWG	#16AWG	#14AWG	#12AWG
7.5W	1275ft (390m)	2030ft (620m)	3235ft (986m)	5140ft (1570m)
15W	640ft (195m)	1015ft (310m)	1615ft (493m)	2570ft (784m)
30W	320ft (97m)	505ft (155m)	805ft (247m)	1285ft (392m)

Speaker Line Wire Selection (25VRMS line)

The total voltage drop in the evacuation audio circuit wiring from the amplifier to the last speaker powered at 25 VRMS should not exceed 2V with a 1dB drop limit. This includes the drop in the audio trunk and the drop in the audio branch circuit in the MRI-4046 module. The following tables show a useful approximation.

Maximum riser length from amplifier to last MRI-4046				
Riser Wattage	#18AWG	#16AWG	#14AWG	#12AWG
15W	245ft (75m)	390ft (120m)	615ft (190m)	980ft (300m)
30W	120ft (37m)	195ft (60m)	310ft (94m)	490ft (150m)
60W	60ft (19m)	95ft (30m)	155ft (47m)	245ft (75m)

Maximum line length from MRI-4046 to last speaker with worst case riser loss				
Line Wattage	#18AWG	#16AWG	#14AWG	#12AWG
7.5W	165ft (50m)	300ft (79m)	410ft (126m)	655ft (200m)
15W	80ft (25m)	130ft (40m)	205ft (63m)	330ft (100m)
30W	40ft (12m)	65ft (20m)	100ft (31m)	165ft (50m)

Ordering Information

Model	Description
MRI-4046	Supervised Output Module
MIX-4090	MRI-4000 Addressable Device Programmer
BB-400	Surface Mount Electrical Box
MP-302	EOL Plate