



RADIO ALARM LINK (RAL)

WIRELESS SUPERVISED ALARM COMMUNICATIONS SYSTEM

- Error-Checking FSK Signaling System
- Total Transmission Time Less Than One Second
- Continuously Supervised "in Use" for Both Communication and Jamming
- Programmable Combinations of Alarm, Tamper, Secure, and Access Signals
- Independent Radio Transmitter— No Interference from Other Facility Radios
- Up to 64 Independent Alarm Signals
- Optically Isolated Encoder Inputs
- Optional Battery Back-up on all Units
- Matching Control Room Graphic Display Panels Available

The *Radio Alarm Link (RAL)*TM is a state-of-the-art supervised wireless alarm communications system. *RAL* is designed to work as either an independent system or in conjunction with the Mobile Map Plus annunciation system. *RAL* provides an economical method for interconnecting remote alarm equipment, or providing for remote annunciation of alarm signals, especially when the installation of conventional wiring is not practical. If you already have a Mobile Map Plus system, *Radio Alarm Link* can provide remote relay contacts directly from the existing Mobile Map data transmission system. The alarm information is received, checked for accuracy, and then provided as relay (optional) outputs, plus an audible warning signal.

The *RAL* is continuously supervised "in use" for both communications from the encoder and transmitter units and jamming by outside signals. The *RAL* encoder periodically sends a test signal to each *RAL* receiver/decoder display regardless of whether alarms are present. Separate outputs indicate loss of communications with the central transmitter and/or the presence of a jamming signal.

The *RAL* encoder can format and transmit up to 64 independent alarm signals to each receiver/decoder. The FSK signaling scheme allows complete transmission in less than one second. A programmable feature of each receiver/decoder allows combinations of alarm, tamper, access, and secure signals up to a maximum of 64 signals.

The *RAL* receiver/decoder is provided in a convenient wall-mounted enclosure. The receiver section is

contained in its own sealed module. Decoder and output circuitry is contained on plug-in circuit boards. Wiring connections are via screw-type terminal strips. An audio output jack enables testing without special test equipment. Optional internal battery backup is available.

Any *RAL* receiver/decoder can be furnished with a matching linear or graphic display panel. The receiver/decoder mounts conveniently inside the display enclosure. Contact the factory for details on the matching annunciation systems available.

The *RAL* radio transmitter is built in a rugged metal enclosure enabling remote mounting near the antenna location. The radio transmitter is matched to an antenna and transmission line to provide the desired radio coverage. Interface to the alarm encoder is a two-wire "telephone line" enabling encoder-to-transmitter mounting distances up to 3000 feet. A built-in transmission test button enables radio testing without special test equipment. Optional internal battery back-up is available. An environmentally sealed enclosure suitable for outdoor mounting is also available.

The *RAL* alarm encoder is provided in a convenient wall-mounted enclosure. Wiring connections are via screw-type terminal strips. A built-in test switch allows testing the complete *RAL* system without the need for special test equipment. Optional internal battery back-up is available.

Each *RAL* system is "burned-in" and tested at the factory before shipment.

SPECIFICATIONS

Receiver/Decoder

Radio Section:

Frequency: 450-470 MHz (HF and VHF frequencies available)

Sensitivity: 0.5 uV.

Signal-to-Noise Ratio: 12 dB SINAD

Electronics:

FSK Signal Decoder

CMOS Integrated Circuit Logic

Outputs:

Form C relay contacts, optional (24VDC, 250 ma. resistive)

Controls:

Power switch, toggle

Alarm Silence, on board (ext. control switch by others)

Lamp Test Switch, on board (ext. control switch by others)

Audio output for receiver testing

Indicator Lamps:

Green LED, power

Red LED, supervision active

Red LED, jamming present

Power Supply:

12 VDC, 1 amp provided from wall-mounted plug-in transformer (included).

Battery Back-up:

12 VDC, 2.2 AH installed in enclosure (optional).

Temperature Range:

0°C to +55°C (32°F to 131°F)

Enclosure:

18" X 14" X 4"

(47mm X 36mm X 10.5mm)

NEMA 1-style steel-hinged enclosure

Additional room provided for interface equipment.

Weight:

5 lbs.

Connections:

Captive screw-type, numbered and color coded

Radio Transmitter

Frequency Range:

450-470 MHz (HF and VHF frequencies available)

Power output:

2 watts into 50 ohms, 5 watts (optional)

Signal input:

Current loop from encoder unit

2000 ohm maximum loop resistance

Indicator Lamps:

Green LED, power

Red LED, transmit

Controls:

Power switch, toggle

Test transmit switch, push button

Power Supply:

12 VDC, 1.5 amp plug-in power supply (included)

Battery Backup:

12 VDC, 4.5 AH installed in enclosure (optional)

Temperature Range:

-25°C to +55°C (-13°F to 131°F)

Enclosure:

12 inches X 12 inches X 4 inches

(30.5mm X 30.5mm X 10mm)

NEMA 1 steel enclosure

NEMA 4 environmental enclosure (optional)

Weight:

14 Lbs.

Connections:

Captive screw-type, color coded

Alarm Encoder

Alarm Inputs:

8 inputs per basic encoder. Expandable in groups of 8 inputs to a maximum of 64 inputs. All inputs optically isolated.

Signal Output:

2-wire "telephone line" current loop compatible with radio transmitter input. 2000 ohm maximum loop resistance. Typical encoder to transmitter distances up to 3000 feet.

Indicator Lamps:

Green LED, power

Red LED, transmit

Controls:

Power switch, toggle

Manual keying test switch, push button

Power Supply:

12 VDC, 1.5 amp provided from wall mounted plug-in transformer (included).

Battery Backup:

12 VDC, 2.2 AH installed in enclosure (optional).

Temperature Range:

0°C to +55°C (32°F to 131°F)

Enclosure:

18" X 14" X 4"

(47mm X 36mm X 10.5mm)

NEMA 1-style steel-hinged enclosure

Additional room provided for interface equipment.

Weight:

5 Lbs.

Connections:

Captive screw-type, numbered and color coded