

# CONTROLLERS

## Wiegand Output Radio Reader Model AM-WOR

- Easy way to equip existing installations with radio transmitter access.
- Keyless entry offers user convenience, safety, and security for triggering gates, barrier arms, and doors.
- Ideal way to facilitate handicapped access.
- Multi-button transmitters can double as personal emergency devices for triggering security alarms.
- RF input/Wiegand output receiver supports 26, 30, or 31-bit data formats.
- Wide selection of MegaCode (over 1 million codes) format transmitters, with available block coding.
- Field adjustable read range—from 5 to 500 feet.
- Connects as easily as card readers; transmitters are added like cards, with no software changes required.
- Facility and ID codes tailored to system requirements.
- Weather-resistant case for mounting outdoors or in.

Any existing access control system can be equipped with radio-based proximity sensing, by the simple addition of Linear's Radio Reader (Model AM-WOR). Keyless entry, handicapped access, and emergency alert functions are easy to achieve with this wireless control technology.

With a read range of up to 500 feet, Linear transmitters facilitate handicapped access far more than close proximity or contact devices. For adding security at sites such as college campuses and parking garages, multichannel models allow access control and "panic button" functions to be combined in a single device.

The AM-WOR uses a Wiegand output format (26, 30, and 31-bit supported) that interfaces to virtually any commercial access control panel. Long-range transmitters can be added as easily as Wiegand cards, and without software changes. Facility and ID codes can be matched to system requirements.

The 500 foot range of the AM-WOR is made possible by superheterodyne receiver technology. It is supplied with a local whip antenna that screws directly onto the receiver's top connector. Two remote antennas are also available: the directional EXA-2000 or the omnidirectional EXA-1000, both of which wire to the receiver's antenna connector with type RG-59 cable. An integral gain control is included to limit the maximum radio range that the AM-WOR can achieve.

A two-color LED acts as a status display. It lights red when the receiver is getting dc power from the system controller and turns green when access is granted to a transmitter. The radio LED lights when the receiver detects a transmission and can be used for troubleshooting and verifying system performance. Receiver test points are provided for listening to incoming signals.

The AM-WOR is housed in a weather-resistant enclosure, so it can be mounted outdoors or inside. Gaskets and a weather-tight strain relief seal the unit from the elements.



# General Specifications

## RADIO FREQUENCY

**Frequency:** 318 MHz

**Bandwidth:** 300 KHz minimum

**Image Rejection:** 40 dB

**LO Reradiation:** 200  $\mu$ V/meter @ 3 meters (maximum)

**Data Format:** MegaCode

**Sensitivity:** -100 dBm minimum

**Desensitivity:** 20 dB manual attenuation at the antenna input

## INPUTS

**Power:** terminal block input “+” and “Gnd”; input voltage operation 5 Vdc regulated or unregulated between +6 to +24 Vdc with reverse polarity protection

**Hold:** terminal block input “Hold”; follows standard Wiegand hold line conventions; hold line can be overridden via dip switch

**Antenna:** 9-1/2 in whip antenna with F-connector (supplied)

## OUTPUTS

**Data:** terminal block output “Data 0” and “Data 1”; standard Wiegand electrical and protocol interface

**LEDs:** Red RF activity LED indicates RF activity at 318 MHz; red/green decode LED is green during Wiegand data transmissions and receiver hold timing window (if enabled) after any output transmission, otherwise it is off unless hold enable is selected, in which case LED will remain red until hold is removed by host system

## CONTROLS

**Pushbutton:** momentary switch labeled “Program” used to configure microprocessor after system option selection and configuration

### Dip Switches:

**Receiver Facility Code:** four positions to select 1 of 16 possible MegaCode facility codes; if code 0 is selected, the receiver will validate any received facility code; any other selection requires the transmitters’ facility code to match the receiver facility code selection for validation

**Output Facility Code:** 16 positions to select one of 65,536 possible facility codes; a selected output format may not use all 16 bits

**Output Format:** 3 positions for selecting either 26-bit, 30-bit, or 31-bit Wiegand output format

**Button Disable:** 5 positions, each corresponding to 1 of 5 possible MegaCode transmitter buttons — left or top left, right or top right, bottom left, bottom right, top

**Receiver Lockout Disable:** 1 position; if set to ON, the 1 second receiver lockout is not performed

**Button Offset:** 1 position; if set to ON, the transmitter ID number is offset with a number based on which button is pressed:

Button	Offset
Left	0
Right	16384
Bottom Left	32768
Bottom Right	49152

## ENCLOSURE

Weather-resistant, anodized aluminum enclosure with removable end caps to provide wiring and programming access; end caps secured with screws

## OPERATING TEMPERATURE

-22° to +155°C (-30° to +70°C)

## ELECTRICAL

Robust RFI and ESD protection for all inputs and outputs, including antenna input; protection to prevent output errors during brownouts

## WIRING

Five conductor cable up to 300 feet, BELDEN 9929 or equivalent (24 AWG); up to 500 feet, WEICO 9404 or equivalent (20 AWG)

## AVAILABLE ACCESSORIES

Antennas:

- EXA-1000:** remote, omnidirectional; includes mounting hardware and five feet of cable
- EXA-2000:** remote, directional-type; including mounting hardware and 10 feet of cable