ID20 Industrial Door Activator

INSTALLATION INSTRUCTIONS

Section 1

General Description

The Model ID20 is a motion sensor/vehicle detector designed to trigger the operation of an automatic industrial door. The main difference between the ID20 and other motion sensors is that the ID20 will respond to motion moving in only one direction. The ID20 generates a very low power microwave beam aimed to cover the same area normally covered by one or more loop detector systems. It is less expensive to install and less susceptible to damage and malfunction from ice, salt and heavy vehicular traffic.

The ID20 has an approximate pattern size of 18.5 feet wide at 60 feet long from the unit. The pattern is adjustable by turning the range potentiometer mounted on the PC board (see pattern drawing—Figure # 2).

The ID20 operates on much the same principle that police radar uses. These units transmit a low power microwave signal, some of which is reflected by a moving target, such as a forklift or truck. This received signal goes through a Doppler shift, a slightly different frequency than was transmitted. Larger vehicles, such as semi-trucks, reflect more energy than automobiles and can be detected at further distances. Since the ID20 uses microwave signals as its means of detecting a moving target, it is not affected by air motion, temperature and humidity changes, or high frequency sounds.

Section 2

Installation

The ID20 vehicle sensor can be mounted for side-fire or overhead detection. The typical mounting height is 12 to 18 feet. The sensor is mounted with 2 lag bolts through 2 - ½" prepunched mounting holes. To remove the fastening bracket from the sensor, take out the ¼-20 bolt holding the bracket to the hinge. Using the bracket as a template for locating screw holes, drill the pole or band the bracket and refasten the sensor to the bracket with the ¼-20 bolt removed earlier.

Wiring - (see wiring diagram—Figure #1)
Operating voltage is 12 to 24V AC or DC and is usually supplied through a transformer. Current consumption of the unit is 0.075 Amps @ 24VDC

NOTE: Transformer ***is*** included.

Remove four (4) hex head, self tapping machine screws, two on each end of the sensor, allowing the enclosure cover to be lifted off, exposing the terminal strip. When wiring the ID20, apply power to terminals 1 and 2. The relay contacts on terminals 4 and 5 are normally open (N.C.) and terminals 5 and 6 are normally closed (N.O.).

NOTE: *When power is applied, allow 30 seconds of warm-up before testing the sensor.*

MS Sedco suggests the use of 4 conductor cable, 18 to 22 gauge conductor size, $^{3}/_{16}$" to $^{5}/_{16}$" cable O.D.

If 22 gauge wire is used to connect the ID20, add the following:

1. Install a 24V, 40VA transformer, instead of the 12V, 10VA transformer that is furnished, for long wire runs (300 feet or more).

2. Seal the wire fitting with sealant. This connector is designed for wire with a jacket between $^{3}/_{16}$" and $^{5}/_{16}$" OD to make a good fit in the power grip connector.

3. No wire larger than 18 gauge can be used. The terminal block is not large enough to accept wire larger than this.

Alignment
Align the ID20 motion by adjusting the range potentiometer and the aiming angle. The range potentiometer allows the detection pattern to be expanded or contracted to cover the traffic lane. The hinge adjustment allows the sensor detection pattern to be aimed toward the desired detection zone.

To adjust the sensor's head angle, loosen the 8-32 lock screw and the ¼-20 hinge screw. This allows vertical movement of the ID20 motion sensor.

When the pattern adjustment is completed, ensure that all bolts and screws are tightened.

Operation

An LED is located on the main circuit board and provides a visual indication as to how the unit is operating. The wiring and adjustment specifications (Figure 1) show the location of this LED indicator. The LED will illuminate when the relay has changed state in response to motion.

Section 3

System Inspection and Instructions

*****EXTREMELY IMPORTANT*****
After final set-up, test the unit(s) completely to be sure that it is functioning properly, as specified in this manual.

After the installation and operational check of the system:

1. Instruct the owner of door system operation and how to test it. This should be checked on a daily basis.
2. Instruct the owner on what to do if the door or any of its components become damaged.
3. Strongly recommend to the owner that the complete entry be inspected twice a year as part of the service agreement.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Section 4

Technical Data

Model	ID20
Frequency	10.525 GHz
Detection Pattern	Adjustable Range (see Fig. 2 for pattern size)
Detection Angle	Adjustable, Horizontal & Vertical
Response Time	0.150 seconds
Hold Time	0 to 5 seconds
Power Requirements	12 to 24V AC or DC
Current Consumption	0.075 Amp @ 24V DC
Relay Contacts	1 Form C, rated at 3 Amp
Mounting	Heavy-duty bracket, predrilled & slotted.
Temperature	-35°F to 165°F (-35°C to 74°C)
Weight	3.5 lbs. (1.6 kg)
Size	7" x 4" x 4" 17.8cm x 10.2cm x 10.2cm
Color/Enclosure	Aluminum
Pattern	16° beam width (at 60' the pattern is approx. 18.5' wide)

Section 5

Warranty

MS Sedco guarantees this product to be free from manufacturing defects for one year from date of installation. Unless MS Sedco is notified of the date of installation, the warranty will be in effect for one year from the date of shipment from our factory. If, during the first year, this motion detector or support device fails to operate and has not been tampered with or abused, the unit can be returned prepaid to the factory and it will be repaired free of charge. After one year, the unit will be repaired for a nominal service charge. **This limited warranty is in lieu of all other warranties, expressed or implied, including any implied warrantability of merchantability, and no representative or person is authorized to assume for MS Sedco any other liability in connection with the sale of our products. All warranties are limited to the duration of this written limited warranty. In no event shall MS Sedco be liable for any special, incidental, consequential or other damages arising from any claimed breach of warranty as to its products or service.**

8/14/01