

NORTEK SECURITY& CONTROL PRODUCT BULLETIN

Supervised Gate Edge - Theory of Operation

The SGEK gate edge kits have a transceiver at the gate end, and a transceiver in the operator.

These operate at 433Mhz, with millions of possible codes. Receiver in operator operates at 12-24VDC. Gate edge transmitter operates off 2 "C" cell batteries with a 2-year expected life. We suggest changing annually. Open air range is 150'+ reliably

We will refer to the gate end unit as the transmitter, and the operator end unit as the receiver, for simplicity from here forward. The transmitter constantly monitors the connection of a 10k Ohm gate edge. If the resistance falls below 9k Ohms, or goes above 11k Ohms, it will send a corresponding signal immediately to the receiver. The receiver will then close the output relay to send the signal to the operator. This output is at 10 k Ohms during normal operation with power applied.

Upon power up, the receiver will send a digital signal to transmitter #1, and wait for an "all clear" response. It will then send a signal to the #2 transmitter, and wait for the same response. These are individually serialized units. Failure to get a response from either transmitter will put the receiver into a fault, closing the relay, and sounding the beeper in the receiver.

OPERATION

When the motor runs, the SGEACSENS module will detect the motor running and send voltage to the receiver to indicate gate movement. (If installed on a DC motor powered unit the receiver has wires going directly to the motor output terminals for monitoring.)

When the motor power is stopped, the run signal to the receiver will disappear. The receiver then polls each transmitter as it did upon power up. This sequence is repeated each motor run, therefore twice per gate cycle. UL 325 requires we monitor once each cycle, we double that.

Notes:

Upon initial power up, the receiver must see motor activity within 10 minutes or it will go into a fault. This assures that the motor sensor is connected and functional.

The receivers have the ability to be programmed as "Unit A" or "Unit B". Unit A will poll transmitters immediately after the motor stops. Unit B will delay this polling approximately 15 seconds to reduce the possibility of crosstalk or interference. If 2 receivers are on paired gate operators, it is important to set one as A and one as B.

If power to the receiver is lost, both output relays will close.

Polling is done when the motor stops because there is reduced chance of electrical interference from motors, motor drives, motor brushes, and actual edge transmitter signals from an edge being hit.