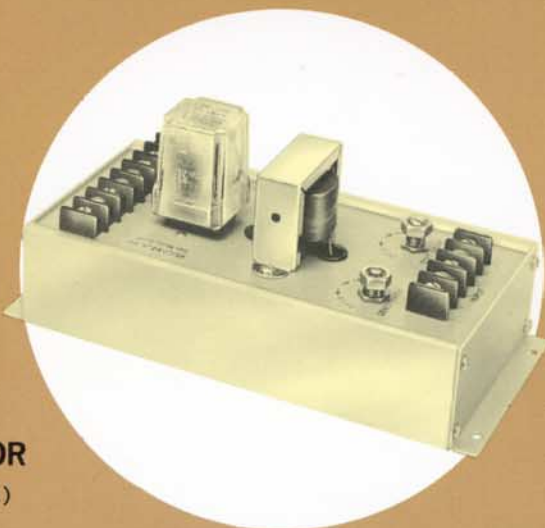
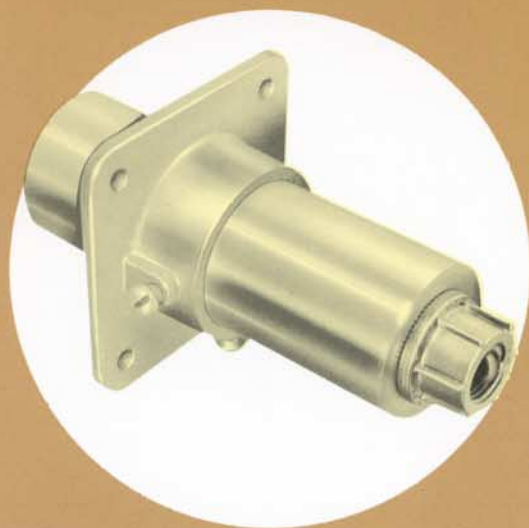


# MOTION FAILURE

## CAN COST YOU MONEY

A SMALL INVESTMENT CAN SAVE YOU HUNDREDS OF DOLLARS IN THE OPERATION OF YOUR MATERIALS TRANSPORTING EQUIPMENT



**X25**  
**MOTION DETECTOR**  
(U.S. PAT. #3,389,321)

**CAN INSTANTLY SHUT OFF MACHINES – SOUND ALARMS –  
TURN ON SIGNAL LIGHTS – TURN ON OTHER EQUIPMENT**

### TYPICAL APPLICATIONS

- Motors
- Conveyors
- Bucket Elevators
- Screen Conveyors
- Ferrous Metals
- Pumps
- Fans
- Bearings
- Drag Chains
- Feeders
- Rotary Valves
- Screw Conveyors

### ECONOMICAL TO INSTALL AND OPERATE

- Low Initial Investment
- Operates in Adverse Environments
- Simple to Install
- No Moving Parts to Wear Out
- Does Not Have to Touch Equipment or Parts Being Monitored
- No Mechanical Coupling Required
- Can be Installed Without Shutting Down Equipment
- Verified Operation Without Shutting Down Equipment
- Requires No Maintenance
- Warranted for One Year



# X25 MOTION DETECTOR IN ACTION



## DRAG CHAIN CONVEYOR

Idler is constantly monitored to instantly detect chain breakage or stoppage.



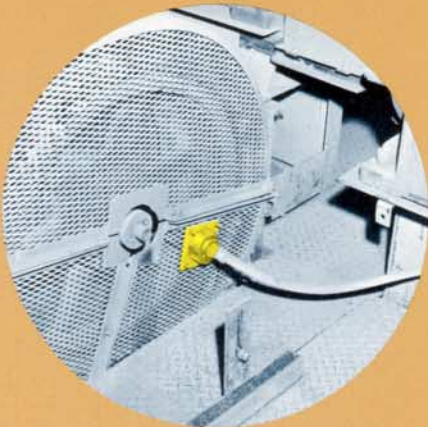
## SCREW CONVEYOR

Monitors moving screw and indicates excess wear on bearings through stainless steel "window" without violating chamber seal.



## BUCKET ELEVATOR

Breakage, slippage of driver traction wheel, or complete stoppage of individual buckets is constantly monitored.



## SEPARATOR

Separation fan rotation is constantly monitored.



## VIBRATING SCREENS

Monitors screen housing for stoppage or material jamming.

**IMMEDIATE DETECTION OF LOST OR REDUCED MOTION WITH THE X25 MOTION DETECTOR CAN SAVE YOU MONEY IN THE OPERATION OF YOUR MATERIALS TRANSPORTING EQUIPMENT**

### Problems:

1. Prevent serious damage to material transport equipment, material being transported, or in process, as the result of unwanted motion or loss of motion in the transport equipment.
2. Accomplish the above with a device requiring only a small investment, little or no maintenance, and which is easy to install. The detection transducer must not require physical coupling to moving parts or equipment. In addition, the device must operate under adverse conditions and be capable of initiating additional actions upon detection of specific events.

### Solution:

RONAN X25 MOTION DETECTOR

### Description:

The Model X25 Motion Detector coupled to the X25 Magnetic Pickup Head. The detector and pickup head comprise a system containing all necessary motion detection and control circuitry as well as circuitry for tripping alarms and/or cutting off power to equipment. If desired, the system can also turn on power to other systems or equipment.

# WHAT IS THE RONAN X25 MOTION DETECTOR?

## Application and Operation:

### PHYSICAL ATTACHMENT TO MOVING PARTS OR EQUIPMENT IS NOT NECESSARY

The pickup head needs only to be placed near the moving object (see sensitivity graph on page 4).

### SYSTEM CONTAINS NO MOVING PARTS AND OPERATION IS UNCOMPLICATED

When a moving ferrous object comes within range of the Pickup Head, the Head generates a low level electrical impulse which is sent to the Amplifier for amplification. If the amplified signal then exceeds an adjustable threshold, it closes a relay in the Amplifier for a time period which may be adjusted from .25 to 10 seconds. Detection of subsequent motion reinitiates this time period. Thus the relay remains closed as long as motion signals are received within the delay period. Failure of the Detector to receive a signal within the delay period, indicating lost or unwanted motion, allows the relay to drop out, triggering other devices such as alarms, switches etc.

### OPTIONS ENABLE OPERATION WITH NON-FERROUS OR SLOW MOVING OBJECTS

For applications involving exceptionally slow movement or the movement of non-ferrous materials the Type II Pickup Head is available as an option. It contains a magnetic reed switch capable of operation through magnets mounted on the moving object. An alternate mode of operation is also possible by properly interconnecting the input terminals on the Amplifier and any switch contact on closure and opening of the contact.

## Benefits to System Users

### RELIABLE OPERATION UNDER ADVERSE CONDITIONS

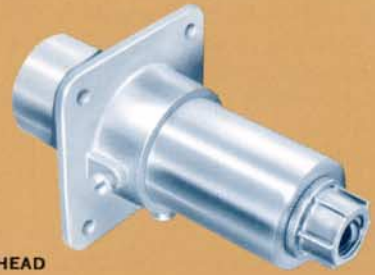
First and foremost, the X25 Motion Detector operates reliably, even in environments where other types of detection systems require excessive maintenance. Grease, dirt, abrasives, moisture and temperature variations will not affect the operation of the system since there is no mechanical wear possible and an all-silicon, transistorized, electronic amplifier insures operation even in extreme temperatures.

### LOW INITIAL COST, INSTALLATION, AND MAINTENANCE

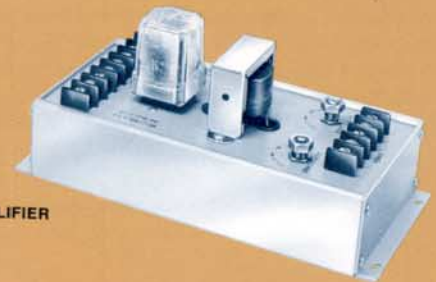
Initial investment in the X25 Motion Detector is surprisingly low. Since the Detector Head does not need to be fastened to moving parts or equipment, installation costs are minimized. No moving parts in the system, rugged construction, and hermetic sealing (where applicable), add up to a virtually cost free and trouble free operation. Occasional surveillance is all that is ever required.

### FLEXIBLE CAPABILITIES MEAN MONEY SAVED IN EQUIPT., PERSONNEL, DOWNTIME, MATERIAL, PROCESS LOSSES, AND REPAIR BILLS

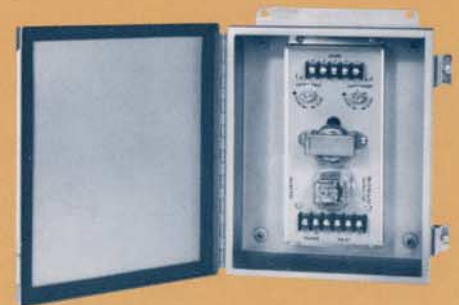
Power to your material moving equipment may be stopped immediately before damage to equipment occurs or processes are delayed beyond reclaiming. Spilled material may now become a thing of the past. In addition, an alarm may be sounded, eliminating the need for skilled personnel to be in constant attendance. Costly repair bills and lost production time are now reduced or even eliminated.



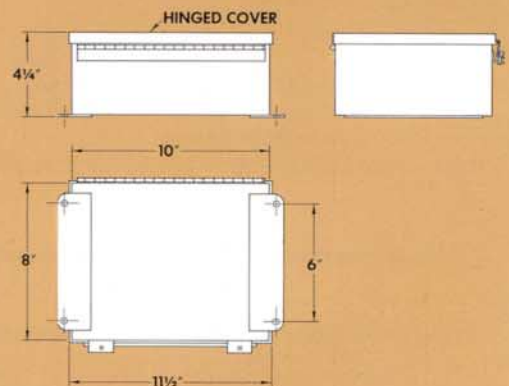
X25 DETECTOR HEAD  
TYPE I OR II



X25 AMPLIFIER



X25 AMPLIFIER  
IN NEMA 1 OR 12 ENCLOSURE



NEMA 12 ENCLOSURE  
DETAILS

# SPECIFICATIONS

## Sensitivity:

Adjustable. Sensitivity is a function of distance to, speed of, and residual magnetism in the ferrous object to be detected. Slow moving objects should be as close to the head as possible. Vibrating objects may be located farther away although slow moving. The X25 Detector Head will respond to small objects moving 1 foot/second at  $\frac{3}{8}$ "-.1/2" (see sensitivity graph).

## Power Input:

115 Volts AC, less than .25 Amp.

## Output:

Output relay complete with D.P.D.T. 10 Amp Contacts. Relay normally energized with motion. Relay deenergizes on loss of motion thus achieving Fail Safe operation.

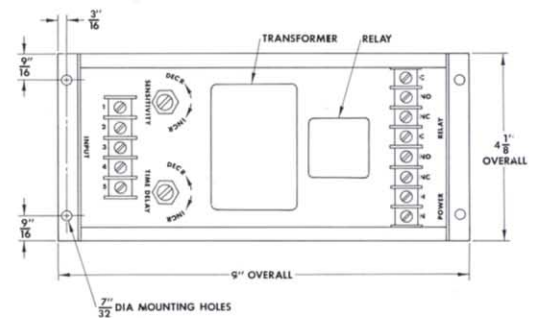
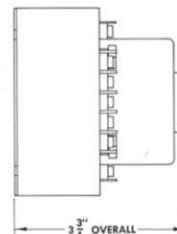
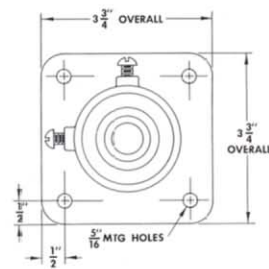
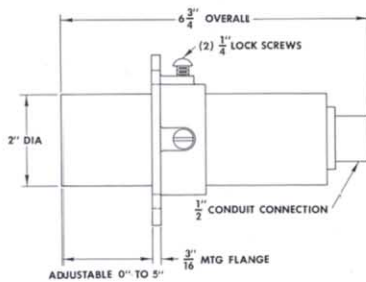
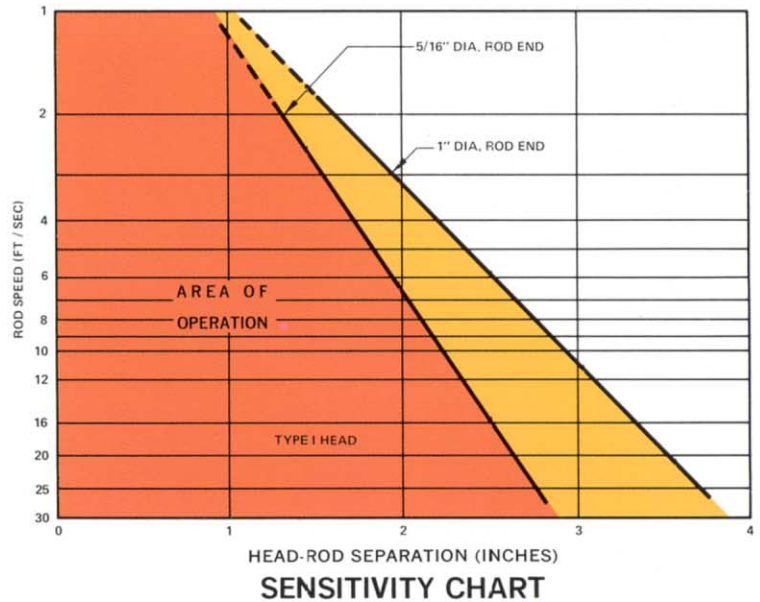
## Signal Input:

Type I (Magnetic Head), Type II (Reed Head) or any 100 millivolt to 2 volt signal or contact closure, customer supplied. Signal leads should be relatively free of common mode noise and must be free of series mode noise. The differential amplifier in the X25 has however, an extremely high common mode noise rejection. In the event a shield is used a separate terminal is provided on the X25 for the shield ground connection. Heads may be mounted up to 100 feet from amplifier in normal environments.

Note: Specifications and designs subject to change without notice.

# CONSTRUCTION FEATURES

- All Silicon Transistors
- Hermetic Seal Relay Available
- NEMA 1 or 12 Enclosures Available
- Extruded Aluminum Chassis
- Simplified Chassis Mounting
- Die Cast Head Mounting Flange
- 1/2" Conduit Coupling on Head



SERIES X25 DETECTOR HEAD

Type I—Magnetic      Type II—Reed Switch

SERIES X25 AMPLIFIER

# ORDERING INFORMATION

AMPLIFIER — Model X25-1002

DETECTOR HEAD — (a) Model X25-1003 TYPE I (Magnetic)

(b) Model X25-1003 TYPE II (Reed)

OPTIONS: (a) HERMETICALLY SEALED RELAY

(b) RELAY OUTPUTS NORMALLY CLOSED  
(on loss of motion)

(c) NEMA I OR NEMA 12 ENCLOSURE (if desired)

## RONAN WARRANTY

RONAN warrants equipment of its own manufacture to be free from defects in material and workmanship, under normal conditions of use and service, and will replace any component found to be defective, on its return, transportation charges prepaid, within one year of its original purchase. This warranty carries no liability, either expressed or implied, beyond our obligations to replace the unit which carries the warranty.



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