BULLETIN SSI-104

SYSTEM STATUS INDICATOR

MICRO CONTROLLER MONITORS OPERATION OF CONVEYOR CONTROLS

Conveyor Components Company
P.O. BOX 167
130 SELTZER RD.
CROSWELL, MI 48422
810-679-4211
FAX 810-679-4510
800-233-3233
www.conveyorcomponents.com

REMOTE STATUS INDICATOR SYSTEM

SHOWN WITH COVER OFF

• what it is and does:

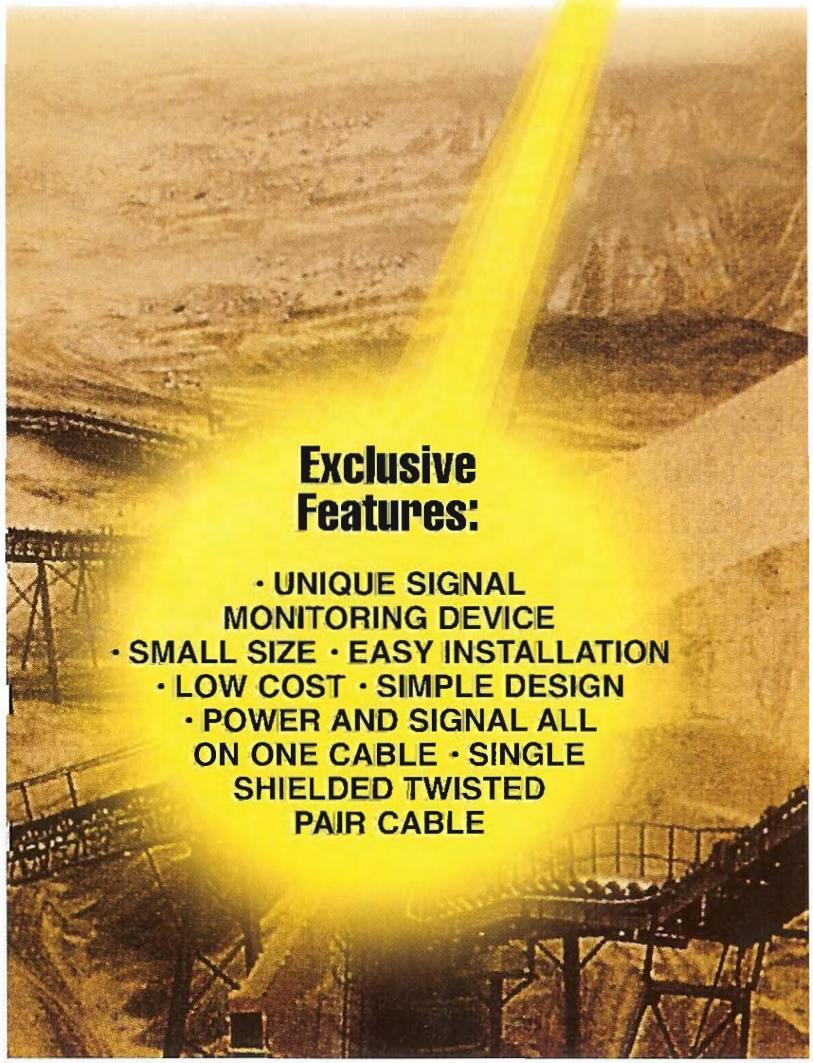
The model MR Remote Status Indicator System is a uniquely designed remote-indicating device that will immediately identify which conveyor control of many has been actuated. Out of the hundreds of controls routinely found at a bulk handling facility the Model MR will tell you exactly which conveyor control has been actuated or failed and communicate that to a central location. This eliminates the costly task of visually locating the correct conveyor control.

The MR-2 Control/Display and MR-1 Module can be retrofitted to any existing application and can even be used with competitors controls. There is no additional software needed to operate the system. Only one additional shielded twisted pair of cables is needed to supply power to the MR-1 Module. The MR-2 Control/Display provides a LCD display as well as serial communication. The most common use of the Model MR is with a pull-cord controls on a conveyor, but it can also be used with any other type of control found on a typical bulk handling system.

• operation of the unit:

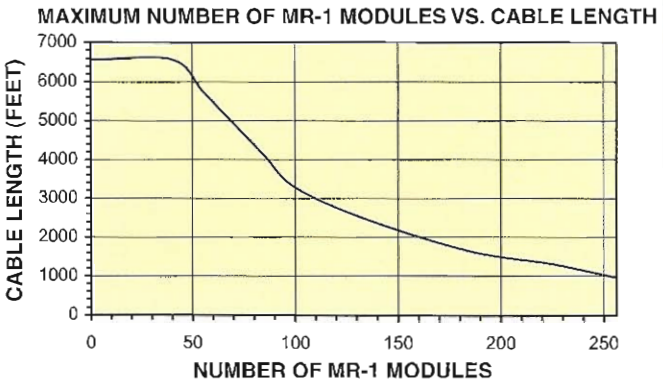
The Remote Status Indicator System (MR) by Conveyor Components consists of a Display/Control unit that can be connected to as many as 255 Remote Monitor Modules (MR-1). Each MR-1 module is mounted inside a Cable Operated Safety Stop Switch (RS) or other monitor switch. The MR-1 module is connected to a Normally Closed switch contact. All of the MR-1 modules are connected to the MR-2 display control unit via a single twisted pair bus cable. This allows for the monitoring of the state of many switches at minimal cost.

The MR-2 Control/Display unit acts as the power supply for all of the MR-1 modules on the bus. The bus cable is a single shielded twisted pair cable. This same two-wire bus cable carries both power and signal. The MR-2 Control/Display unit monitors all of the MR-1 Modules every 7 seconds. It verifies that all switches are closed. If any switch opens or fails for any reason, the status is displayed on the front panel LCD. The status is also available via an RS232 port. This allows the status to be read on a remote computer. The display will indicate multiple open switches if such is the case. These will be indicated alternately on the display.

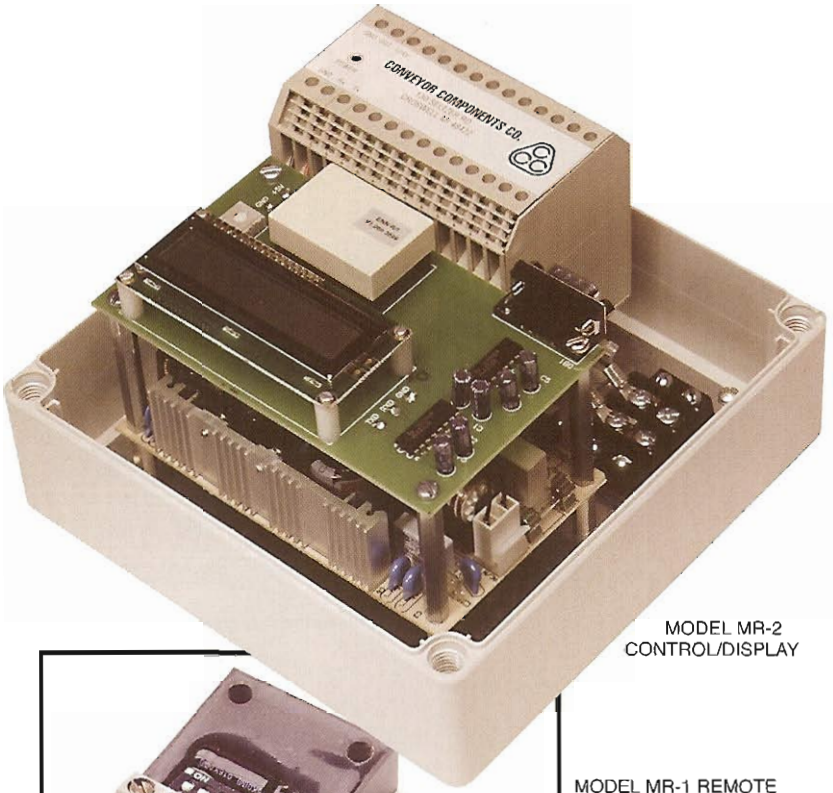


• number of units required:

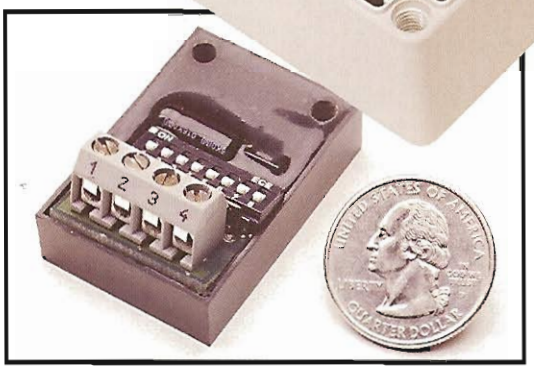
As many as 255 conveyor controls can be monitored by a singe MR-2 Control/Display. The MR-2 Control/Display may be as far as 2,000 meters or 6562 feet from the conveyor control being monitored. This is an ideal low cost safe guard for monitoring the extra-long conveyors commonly found in the desert or remote regions of the world. The number of conveyor controls that can be connected to one MR-2 Control/Display decreases as the length of the conveyor increases.



The above chart illustrates the relationship of MR-1 Modules needed per MR-2 Control/Display and the length of conveyor. When the length of conveyor exceeds the stated requirements additional MR-2 Control/Display are needed.



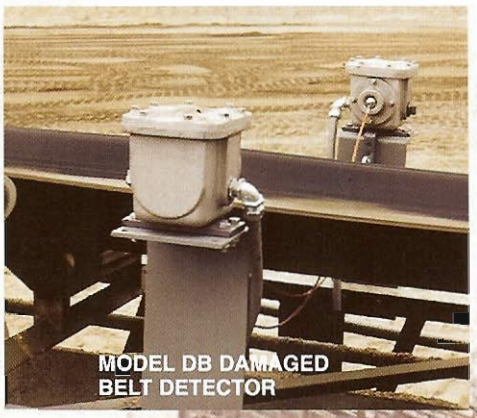
MODEL MR-2 CONTROL/DISPLAY



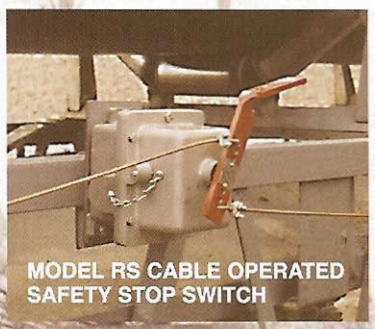
MODEL MR-1 REMOTE MODULE: This 8 position addressable assembly is placed inside each "switch" to be monitored.

• Conveyor Components Company Controls that can use the model MR:

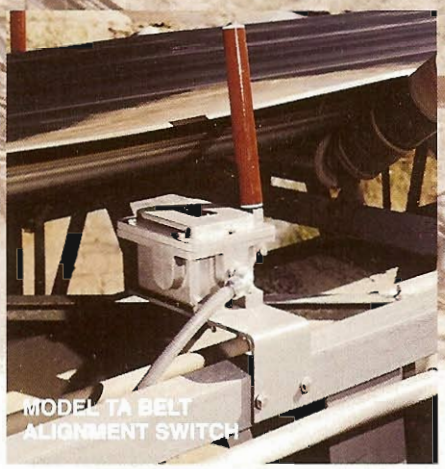
- Model TA Belt Alignment Control
- Model CR Roto-Level Control
- Model CMS Motion Speed Control
- Model RS Safety Stop Switch
- Model FS Material Flow Switch
- Model CT Tilt Level Control
- Model DB Belt Rip Detector
- Model PC Pull Cord Control



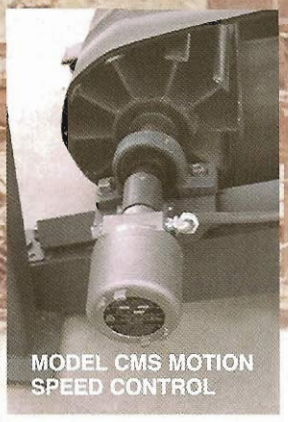
MODEL DB DAMAGED BELT DETECTOR



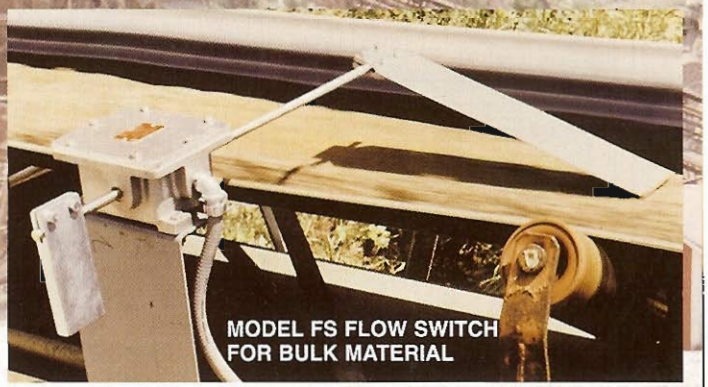
MODEL RS CABLE OPERATED SAFETY STOP SWITCH



MODEL TA BELT ALIGNMENT SWITCH

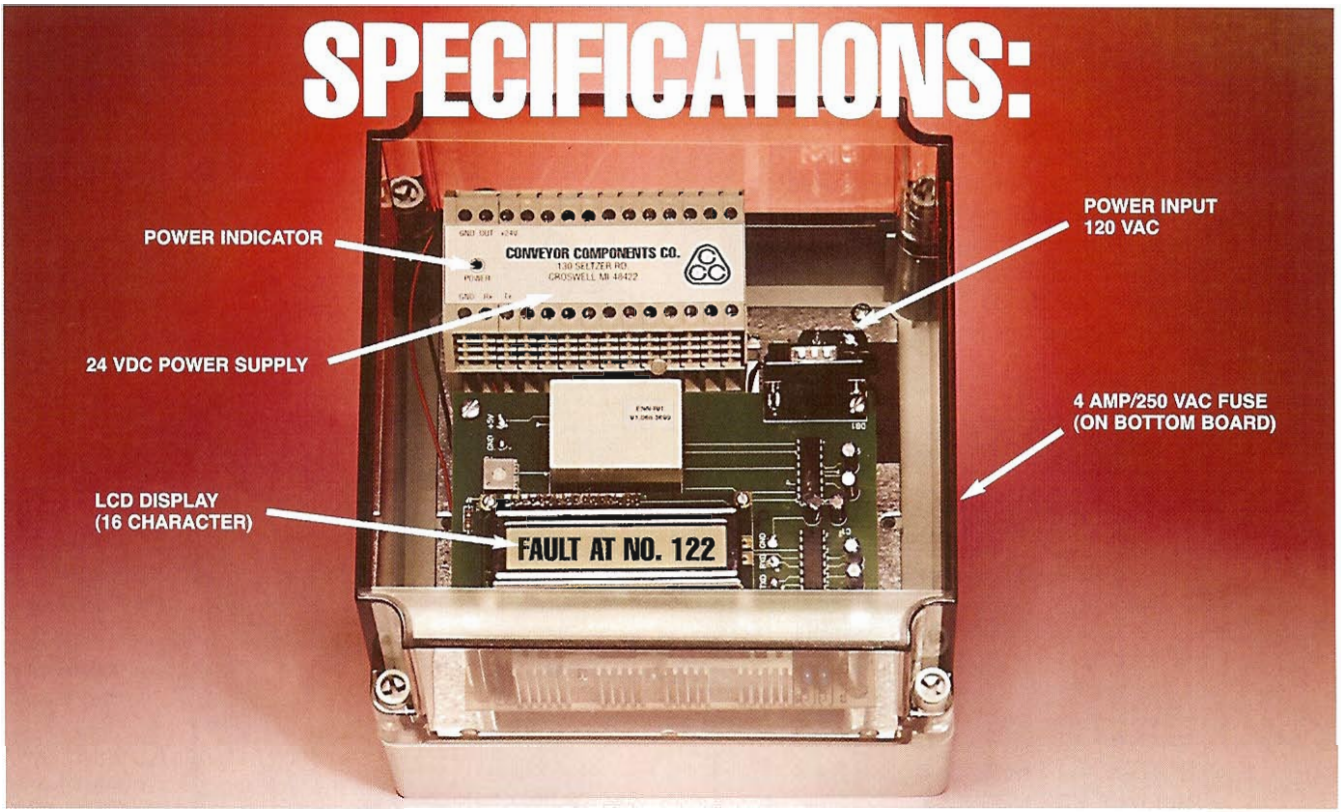


MODEL CMS MOTION SPEED CONTROL



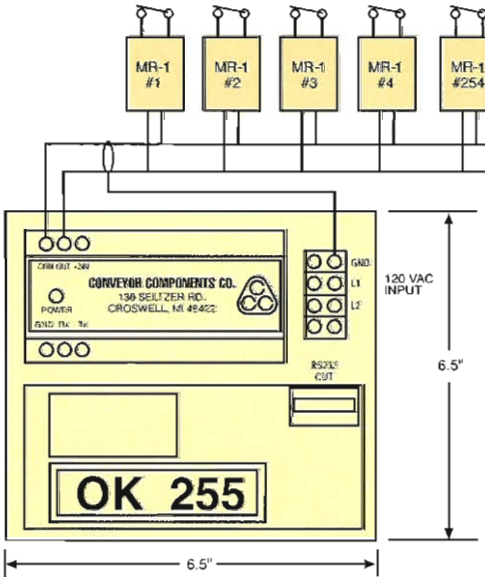
MODEL FS FLOW SWITCH FOR BULK MATERIAL

SPECIFICATIONS:



• installation instructions:

The Remote Monitor system consists of one MR-2 Control/Display and up to 255 MR-1 Remote Modules. The Remote Modules are connected to the Display/Controller via a bus cable. All modules are connected to the same cable, which supplies power and carries the signal back to the Display/Controller. The module is installed inside of the control to be monitored and the dipswitch is set to a unique sequential code. A normally closed contact is connected to the input side of the module. The output side of the module is connected to the bus cable. Once all controls are connected in this manner, the bus cable is connected to the input terminals of the Display/Controller. Power is then applied to the Display/Controller and it begins an automatic search for all connected modules. The display indicates "TESTING". The codes for each module are recorded in memory and the Display/Controller begins scanning only the connected modules. This scan takes a maximum of 7 seconds if all 255 possible modules are connected. The display indicates "OK xxx", where xxx is the number of modules connected. This should agree with the actual number of modules connected to the bus cable. If a switch contact inside a control opens or fails, the display will read "FAULT AT NO. xxx" where xxx is the code number of the module sending the open signal. If multiple switches change state at the same time, the display will indicate all in sequence at 1-second intervals. The displayed information is also available on the built-in serial connection.



• technical information and specifications:

- **INPUT POWER:** 120/240 VAC 60 HZ
- **OUTPUT TO MODULES:** 24 VDC
- **OUTPUT TO COMPUTER:** RS232, 9600 Baud, 8 Data bits, 1 Stop bit, Even parity
- **MAXIMUM NUMBER OF MODULES:** 255*
- **MAXIMUM CABLE LENGTH:** 2000 meters (6562 ft)*
- **CABLE:** 18 ga. two conductor shielded twisted pair @25 ohmns per 1000 meters
- **MR-1 DIMENSIONS:** 1.625x1.125x0.75 inches (41.28mmx28.58mmx19.05mm)
- **MR-2 CONTROLLER DIMENSIONS:** 6.5"x 6.5"x 5.61"

• Pricing:

SEE PRICE SHEET FOR PRICES

MODEL MR-2 CONTROL/DISPLAY UNIT . . . . . .
MODEL MR-1 REMOTE MODULE . . . . . .