

INSTALLATION INSTRUCTIONS FOR †AFA1, 2 - *AFAX1, 2 Conveyor Belt Alignment Switches Large Roller Style

Class I*, Div. 1 and 2, Groups C, D
Class II*, Div. 1 and 2, Groups E, F, G
Class III*
NEMA 7°C, D, 9°E, F, G
NEMA 1†, 3†, 4†

* AFAX1, 2
†AFA1, 2

Applications

- Emergency stop switch for conveyor lines and bulk handling systems which become misaligned or run off their tracks due to excessive speed, uneven load, leveling, breakage or other problems.
- Used where alarm or computer interface capabilities are needed.
- Used in the control circuit of magnetic motor starters to shut down motor-driven conveyors in case of abnormal belt misalignment or run-off.
- For installation in steel mills, mining (ore and coal) handling operations; automotive and other assembly lines; and warehouses, loading docks and other industrial processes.
- **AFAX Series** is used in Class I and II areas where flammable vapors or highly combustible dusts are present.
- **AFA Series** has a gasketed cover rated for NEMA 3 and 4.
- Unit is used in pairs with one switch placed on each side of the conveyor belt. Recommended installation locates switches near the tail and head pulleys on conveyors 300 ft. and longer.

Features

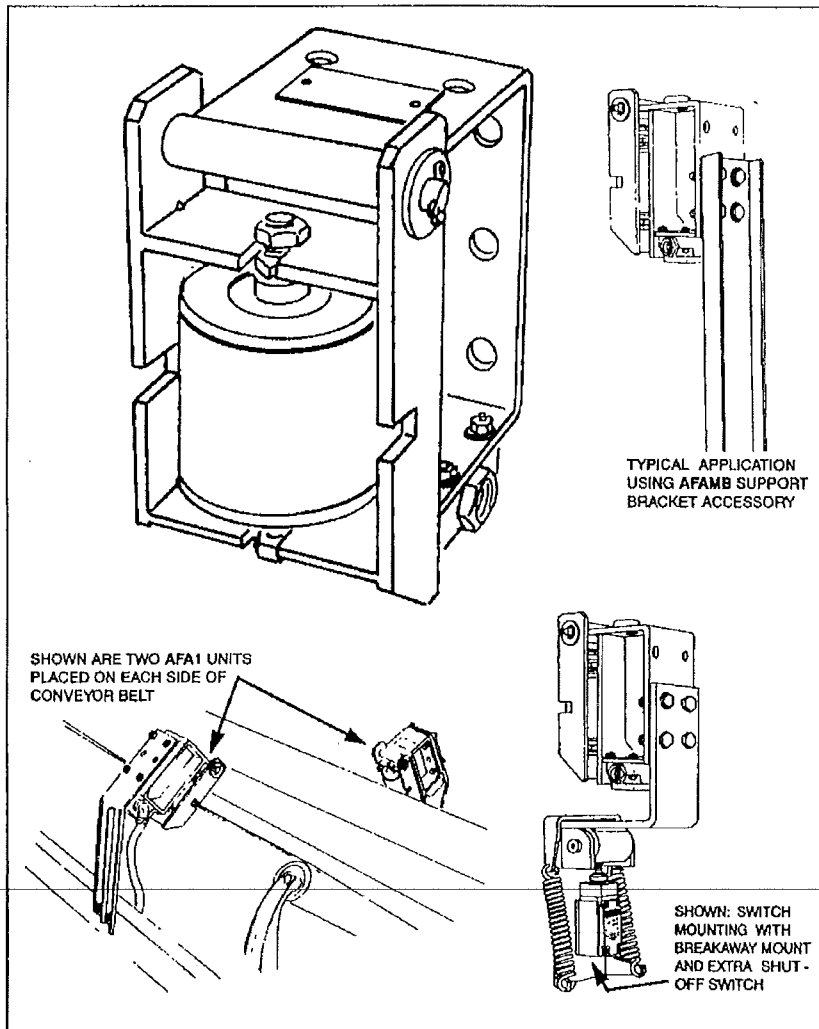
- Roller is 3.5" high and actuates with 0.25" travel.
- Unit should be mounted about 1" from belt to eliminate false signals.
- Operating temperatures are -40° F to 150° F.
- 1/2" NPT standard, one conduit opening.

Standard Materials

- Steel.

Standard Finishes

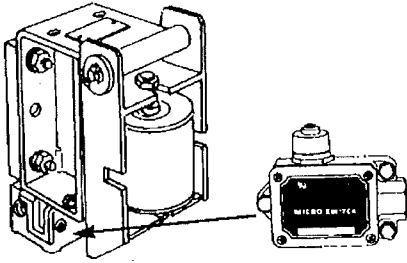
- Gray enamel paint.



Accessories

- **AFABMB**: Breakaway mounting bracket.
- **AFABMBS**: Breakaway mounting bracket with switch.
- **AFABMBSX**: Breakaway mounting bracket with explosion-proof switch.
- **AFAMB**: Support bracket.

AFA1,2, AFAX1,2 Conveyor Belt Alignment Switches - Large Roller Style.



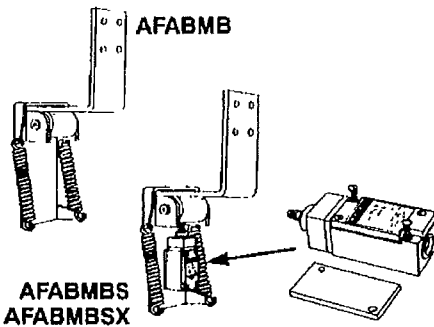
Catalog Number	Classification	Switch Quantity Description	Switch Rating †
AFA1	NEMA 1, 3, 4, 4X	1 - sp/dt	1
AFA2	NEMA 1, 3, 4, 4X	1 - dp/dt	2
AFAX1	NEMA 7: Class I; Groups C,D	1 - sp/dt	3
AFAX2	NEMA 9: Class II; Groups E,F,G	1 - dp/dt	2

† Switch Electrical Ratings:

- 20 AMP at 125, 250 or 480 VAC; 1 HP at 125 VAC; 2 HP at 250 VAC; 1/2 AMP at 125 VDC; 1/4 AMP at 250 VDC
- 10 AMP at 125 or 250 VAC; 0.3 AMP at 125 VAC; 0.15 AMP 250 VDC
- 10 AMP at 125, 250 or 480 VAC; 1/2 AMP at 125 VDC; 0.15 AMP 250 VDC

Breakaway Mounting

AFA1, AFA2, AFAX1, AFAX2 Accessories



Catalog Number	Classification	Switch Quantity Description	Switch Rating
AFABMB	No extra switch needed.	—	—
AFABMBS	NEMA 1, 3, 4,, 4X, 13 Dust and Weather-Tight type	1 - sp/dt	10 AMP
AFABMBSX	NEMA 7: Class I; Groups C,D NEMA 9: Class II; Groups E,F,G Explosion-Proof type	1 - sp/dt —	— 10 - AMP

⚠ WARNING GENERAL

- Do not modify unit in any way. Modification may affect safety and reliability.
- Improper use or failure to follow these instructions could result in serious injury or property damage.
- Operator should be instructed in the safe and proper usage and maintenance of this product.

- Two controls are positioned close to the belt, one on each side, so that undesirable side to side motion of the belt will contact a switch roller. The roller "gives" just enough to actuate the switch. The signal generated by the actuated switch can be used to take appropriate action to re-align the conveyor belt, thus eliminating conveyor damage and serious down time.
- The belt alignment switch has two basic welded steel components, the base housing and the roller housing.

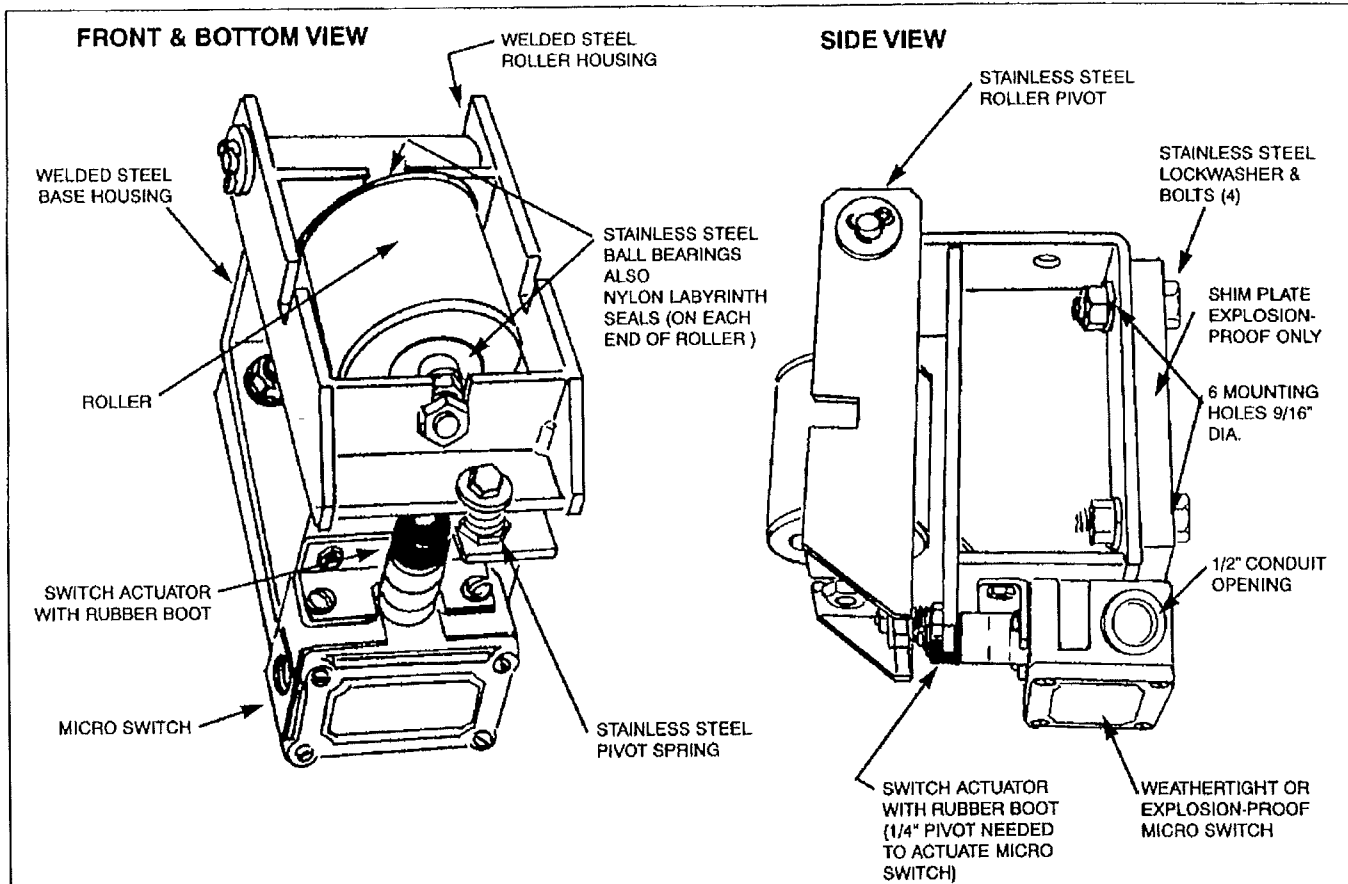
⚠ WARNING ELECTRICAL

- Disconnect electrical power before installation, adjustment and maintenance.
- DO NOT overload; the amperage and voltage indicated on the name plate must not be exceeded.
- Check continuity before connecting electrical power.

- The roller housing contains the sensing roller and is attached to the base housing with a stainless steel pivot. The stainless steel pivot assures that movement will not be inhibited by corrosion.
- The roller and roller housing together are designed to pivot slightly when the roller is touched by the conveyor belt. The roller housing assembly actuates an enclosed switch mounted at the bottom of the base housing. It moves approximately 1/4" to actuate the switch. A stainless steel spring is mounted with a bolt at the bottom of the roller assembly to hold it away from the switch except during actuation.
- Micro switches are housed in either the standard weathertight, or optional explosion-proof enclosures.
- The roller has stainless steel ball bearings and nylon labyrinth seals to prevent corrosion and entry of water or dirt.

OPERATION AND CONSTRUCTION:

- The conveyor belt alignment switch protects valuable conveyor belts from severe damage due to belt misalignment or run-off.
- The switch unit makes sure that the belts are tracking properly, prevents costly down time and unnecessary maintenance expense.
- Designed especially for bulk handling conveyor applications, it maintains a safeguard over equipment and keeps conveyor belts running.
- Sometimes called a "sideslip switch" or a "belt misalignment switch," the switch unit operates on a very simple principal.



ed about 1" from the belt, eliminating false signals but protecting the belt against wide deviations.

- The micro switch can be wired to give warning signals or it can be connected directly into the motor starter circuit to stop a conveyor.
- The roller moves approximately 1/4" to actuate the micro switch.

BREAKAWAY MOUNT

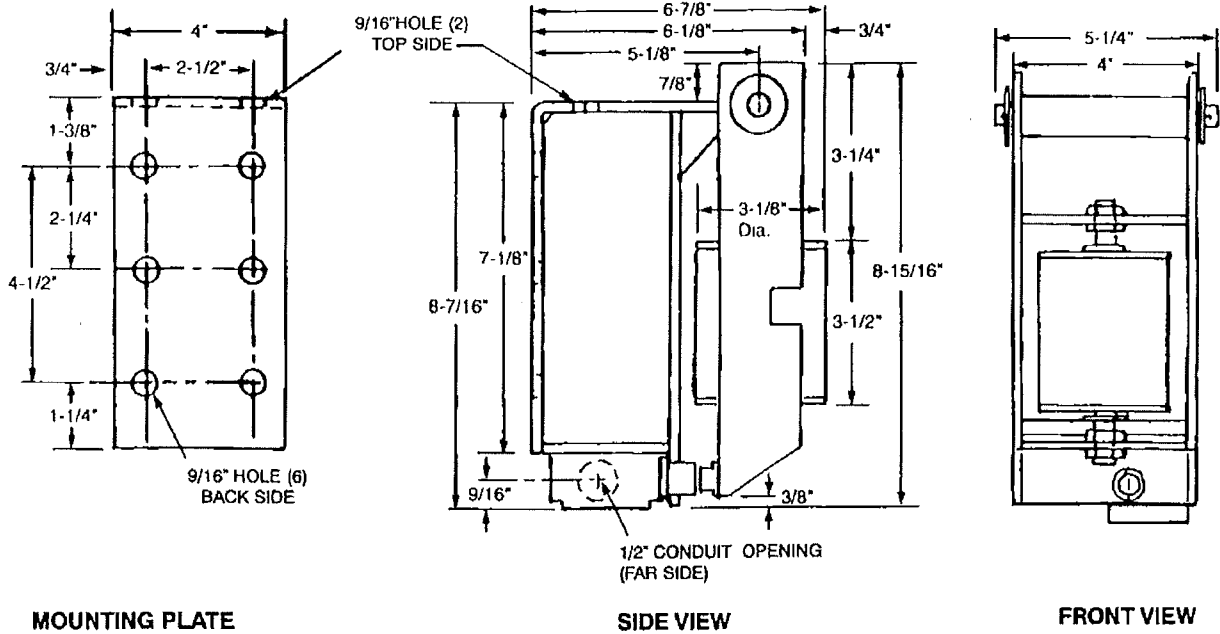
- This optional feature allows the Unit to give a signal, and then to get out of the way if the belt does run-off, preventing serious damage to switches and belts.
- The breakaway mount is spring-loaded and automatically returns to its original position when the conveyor belt is realigned. It is designed so that the roller assumes a horizontal position when the breakaway mounting is actuated.
- The breakaway mount is available with an optional switch to indicate that the breakaway condition has occurred. Thus, two signals can be generated.
- First, a signal from the Belt Alignment Switch Unit that the belt has deviated.
- Second, a signal from the breakaway switch that the belt has deviated further.

INSTALLATION INSTRUCTIONS

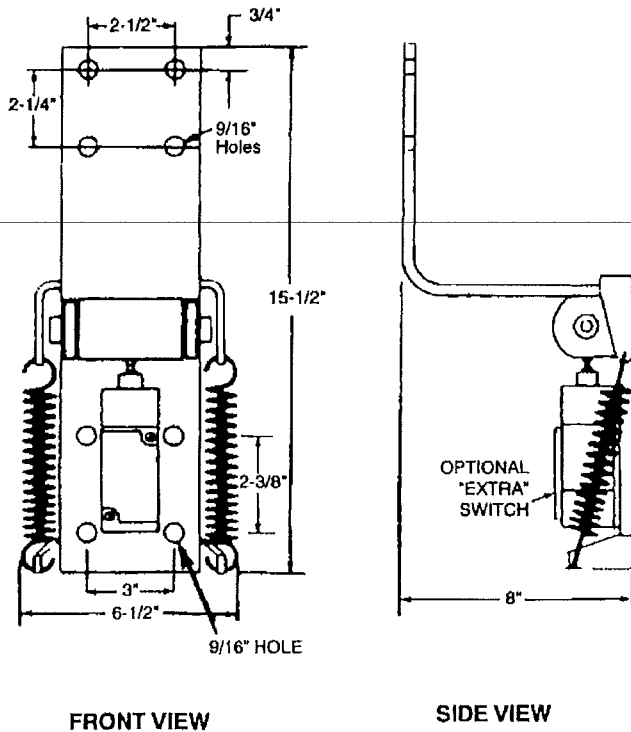
- Belt Alignment Switch Units are always used in pairs with one placed on each side of the conveyor belt, usually near the head end of the conveyor. They may also be placed at the tail pulley and at selected points along the conveyor.
- The roller is 3-1/2" high. The point of interception would be at the 1-3/4" point.
- Units should not be mounted too close to the belt because false signals would result. In most applications the units could be mount-

Dimensions: AFA, AFAX Conveyor Belt Alignment Switches

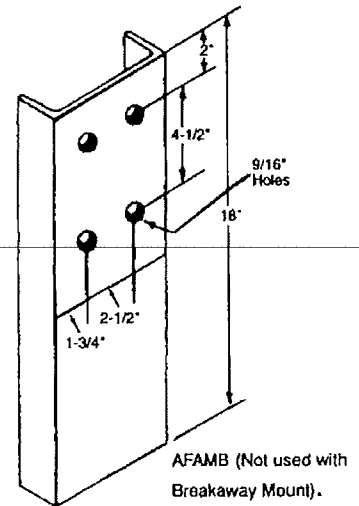
STANDARD UNIT



BREAKAWAY MOUNT



SUPPORT BRACKET



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