

Improve Student Safety and Driver Comfort with

SAFE BUS™



*shift-by-wire transmission
control only from Arens Controls.*



SAFE BUS™

ensures compliant stops at every corner



Industry consensus for the safest way to load/unload students on school buses is to ensure that the bus operator sets the Park brake and shifts the transmission to neutral before opening the bus door for passengers. In fact, numerous states have made this procedure a requirement.

A school bus with a traditional mechanical T-handle shifter and air operated Park brake system requires the driver to complete four or more alternating left- and right-handed manual operations before opening the bus door. This process distracts the driver's attention from the actions of the students to the dash controls of the bus.

AUTOMATIC OPERATION PREVENTS DRIVER ERROR

The new Arens Controls Safe Bus shift-by-wire system reduces this process to two operations. The driver simply activates the amber lights, which arms the Safe Bus system. With the bus stopped, the only other action required by the driver is to activate the open door switch, which also activates the swing out stop sign, crossing control arm, red flasher lights, and the Safe Bus system. At that point, the Safe Bus system automatically shifts the transmission to neutral and engages the Park brake.

After the students have exited the bus or are safely seated, the driver closes the door and pushes the Drive (D) button, which automatically shifts the transmission to Drive and releases the Park brake.

The fact that the Safe Bus system performs these steps automatically significantly improves student safety. If drivers aren't looking down at the console, and back and forth from right to left, to manually operate switches, buttons, gear shifters and the Park brake; they can focus on observing the move-

The **SAFE BUS**

*system consists of only two major components,
which offer many features and benefits*

The Safe Bus system is a simple bolt on design engineered to offer enhanced shift control, greater system monitoring and no maintenance over the life of the vehicle. The system consists of just two major components: the shift selector and the system actuator.

EASY TO INSTALL, PROGRAM AND MAINTAIN

One of the key advantages of the Arens Safe Bus system is its installation simplicity. The actuator module is bolted to the transmission with a mounting bracket and connected to the dash mounted shift selector by a plug in wire harness. This design provides for easy service access and doesn't compromise anything on the transmission. It is a huge improvement over cable systems, which often require users to tear apart the chassis to route cables and mount shifters.

The Safe Bus system eliminates wear items like cables and linkages that require periodic adjustment and replacement. It is a sealed-for-life system, so no adjustment or maintenance is required over the life of the vehicle. District administrators and fleet owners can look forward to a significant reduction in maintenance costs associated with periodic cable adjustments as well as sticking and freezing cables.

SYSTEM ACTUATOR

The actuator control module mounts directly to the transmission shift shaft. The actuator incorporates an electric motor and gearbox, along with a Hall effect sensor for position feedback. Features include:

- Small, lightweight, mounts directly to the transmission without modification.
- No periodic adjustments needed.
- No maintenance required.
- Redundant electrical system/components prevent single point electrical system failures.
- Provides smooth, fast rotary shift action.
- Park-Pull Out capability handles any situation at the touch of a button.



Allison LCT Transmission



Optimum DRIVER comfort



The ergonomic benefits of the Safe Bus shift-by-wire system in terms of vision, comfort and relief from repetitive motions positively impacts driver health and morale. With no more gearshifts sticking out of the dash, space in the driver compartment is increased significantly. The Safe Bus system is operated by a simple push button shift selector mounted in the dash.

SHIFT SELECTOR

The shift selector control replaces the mechanical T-handle shifter in the dash and offers the following features:

- 100% solid state construction for long life.
- Simple push button operation.
- Dual Select/Monitor display provides operator with real-time transmission shift information.
- Direct access to all five gears for maximum transmission utilization.
- Special Mode and Interlock capabilities.
- Redundant electrical system prevents single point failure.
- System available for PARK and non-PARK transmissions.
- Custom interlock features available upon request.

PROGRAMMABLE AND EXPANDABLE

The Arens Safe Bus system is both programmable and expandable to accommodate the inclusion of other onboard equipment such as wheel chair lifts and door safety interlocks. The shift selector is capable of displaying transmission operation data over and above basic gear identification. Anything that can be sent out from the transmission control module—temperature, oil level, diagnostic information and more—can be displayed by the shift selector.* As far as processing power; Safe Bus can be programmed to handle multiple inputs/outputs for optimum vehicle control.

Integrated redundancies built into the Safe Bus shift selector and system actuator protect against single point electrical failures and breakdowns.

*Feature not yet released.



According to the School Bus Information Council, students are much more likely to suffer injury or death when outside, as opposed to inside, a school bus. Indeed, children are most at risk as pedestrians—when boarding and/or exiting the vehicle.

The new Safe Bus shift-by-wire transmission control from Arens eliminates the possibility of driver error or oversight at the bus stop and ensures compliance with all state and federal regulations.

School district administrators, fleet operators and parents cannot ride along on every bus route every day to assure driver compliance with existing regulations. Only the Safe Bus system delivers the peace of mind that comes from knowing that the safest possible conditions for student pick up and delivery are in full effect at every stop.



"I can't stress enough what a breakthrough the Safe Bus system is in terms of student safety and management peace of mind."

Gregg Wilson
General Director
Rockford Public Schools Transportation Department



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