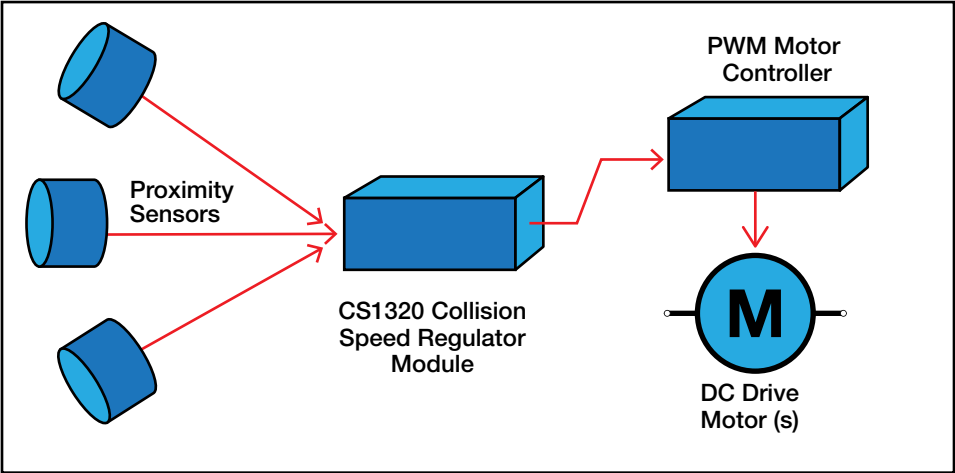


# The IntelliStop™ Solution

Proximity sensors are positioned for each vehicle's key collision risk zones. The CS1320 IntelliStop™ system can be configured with three, four or more sensors to minimize the risk of collision.

The CS1320 speed regulator module is integrated into the vehicle electrical drive system and “tuned” specifically for each product's weight and speed performance characteristics.

The CS1320 is designed to work seamlessly with the CS1108 family of DC motor controllers but can be integrated with other PWM battery-operated drive systems.



### About Us

Control Solutions LLC is a dynamic and rapidly-growing high technology company. Our product offerings are highly-integrated customized responses to each customer's unique business needs. We have developed strong partnerships in all of our customer interactions including key OEM relationships.



CS1320 Module



Proximity Sensors



BR0077-04

# CS1320 IntelliStop™

Automatic Intervention System

## Take action to stop collisions before they happen...AUTOMATICALLY

Control Solutions has developed a unique automatic collision intervention system for industrial applications. Potential collisions are quickly detected and the vehicle's motor controller circuit commanded to safely and smoothly slow the vehicle to a full stop before hitting a stationary or moving obstacle.

The CS1320 IntelliStop™ system is scalable for all battery-operated motorized industrial and commercial equipment. The CS1320 solves the problem of traditional alarms that require the operator to react and manually brake or slow down.



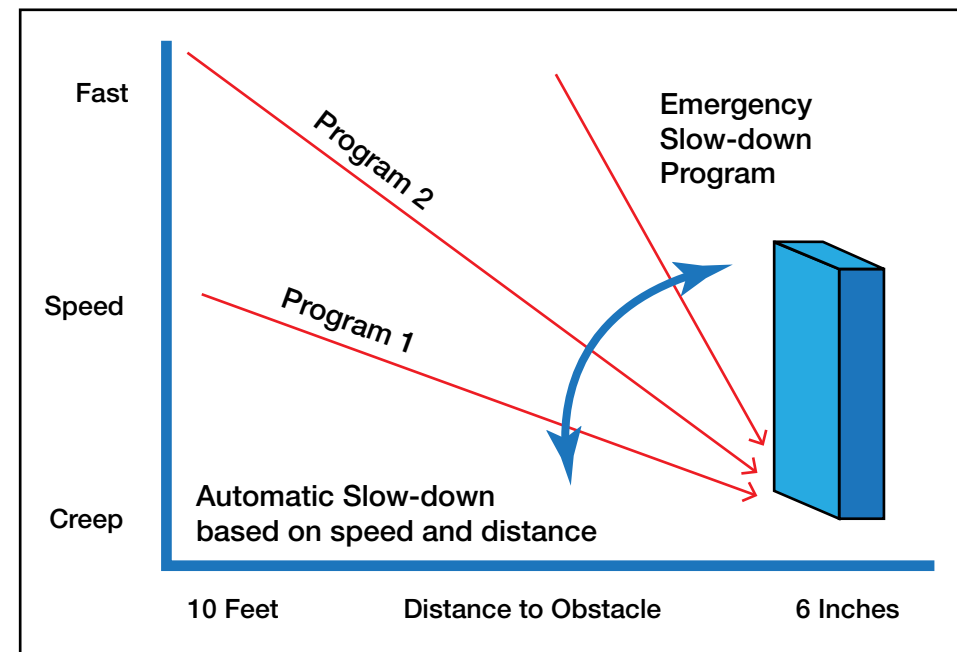
# Avoid collisions at any speed

## Why Install a Collision Intervention System:

- Accidents cost millions of dollars for facilities management and equipment owners.
- Liability costs can be very high when motorized equipment collides with walls or other personnel, or runs off a dock.
- Conventional collision systems rely solely on the operator to manually intervene in order to avoid a collision – often too late.

## Minimizing collisions with the IntelliStop™ Solution:

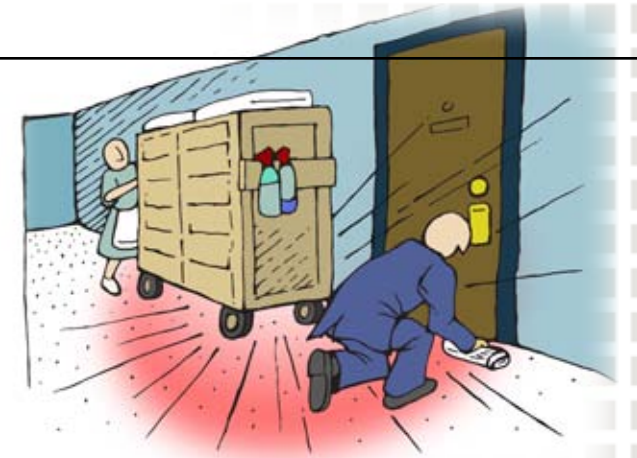
Control Solutions LLC has developed the world's first collision avoidance system, the CS1320 for commercial and industrial battery-operated vehicles. The system uses IntelliStop™ technology that compensates not only for the distance to a prospective collision, but also for the speed of the vehicle.



# Sample Applications

## Hospitality Carts:

Battery-operated carts are often so tall that the operator cannot clearly see obstacles in front of the cart. Walls, doorways, and people can be hit, resulting in injury and possible liability. The CS1320 Collision Intervention System with IntelliStop™ can sense a potential collision and automatically command the cart's drive system to bring the cart to a full stop safely and smoothly.

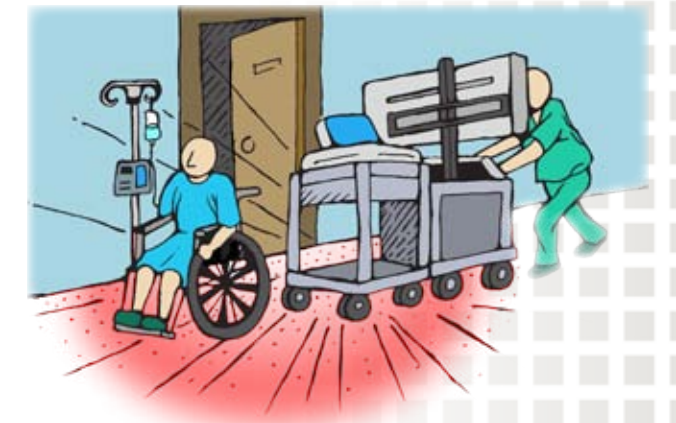


## Floor Scrubbers and Sweepers:

Battery operated floor care machines present blind-spots in to the front as well as behind the operator. Even when traveling through hallways and aisles at slow speeds, damage can occur to the equipment, to the building and to store fixtures. The CS1320 IntelliStop™ system slows the machine to a crawl and alerts the operator before any damage is caused.

## Equipment Carts:

Powered carts in settings such as hospitals are used to rapidly transport heavy, expensive equipment throughout the facility. These carts are programmed to whisk equipment down hallways and through tight doorways. Often people and other equipment in the aisles cannot be seen by the cart operator, resulting in a costly collision. The CS1320 IntelliStop™ system enables the operator to keep the cart moving at speed but slows it down carefully and smoothly when the cart anticipates a collision.



## Aerial Manlifts:

Operators aloft in scissor lifts or boom lifts cannot see the ground and obstacles around the base of the machine. They also may not be able to see potential obstacles above or behind the basket. Collisions involving objects or people, on the ground or the building above, can cause serious injuries and result in significant liabilities. A multi-point CS1320 IntelliStop™ system can create a protection zone on all sides as well as above and below the platform, detecting potential collisions before they happen and halting further unsafe movement.