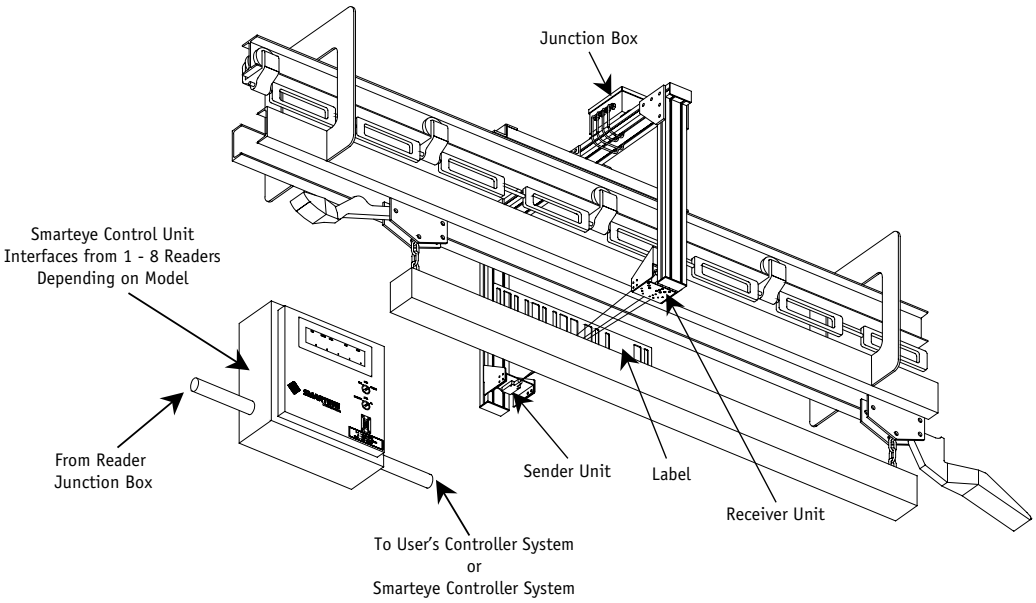
The Smarteye Reader System is an automatic identification system designed for use in the most hostile material handling environments. Our patented approach guarantees reliable identification under all conditions of motion…every time. This identification system consists of three components: the control unit, the reader, and the label. When the label moves past the reader, the reader sends signals to the control unit which determines the label identification number. The control unit then communicates this information to the material handling control system for routing and tracking purposes.



Smarteye's low-cost labels are constructed of 12-gauge cold-rolled steel and each contains an individual permanently coded binary pattern of punched slots which are detected by the reader as the label moves past. Their rigid construction allows Smarteye labels to be used in industrial environments where other identification systems fail. Labels can be manufactured in a variety of sizes to suit specific applications. The standard finish is black oxide; other finishes and materials are available. Labels can be numbered sequentially or in specified ranges (e.g. 100-199, 300-399, etc.) to suit control system requirements.

The Smarteye Reader consists of a sender and receiver pair mounted on opposite sides of the label. The sender unit emits modulated infrared light which passes through the slots in the label. The receiver unit contains three (3) sensors which detect the transitions of incoming light as the slotted label passes by. The sensors signal these transitions to the control unit which determines the label number. Smarteye Readers are manufactured with rugged, epoxy-encapsulated, American-made sensors in sturdy stainless steel mountings. There are no moving parts and no adjustments are required, resulting in a very low maintenance system.

All Smarteye control units are comprised of a microprocessor, memory, and field interface circuitry. The control unit processes the signals received from its associated reader and determines the identification number of the label that has just passed. It then transmits the label and reader numbers to the user's programmable controller, computer, or other control system. The Smarteye control unit can determine the label number under all conditions of motion, whether the label moves forward, backward, slow, fast, start/stop – up to 400 feet (121.9m) per minute using standard configurations. Smarteye offers a variety of control units that can interface

from one to eight readers. Units are available in NEMA-12 enclosures or panel mount style, with or without front panel displays. All control units are constructed using high quality electronic components for maximum reliability.

Smarteye readers have been installed on many types of material handling systems. For over twenty years, our systems have been in use throughout a broad range of industries and applications:

- Power and free conveyors (overhead and inverted)
- Electrified monorail systems
- Skid systems
- Automatic storage and retrieval systems
- Paint systems
- Auto manufacturing (paint, body, assembly, powertrain, miscellaneous components)
- Tire manufacturing
- Truck, farm, and heavy equipment manufacturing
- Aircraft manufacturing and maintenance facilities
- Appliance manufacturing
- Electrical component manufacturing
- Foundries and metals processing (steel, aluminum, brass)
- Warehousing
- Food processing

The Smarteye Reader System is designed for maximum application flexibility. Labels can be manufactured as required to suit specific needs. Sender and receiver mounting distances can be adjusted as necessary. Control units can communicate serially in either handshake or poll modes as well as DeviceNet or EtherNet. Units are also available for parallel transmission directly to programmable controller I/O cards.

To summarize, the Smarteye reader System offers the following benefits to the user:

- Withstands the extremes of industrial processes. Paint systems, caustics, chemicals ovens, steel mills…we go where other ID systems won't.
- Rugged design for best reliability. Steel labels. Epoxy-encapsulated, gasketed sensors. High-quality electronics. We believe in a dependable product at a cost-effective price.
- Low installation and maintenance costs.
- Maximum flexibility in design. Labels manufactured for your application.