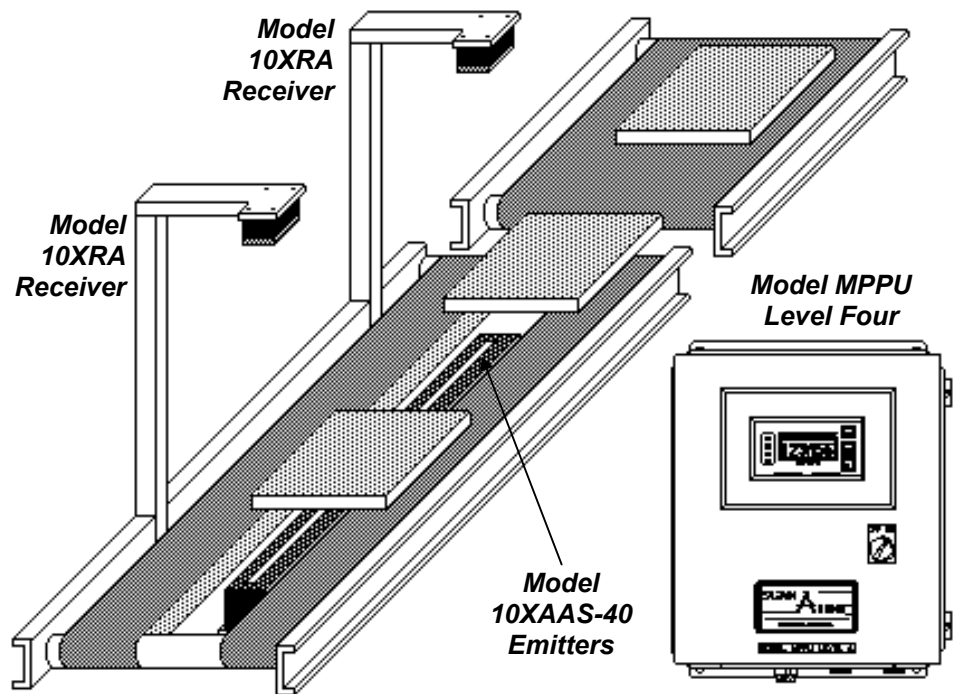


Dynamic Cut-to-Length Measurement System

In many manufacturing processes there is a need to measure cut-to-length materials. There is a wide assortment of devices designed to provide precision and repeatability in various high-speed cut-to-length operations. With many of these systems, the movement of the uncut piece is measured with a pulse-counting encoder attached to a driven roll or conveyor belt. When the required number of pulses have passed the knife or saw device, the cutter is activated and the product is cut to the desired length. In these other systems a through-beam photo sensor is triggered by the advancing product and the cutter is activated to cut the product to the target length.

There are many variables that can affect the precision of these other cut-to-length solutions. The material may slip, stretch or compress on the conveyor belt or drive roller. The cutter may have delays that vary with the type of material being cut. The actual mechanical positioning may require moving the sensors for varying sizes of material. Sensors may also become contaminated or attenuated and cause unacceptable errors in finished product.

The SCAN-A-LINE™ Dynamic Cut-to-Length Measurement System – DCLM System produces accurate, line-speed-independent, length measurements of moving parts by using highly reliable SCAN-A-LINE™ sensors and processors.



Dynamic Cut-to-Length Measurement System

SCAN-A-LINE™ Dynamic Cut-to-Length Measurement System Components:

- ✓ **SCAN-A-LINE™ 10XAAS-Series Dual-Sensor System**
- ✓ **Multi-Purpose Processing Unit – Model MPPU**
- ✓ **Up to 20 linear feet [6.1m] of cabling**

The DCLM System utilizes a dual SCAN-A-LINE™ Auto-Sync 10XAAS-Series sensor system consisting of two emitters with one receiver each and interconnection cabling of 15 feet [4.6m]. The receivers interpret the scans from the emitters to produce two edge detection signals. Special edge-tracking functions in the Model MPPU lock onto the leading and trailing edges of the product, ignoring the other edges (if any) and computes several readings of the product length measurement. These readings are then averaged by the system for an overall linearity of 0.050 inch [1.27mm] at two-sigma and accuracy of 0.031 inch [0.79mm].

- **Linearity of 0.050 inch [1.27mm] at 2-sigma**
- **Line Speeds Vary with Sensor Selection**
- **Patented Scanned LED Technology with NO MOVING PARTS**
- **Solid State Reliability**
- **No Light Sources to Replace**
- **Upper/Lower Limit Relays**
- **Multiple Analog Outputs Available**
- **Serial I/O for Data Output to Computer, Data Logger or Printer (optional)**
- **LCD Touchscreen Customer Interface**

Multi-Purpose Processing Unit – Model MPPU Features:

- ✓ LCD Touchscreen Display
- ✓ Microprocessor with up to eight integrated co-processors
- ✓ 32K of programmable battery-backed RAM plus a customized EPROM
- ✓ Two Serial Communication Ports (one available for data output, the second for optional custom input/output)
- ✓ One Deviation & One Absolute Measurement Analog Output included
- ✓ Graphing Function on Touchscreen
- ✓ Statistical Reporting Option Available
- ✓ Remote Display Options Available

All mathematical operations are performed using IEEE floating point to ensure calculation precision. The serial and analog outputs can be formatted for a variety of Programmable Logic Controller (PLC) protocols or computer interfaces. The customer interface may be located on the processing unit or remotely mounted.

SCAN-A-LINE™ Auto-Sync Sensor – 10XAAS-Series Sensor Features:

- ✓ Unique SCAN-A-LINE™ Light Emitting Diode (LED) scanning technology provides the reliability of a 275-year mean-time-between-failure (MTBF) light source.
- ✓ LED light sources scan electronically up to 2000 inches [50.8m] per second.
- ✓ Standard System Employs 40 inch [1016mm] sensors for best overall product length variability.
- ✓ SCAN-A-LINE™ 10XAAS-Series sensors are quartz-crystal controlled and never drift out of adjustment.
- ✓ Optional *ULTRA-TOUGH*™ enclosures for sensors – the ultimate in crash protection.

HARRIS INSTRUMENT CORPORATION

VAR Distributor
Welded Tube Pros LLC
VOICE: (330) 658-7070 FAX: (216) 937-0333
budg@bright.net
www.weldedtubepros.com

Dynamic Cut-to-Length Measurement System Side View (Rollers, Belt & Frame Shown Transparent for Effect)

