Step Into the Visual Factory

BANNER®

Light Up the Visual Factory

At Banner, the visual factory comprises three key applications for lighting and indication in industrial settings. These applications include the ability to help machines and workstations quickly communicate their status to people nearby, use light to guide workers to perform certain tasks such as part picking, and provide illumination for work areas and tasks. Lighting products used in the visual factory include tower lights, strip lights, touch buttons, and indicators. The capabilities of these products range from simple single-color lights and indicators to lights that offer advanced multicolor animations, alphanumeric displays, and multi-tone audible alarms.

Sensor Emulation

Machine and Process Status

Call for Parts

Loading Dock/Bay Communication

Communicate Status
- Empower operators
- Alert supervisors
- Accelerate resolution
- Notify plant-wide

Electrical Panel Lighting

Machine Lighting

Workstation Lighting

Visual Inspection Station

Put-to-Light for Warehouse and Logistics

Pick-to-Light for Assembly and Kitting

Illuminate Work Areas
- Boost worker productivity
- Improve product quality
- Reduce energy costs

Light-Guided Part Picking
- Reduce cycle time
- Error-proof assembly
- Streamline training

Custom Solutions
are available that do more to automate production and improve efficiency

Illuminate

Banner Engineering's industrial LED lighting products are high-quality and energy-efficient lights that provide years of maintenance-free operation, with no bulb or ballast changes required throughout the lifespan of the device. By providing optimal lighting for people and machines in work areas or as supplemental light for specific tasks, these lights help boost productivity, improve product quality, and reduce energy costs.
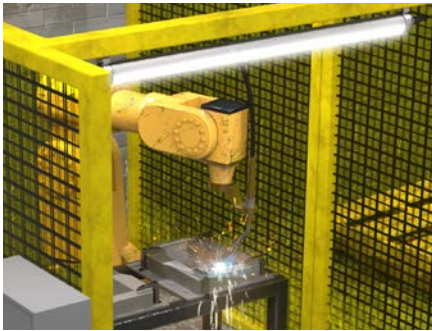

Inspection Lights

Inspection lights help provide workbenches, assembly stations, and visual inspection stations and tunnels with bright, even light. This increases worker productivity and ergonomics, and provides illumination exactly where it is needed so operators can monitor processes effectively while completing automated and manual tasks.

Application Examples
- Automotive paint inspection
- Engine inspection in the aerospace industry

WLB72
Inspection
Strip Light

Heavy-duty Lights

Banner's heavy-duty LED lights offer best-in-class brightness to illuminate applications in harsh environments. Their rugged design enables installation in, or very close to, areas that challenge other lighting solutions. They are designed for a variety of environments and applications including, but not limited to, machine lighting, automation systems, industrial, wet, and harsh environments, railcars, inspection, dairy/poultry production, agriculture, parking garages, and other indoor and outdoor spaces.

Application Examples
- Robotic weld cells
- Food processing
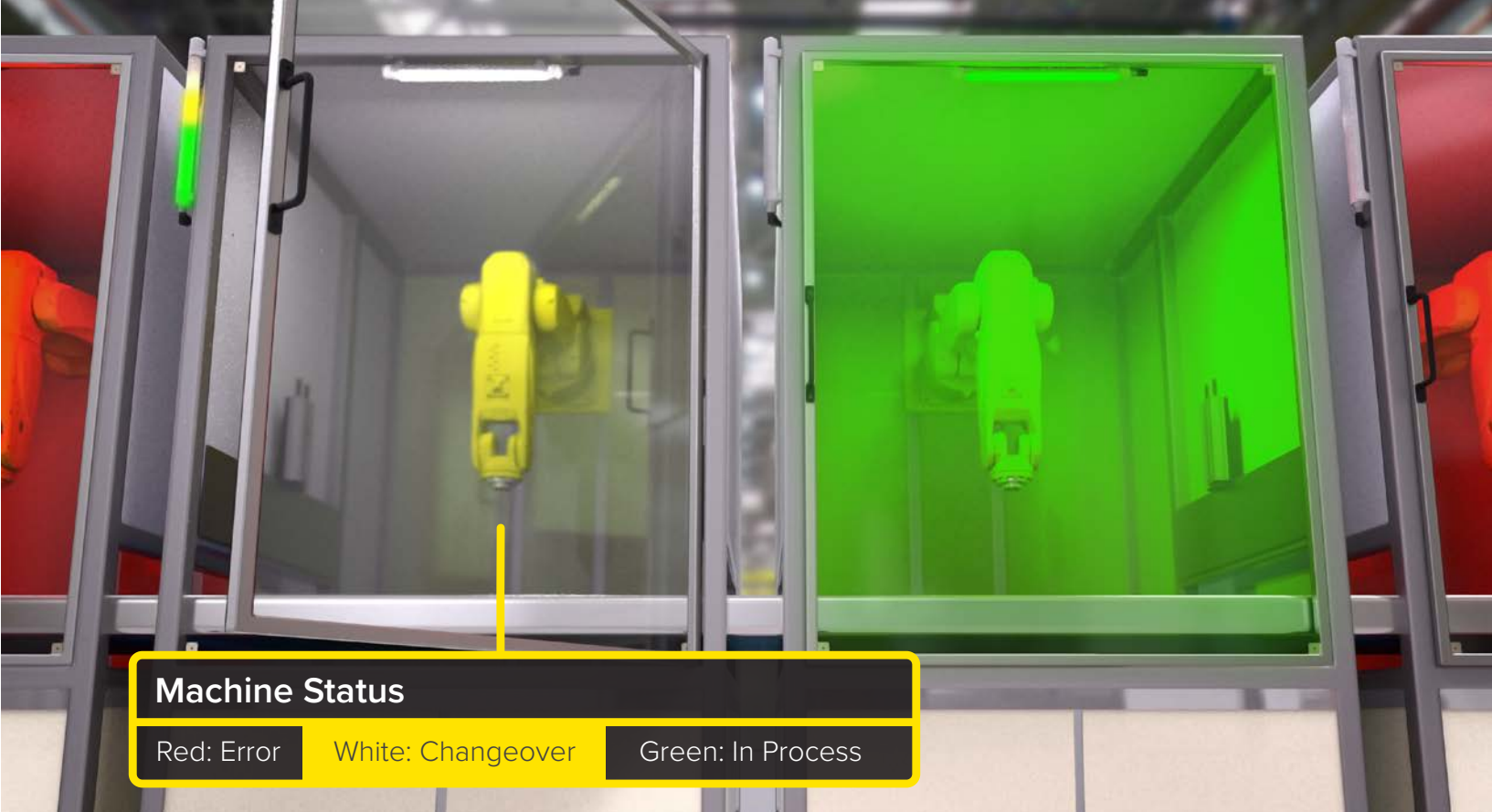
WLS70
Sealed Strip
Light

Vision Lights

Vision lighting is key to creating contrast between the feature of interest and its background. Choose from a variety of colored lights to make features appear either brighter or darker and facilitate the identification of missing or inaccurate details in your application.

Application Examples
- Cap detection
- Pick and pack robots in material handling

BL60 Sealed
Vision Light

Machine Status

| Red: Error | White: Changeover | Green: In Process |

Product Changeover on Assembly Lines

Challenge

End-of-arm tools must be changed to accommodate product changeover. Making sure this process is efficient keeps production smooth and overhead costs down. Knowing at a glance which stations are ready for changeover lets maintenance staff and/or operators respond quickly when changes are needed, even from a considerable distance away.

Solution

A WLS27 Strip Light mounted in the work cell fills the area with green light to indicate the machine is in-process. When the machine completes its task and needs a different tool, the light changes to red, clearly indicating it is ready for attention. As an operator opens the cell door, the WLS27 switches to bright white illumination, making it easier for the operator to see and perform the changeover efficiently.

WLS27
Strip Light

Industrial Lights

Well-lit machines and equipment are easier to monitor, troubleshoot, and maintain. Bright, even machine lighting allows operators to monitor processes effectively and have a clear view during troubleshooting, material refill, or when they are completing other manual tasks. Machine and equipment LED lights from Banner Engineering are built to last in harsh environments and provide years of bright, maintenance-free illumination.

Application Examples
- Machine illumination for the packaging industry
- Illumination for wood processing industry
- Workstation lighting

WLB32
Work Light

Indicate

Banner Engineering's LED indicators offer a wide variety of bright, highly visible models featuring a rugged design for long-term use without an additional protective enclosure. When machines and workstations are equipped with tower lights, andon lights, and/or multicolor strip lights, they can quickly communicate their operating condition to people working nearby, providing at-a-glance knowledge of status and performance, and accelerating the identification of problems so they may be solved quickly.
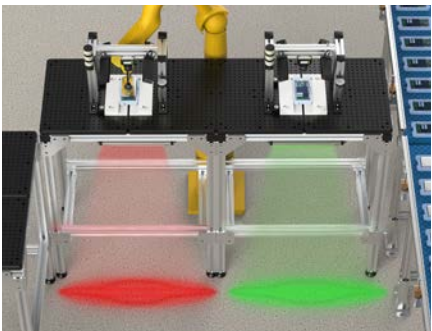
Tower Lights

Preassembled and preconfigured multi-segment LED tower light indicators replace conventional stack lights, which often require time-consuming assembly and complex wiring. With a variety of sizes, colors, audible outputs, light intensities, IP ratings, and programmability options, Banner's broad selection of tower lights enables solutions to be easily tailored to specific application needs.

Application Examples
- Machine status indication
- Workstation call for action
- Heavy equipment indication

TL50 Core, Pro, and Pro Select Tower Lights
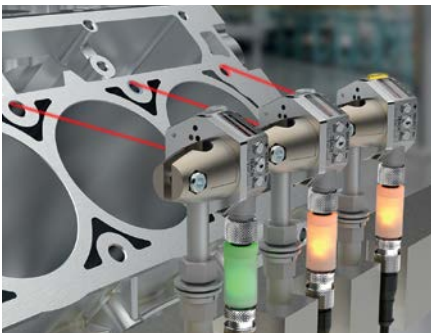
Strip Lights

Configurable multicolor strip lights provide bright, even task illumination during normal operation, and can flood an entire workspace with a variety of color options and animations for critical status indication. These visual status updates can let a manager know they are needed at a workstation, or alert an operator that a machine is jammed or that material needs to be refilled.

Application Examples
- Illumination and indication on packaging machines
- Indication on mobile equipment
- Operator guidance on wood working machines

WLS15 Pro Strip Light

In-Line Lighting

Miniature in-line devices provide 360-degree indication or illumination in a small space and are easily added to existing components. With essential two-color power and output status indicator lights, miniature modular tower lights with audible segments, illuminated cordsets, in-line illumination, and the programmable colors and animations of Pro Series indicators, Banner's in-line products solve many application challenges.

Application Examples
- Sensor indication on conveyor belts
- Pick-to-light and pack-to-light systems

S15 Indicator

Status Indication on a Pallet Wrapper
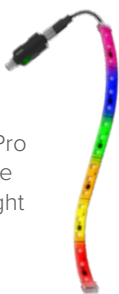
Challenge

At the end of a line, pallet wrapping machines need to operate consistently and reliably because any backup can have a ripple effect that extends throughout the production line. Equipment status must be quickly and clearly communicated to operators, even if they are a distance away, so they can replace shrink wrap rolls, adjust wrap tension and alignment, and ensure wrapped pallets move out in a timely manner.

Solution

Using standard M12 connections and high strength adhesive backing for bracketless mounting, WLF12 Pro Flexible Light Strips easily integrate into pallet wrapper designs without adding bulk to already sizeable machines. Nineteen colors, plus multiple animations, can be easily programmed to convey sensor information on all sides of the equipment, including machine status around the top and process status visualization on the sides.

Application Examples
- Integrated indication on machines
- Indication on mobile equipment
- Indication for pick light systems and kitting stations

Wrap Completion

| 25% | 50% | 75% | 100% |

WLF12 Pro Flexible Strip Light

Indicators

Banner Engineering's LED indicators offer a wide variety of bright, highly visible models ranging from daylight visible to multiple colors in one device. They are available starting from 12 mm up to 100 mm. Indicators have a rugged design for long-term use and require no additional protective box.
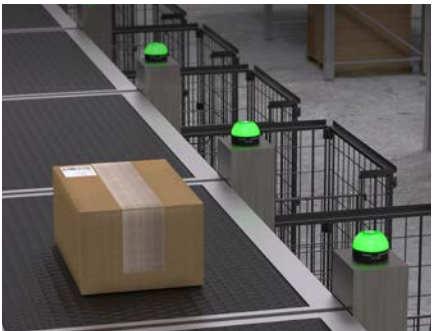
Application Examples
- Indication on cabinets
- Indication on conveyor systems
- Heavy machinery

K50 Pro Select Indicator

Communicate

Banner Engineering's innovative visual solutions—including versatile touch buttons, error-reducing pick-to-light systems, configurable displays, and rugged LED indicators—provide clear, real-time status updates across the factory floor. Designed for durability and ease of use, these tools streamline processes, enhance productivity, and support lean manufacturing principles, helping you create a smarter, more connected visual factory.

Touch Buttons

Banner is the leader in ergonomic, visual, and sealed operator touch buttons for industrial applications. Banner touch buttons can have multiple colors and I/O capabilities, allowing them to replace several conventional buttons. This makes them the ideal solution for lean manufacturing environments.

Application Examples
- Panel buttons
- Touch actuation on work cells
- Takt time on assembly stations

K50 Pro Touch Indicator

Pick-to-Light Sensors and Buttons

Pick-to-light sensors use a photoelectric sensor to automatically verify picks and picking sequences during normal pick motion. Optical touch buttons are contact-free activated, requiring no physical pressure to operate, which results in a more ergonomic solution for the operator. Pick-to-light buttons and systems help industrial automation manufacturers reduce the risk of error in the assembly process, ensuring product quality and reducing cost.

PVS sensors create a 2D detection field that can detect when someone reaches inside a bin to pick a part.

Application Examples
- Pick-to-light and pack-to-light guidance
- Pick to pallet
- Pick-to-light final assembly

PVS28 Parts Verification Sensor
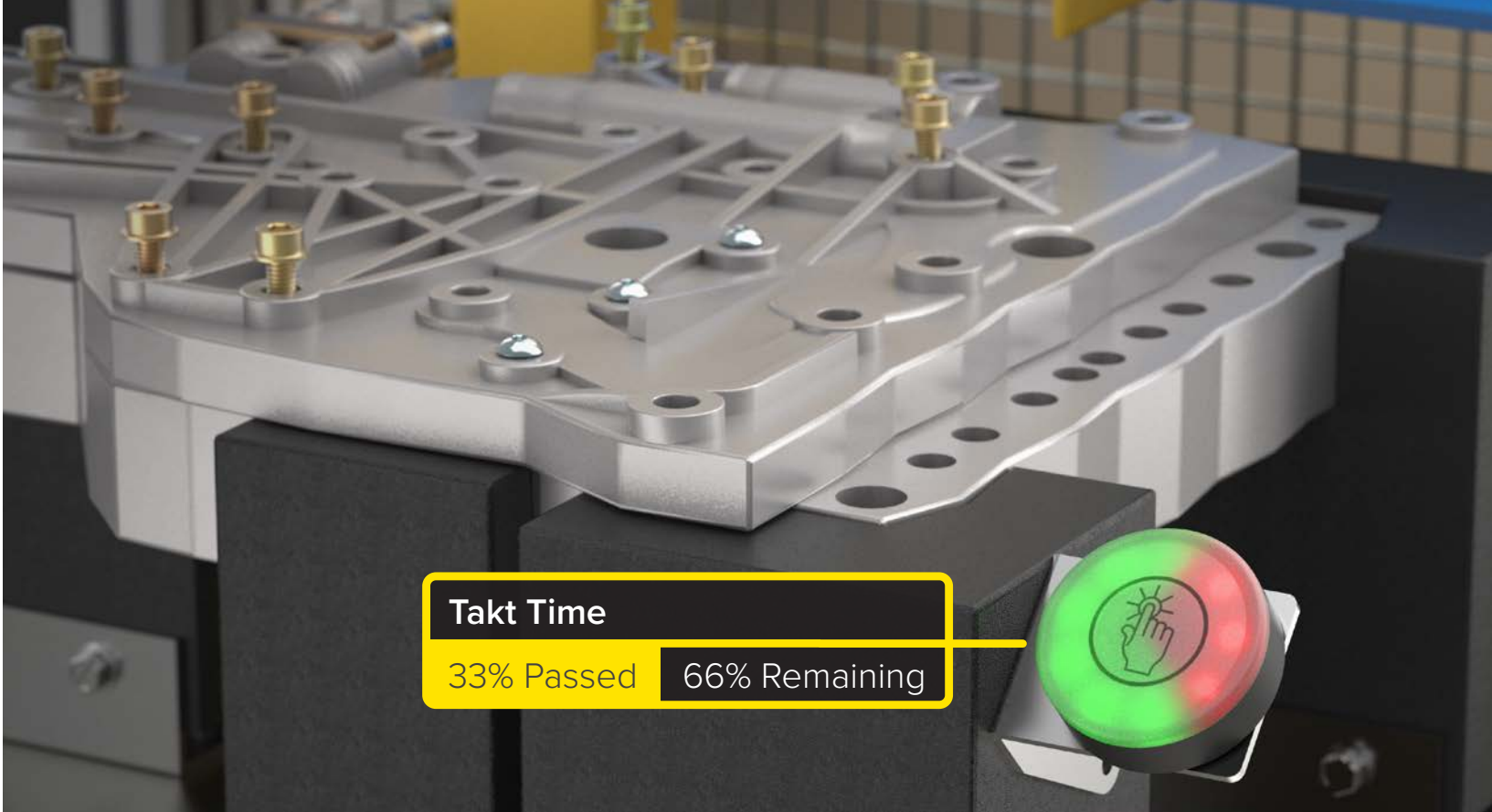
PTL110 Pick-to-Light Device

Displays

Industrial LED displays quickly and clearly communicate critical status, process, and other machine information. Banner's portfolio of touch buttons and scrolling displays combine text , color, and animations to enhance productivity and efficiency for numerous applications, providing guidance that improves speed, quality, and reduces cost.

Application Examples
- Takt time
- Operator instructions for manual assembly
- Fill levels, distance, and part positioning

SD50 Pro Status Display

Takt Time

33% Passed   66% Remaining

Maintaining Assembly Line Takt Time with Minimal Disruption

Challenge

Maintaining takt time is critical to production lines relying on consistent and efficient manual assembly processes. Any slowdowns can create a domino effect that can lead to missed production goals and increased operational costs. Workers need to be aware of their pace so they can self-correct without disrupting production.

Solution

The K50 Pro Touch Button with IO-Link ensures optimal takt time management by providing real-time, customizable feedback with multicolor LEDs and animations. Its sequential timer mode signals workers to stay on pace, while IO-Link technology allows remote configuration and productivity monitoring.

K50 Pro Touch Indicator

Illuminated Emergency Stop and Stop Controls

On lines with multiple traditional emergency stop buttons it can be difficult to tell which one has been activated. When pressed, Banner's bright, highly visible illuminated e-stop buttons can light up or flash, indicating the location so the issue can be quickly addressed. These e-stop buttons are available in flush, panel, or 30-millimeter mount options.
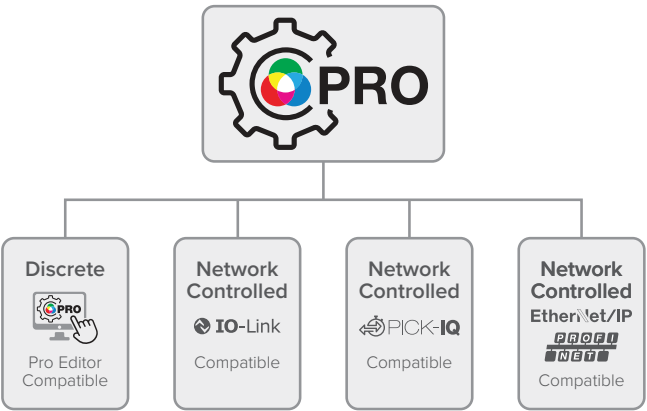
Application Examples
- Emergency stop buttons on conveyors
- Emergency stop button and indication on a machine

30 mm Emergency Stop Button

Technology

Choose from a wide selection of product technologies to enhance your new or existing system with advanced capabilities. Whether it be our programmable multicolor LED devices with Pro Editor Software, flexible pick-to-light systems with PICK-IQ™, dynamic control with IO-Link, or Pulse Pro I/O to convert signals and improve visual communication, Banner Engineering can help customize your ideal solution to address even the most complex applications.
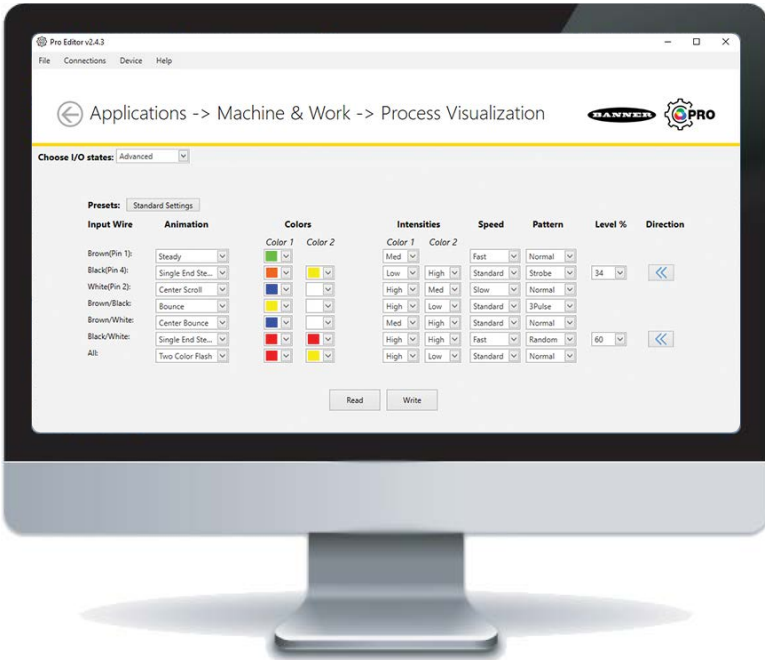

Pro-Enabled

Pro series programmable multicolor LED devices from Banner Engineering offer limitless possibilities for advanced indication of dynamic machine states, operator interaction, and process statuses. Whether you need illumination, indication, or interaction, the family of Pro products from Banner enables advanced capabilities and control throughout your visual environment.

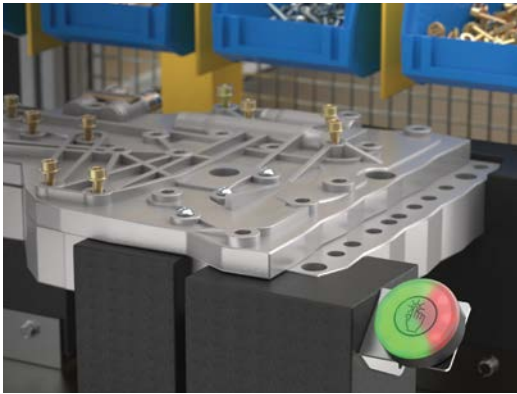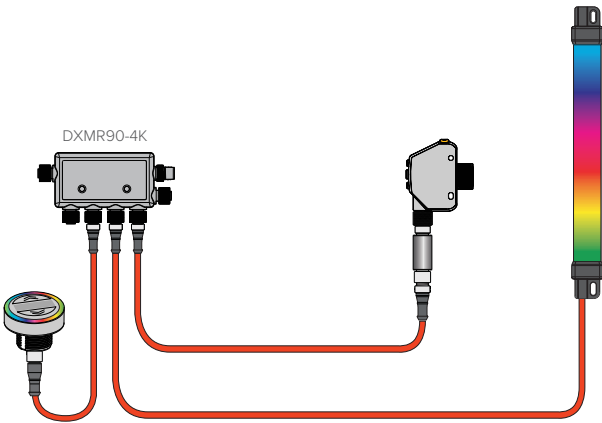| Discrete	Network Controlled	Network Controlled	Network Controlled EtherNet/IP
Pro Editor Compatible	IO-Link Compatible	PICK-IQ Compatible	Compatible

Pro Editor Software

Banner's Pro Editor Software allows users to program device status, colors, animations, and much more for control via discrete inputs, bringing intuitive indication and interaction to the visual factory. Programmable RGB devices make supply chains more efficient by allowing you to standardize on one model that can be customized as needed. The application-based interface makes it easy to configure a device for a wide range of applications such as displaying machine warm-up time, indicating unique steps in an assembly process, showing distance and position information, and communicating multiple machine states.
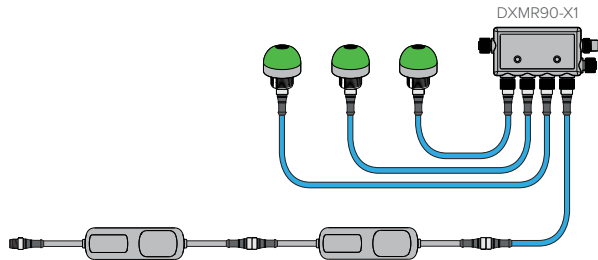

IO-Link® for Dynamic Control

IO-Link is an open-standard serial communication protocol that allows bi-directional exchange of data from IO-Link supported devices that are also connected through a master. The many advantages of using an IO-Link system include standardized wiring, remote configuration, simple device replacement, advanced diagnostics, and increased data availability. Because IO-Link systems are open-standard, the devices can be integrated into almost any Fieldbus or automation system.

PICK-IQ® for High Device Density

PICK-IQ communication enables greater speed and accuracy in medium and large-scale pick-to-light systems. It adds intelligence to your picking and order fulfillment applications. Pick-to-light devices with PICK-IQ serial (RS-485) communication are easy to use. They are interchangeable and scalable to create flexible pick-to-light systems that set up quickly and adapt to changing needs.

PULSE® PRO I/O for Measurement Visualization from a Sensor with Ease

Pulse Pro enables a discrete sensor with PFM output to function like an analog sensor with real-time measurement and positioning data. Pair a Pulse Pro enabled sensor and indicator to improve visual communication and reduce the risk of costly mistakes and accidents. Utilize technology built into Banner's smart sensors and Pro Lights to visualize incremental changes in precision applications or direct operators of large machines and equipment.

The Visual Factory in Action

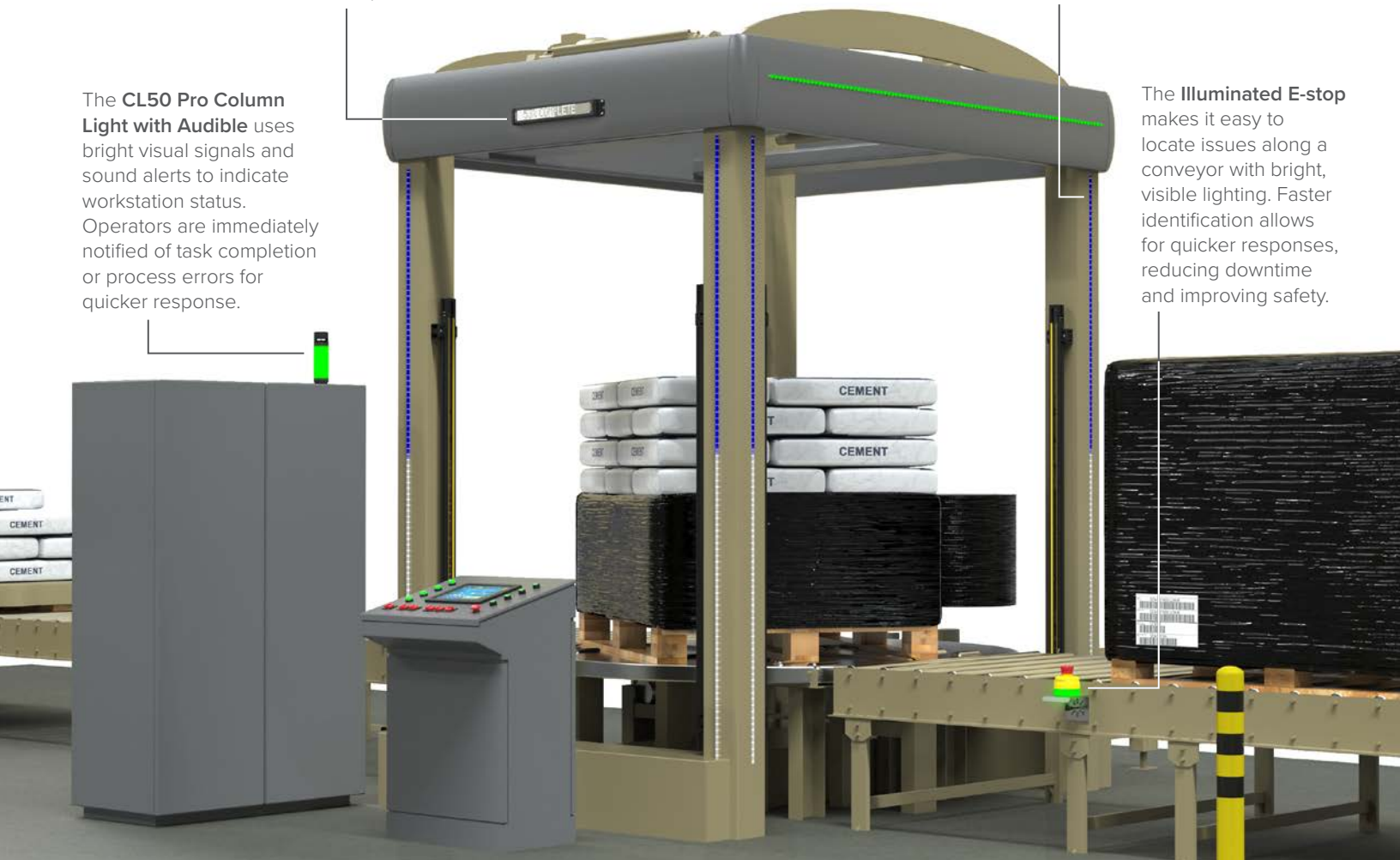|	Description	Model
1	K50Z Multipoint Sensor	**K50Z-FA2000KD-Q8**
2	DXMR90 IO-Link Master	**DXMR90-4K**
3	WLF12 Pro Flexible Strip Light LC25 LED Controller (required for WLF12)	**WLF12PXRGB1200SQP** **LC25C-WLF12-RGB7Q**
4	R50C Motor Driven Roller Controller	**R50C-L-B22AOU-MQ**

	Description	Model
5	Q2X Miniature Sensor	**Q2XKLAF2IR-Q5**
6	Emergency Stop Button	**SSA-EB1PLYR-02EC**
7	CL50 Pro Column Light	**CL50PRGB7AQ**
8	Heavy-Duty Type 4 Safety Light Curtain	**S4BE30-1200-S** **S4BR30-1200-S**
9	SD50 Pro Status Display	**SD50P300WD15QP**

The **SD50 Pro Status Display** shows clear, text-based equipment status messages visible up to 10 meters away. This improves operator awareness and speeds up decision-making on the production floor.

The **WLF12 Pro Flexible Strip Light** provides real-time visual feedback on the pallet shrink-wrapping process. Its segmented illumination allows operators to easily monitor progress without manual checks.

The **CL50 Pro Column Light with Audible** uses bright visual signals and sound alerts to indicate workstation status. Operators are immediately notified of task completion or process errors for quicker response.

The **Illuminated E-stop** makes it easy to locate issues along a conveyor with bright, visible lighting. Faster identification allows for quicker responses, reducing downtime and improving safety.

Upgrade to the visual factory.
Get product specs.
Talk with an app engineer.