

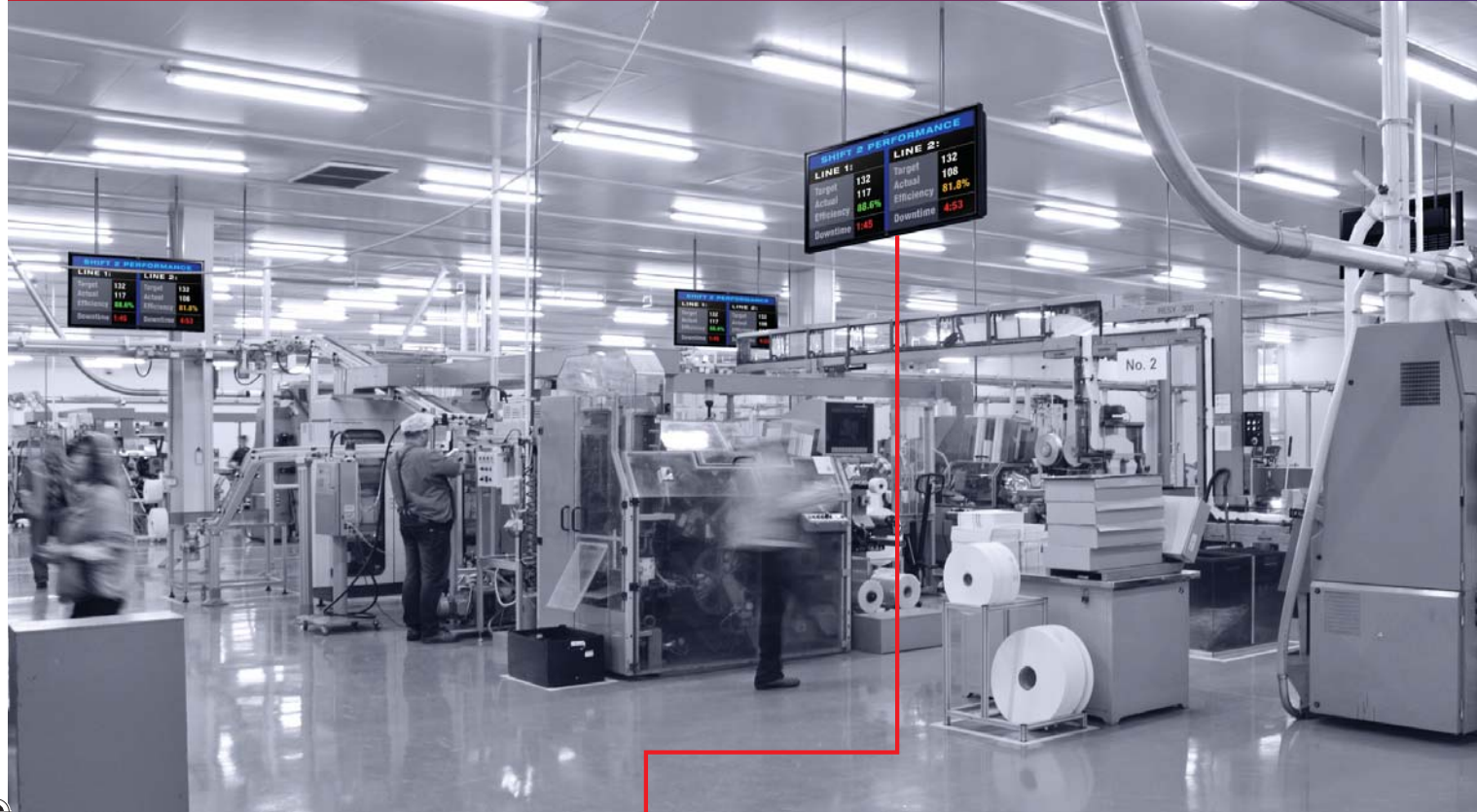
**Measure. Monitor. Motivate. Manage.**  
Create your own full-featured, real-time productivity scoreboards.

**ProductVity Station™**  
Features and specifications

See ProductVity Station in action  
Free mobile app:  
<http://gettag.mobi>



**ProductVity Station™**  
Real-time performance monitoring for the factory floor. And beyond.



**POWER:** 24 VDC ± 10%  
450 mA min. (1 module)  
3.4 Amps max. (16 modules + Expansion Card) Must use NEC Class 2 or Limited Power Source (LPS) rated power supply.

**COMMUNICATIONS:**  
**USB/PG Port:** Adheres to USB 2.0 specification full speed only via Type B connection.  
**USB Host Port:** Complies with USB specification Rev 2.0. Hardware over current protected (0.5A max).  
**DVI Port:** Digital Visual Interface version 1.3, single link, provides a digital video feed, with a resolution of 1280 horizontal x 720 vertical pixels, progressive scan, adhering to CEA-861-E (720p). DDC support, HDCP is not supported. Color depth is 32K.

**Serial Ports:** Serial ports are individually isolated.  
**RS232/PG Port:** RS232 port via RJ12  
**COMMS Ports:** RS422/485 port via RJ45, and RS232 port via RJ12  
**Ethernet Port:** 10 BASE-T/100 BASE-TX

**MEMORY:**  
**On-board User Memory:** 128Mbytes of non-volatile Flash memory.  
**On-board RAM:** 64Mbytes.  
**Memory Card:** CompactFlash Type II slot for Type I and Type II cards – 2GB CompactFlash card included.

**CONSTRUCTION:** Case body is black high impact plastic and stainless steel. For indoor use only. Installation Category II, Pollution Degree 2.

**REAL-TIME CLOCK:** Typical accuracy is less than one minute per month drift. Crimson's SNTP facility allows synchronization with external servers.  
**Battery:** Lithium Coin Cell. Typical lifetime of 10 years at 25°C.

**ENVIRONMENTAL CONDITIONS:**  
**Operating Temperature Range:** 0 to 45°C  
**Storage Temperature Range:** -30 to +70°C  
**Operating and Storage Humidity:** 80% max relative humidity, non-condensing, from 0 to 50°C  
**Vibration According to IEC 68-2-6:** Operational 10 to 150 Hz, 0.075 mm amplitude in X, Y, Z direction for 1.5 hours, 1 g.  
**Shock According to IEC 68-2-27:** Operational 25 g, 11 msec in 3 directions.  
**Altitude:** Up to 2000 meters

**POWER CONNECTION:** Removable wire clamp screw terminal block.  
**Wire Gauge Capacity:** 24 AWG to 12 AWG

**MOUNTING:** Snaps onto standard DIN style top hat (T) profile mounting rails according to EN50022 -35 x 7.5 and -35 x 15.

**AGENCY APPROVALS:** CE  
**WEIGHT:** 1.313 lb (596 g)

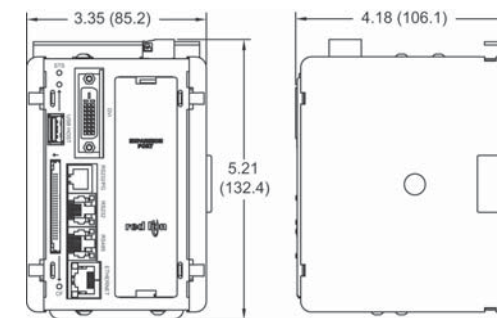
Made in the USA

**ORDERING INFORMATION:**

Model No.	Description	Part No.
PTV	ProductVity Station Also includes... 2GB CompactFlash Card DVI to HDMI cable – 15' long HDMI to DVI adapter (for DVI to DVI connections)	PTV00000
CBL	USB Programming Cable	CBLUSB00
	RS232 Programming Cable	CBLPROG0
	Communications Cables	CBLxxxxx <sup>1</sup>
XCCN	CANopen/J1939 option card	XCCN0000
XCGSM	GSM/GPRS cellular modem option card	XCGSM000
XCDN	DeviceNet (slave) option card	XCDN0000
XCENET	Ethernet option card (adds independent, secondary port)	XCENET00
XCPB	PROFIBUS DP option card	XCPBDP00
XCRS	RS232/485 option card	XCRS0000
CS	Digital and analog I/O, and PID control modules.	CSxxxxxx <sup>1</sup>

<sup>1</sup> Visit [www.redlion.net](http://www.redlion.net) for a complete list of PID modules, data acquisition modules, communications drivers and cables.

**DIMENSIONS:** In inches (mm)



DIMENSIONS: 3.35" W x 5.21" H x 4.18" D  
(85.2mm W x 132.4mm H x 106.1mm D)

**Other visual management products by Red Lion**

**Large LED Displays**

- Analog, digital & Serial inputs
- Digital and analog outputs
- Communications capability
- 2.25" and 4" models available



**LED Marquees**

- Alphanumeric, multi-line
- 200+ comms drivers
- Data logging
- Web server
- Remote email/text alerts
- Expandable I/O
- Various sizes available



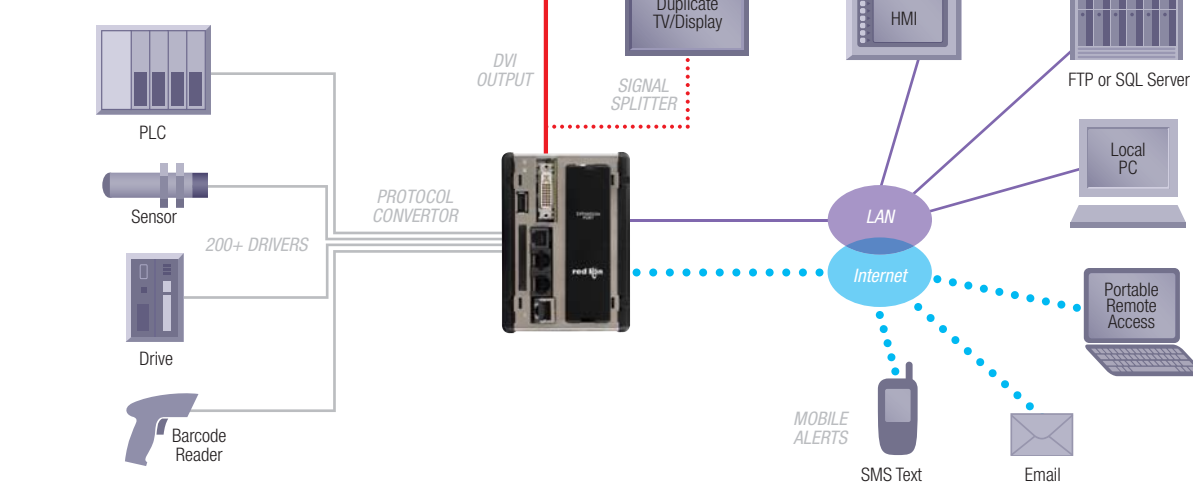
Red Lion Controls 20 Willow Springs Circle, York, PA 17406  
ph: (717) 767-6511 fax: (717) 764-0839 [www.redlion.net](http://www.redlion.net)



- Transforms a standard consumer TV into a versatile, real-time KPI production scoreboard and Andon system, in minutes
- Sends real-time displays or text alerts to mobile devices



**Red Lion ProductVity Station™**



**The ready-to-deploy scoreboard solution that links performance to any TV.**

ProductVity Station lets you create your own interactive, real-time productivity scoreboard in minutes, using any consumer model LED/LCD or plasma TV. Save thousands over packaged industrial displays and get unprecedented capabilities, fast and easy connectivity to your machines with unlimited possibilities including:

- Complete performance metrics:** KPIs, Takt, OEE/TEEP
- Flow monitoring:** line status, calls, maintenance
- Andon:** events, alerts, downtime timers
- Production smoothing:** Heijunka, Kanban
- Safety:** scorecards, messaging, reminders
- Communications & Web:** messaging, news, break timers
- Operator guidance:** picking, assembly

...and much more

## Increased profitability through insight.

### Continuous improvement driven by continuous information.

The principles of Lean manufacturing are now widely acknowledged as the most effective method for continuous improvement of factory productivity, flow, quality, uptime and waste reduction. Whether Kaizen, Six Sigma, Total Quality Management or another initiative, these operational excellence programs rely heavily on the measurement and display of **Key Performance Indicators (KPIs)**.

KPIs are top level metrics that illustrate the utilization of facilities, time, material and personnel for manufacturing and process operations. Linked to target values that indicate gaps between actual and ideal performance, KPIs communicate success or failure of processes or operations, as well as measure the positive or negative effect of changes.

To make this data actionable, KPIs are communicated in an understandable and meaningful way to those responsible for it – production floor personnel and their supervisors. In the past, this was done with a chalkboard. Today, large electronic scoreboards can automate communication to the entire plant floor in real time. Studies have shown how measuring and displaying KPI produce immediate gains in operator performance, if for no other reasons than monitoring awareness, pride or employee competitiveness.

The KPIs most important to a specific company will vary among potentially hundreds of values. Examples of commonly used KPIs in manufacturing are:

- **Count:** Total Product, good/bad/reject ratio, waste
- **Rate:** Count per minute/hour, per cell/line/shift
- **Target:** Goals displayed against actual, time to goal
- **Takt Time:** Time per cycle/task

Beyond individual KPIs are composite metrics that express more complex calculations of overall performance into a simplified metric, such as:

- **OEE:** (Overall Equipment Effectiveness) performance and quality relative to designed capacity during scheduled operational hours
- **TEEP:** (Total Effective Equipment Performance) measures OEE against calendar hours, i.e., 24/7/365

In the most efficient manufacturing or process environment, every operator on the plant floor has visual acuity to current production rates and targets in real time. In many cases, a single percent improvement in productivity can cost-justify a production scoreboard in a single day.

## Red Lion ProductVity Station™

The only ready to deploy solution for collecting, recording, and communicating critical KPIs and Andon messages on any DVI/HDMI equipped device.



### Collect and display KPIs on any TV. In just minutes!

Red Lion's ProductVity Station lets you create your own sophisticated production scoreboard using standard, consumer-grade LCD, LED or plasma TVs you can purchase for less than \$500.

- Built-in communications drivers and protocol conversion let you interface to most PLCs, drives, motion controllers and other automation equipment
- Requires no dedicated PCs, SCADA or OPC Server
- Automatically page between multiple screens of KPI, trends, Andon, messaging and more
- Powerful programming capabilities with included Crimson software lets you customize solutions to your exact requirements or as needs change
- Works with any brand or size of modern TV, monitor or projector
- Easily duplicate information on multiple TVs with common signal splitters
- Complete internet-ready with built in Web and FTP servers for remote access and control
- Create the versatile system you want at a fraction of the cost of inflexible industrial scoreboard solutions

## Virtually unlimited capabilities

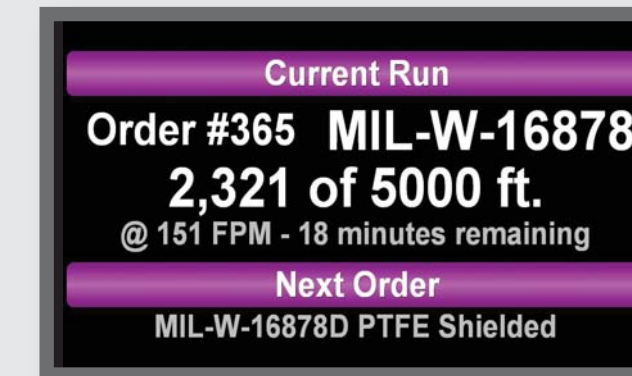
for displaying a host of production metrics, trends, alerts, messages, scheduling, guidance and more.



Warn of line down conditions immediately, to reduce overall downtime



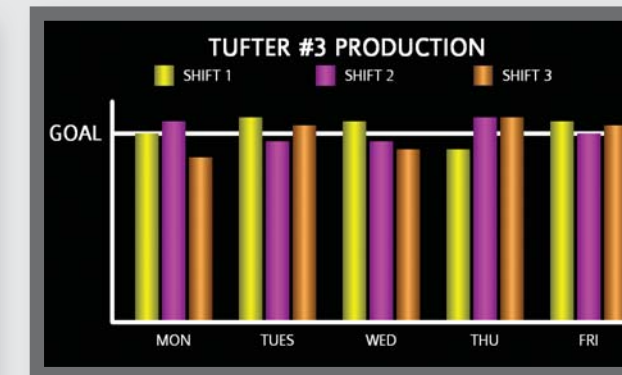
Create screens that provide KPI and Andon information at a glance



Inform operators of current run and upcoming requirements to reduce changeover time



Inform personnel of the problem, as well as whose attention is required, to minimize disruptions to production



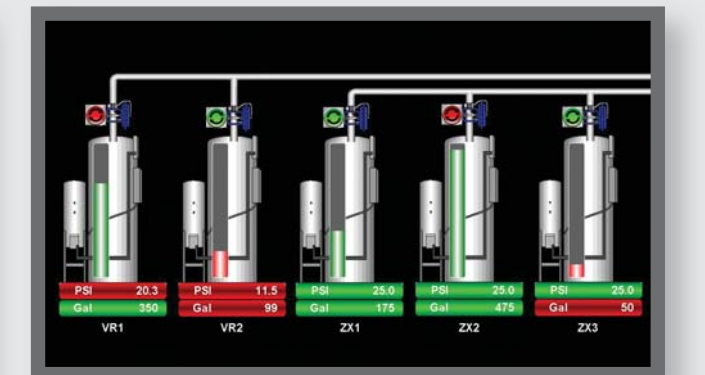
Compare each shift's production against the others to spot potential issues, and to drive a competitive spirit.



Calculate advanced KPIs such as OEE to drive continuous improvement initiatives.



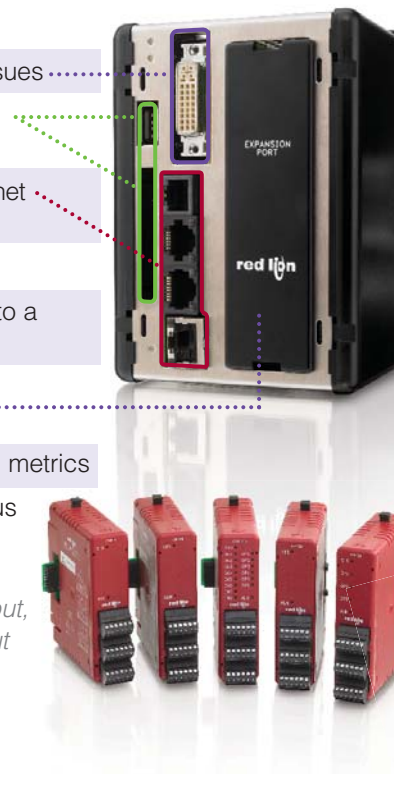
Turn your TV into a sophisticated production scoreboard



Built-in symbol library allows you to depict any process.

### Features: Communication, connectivity, conversion and collection, all-in-one.

- 720p DVI output to leverage affordable consumer TVs with no compatibility issues
- USB and CompactFlash® ports let you track and log data directly to IT-friendly CSV Files
- Three built-in independent serial ports plus one 10 Base-T/100 Base-TX Ethernet port capable of communicating 10 protocols simultaneously
- Built-in protocol conversion with over 200 communications drivers
- Integrated Ethernet gateway to network-enable serial or fieldbus machines onto a common communications backbone in minutes
- Expansion port to add additional serial or Ethernet ports, as well as various fieldbuses such as DeviceNet and Profibus
- Processor with 32-bit floating-point math to calculate complex and time-based metrics
- Built-in Web and FTP servers provide worldwide access to data logs and status



Connect to sensors with CS expansion modules including analog and digital input, strain gage, thermocouple and RTD input

### Powered by Crimson®

Red Lion Crimson® software lets you connect, collect, convert and control with simplicity and power.



ProductVity Station is driven by Red Lion's powerful programming platform – Crimson. A full version of the Crimson 3.0 software suite is included at no extra charge, including free lifetime support and upgrades.

With unprecedented ease to collect, analyze and display KPI and Andon information, Crimson is unlike any other productivity visualization tool:

- Collect data directly from devices such as PLCs, drives, bar code scanners and more

Remotely view the ProductVity Station display or data from a PC or any web-enabled device, including smart phones. Receive events and alarms via e-mail or SMS text messages



- Drag-and-drop data mapping to PLCs, PCs, and SCADA systems; lets a Siemens® PLC to talk to an Allen Bradley® drive in just seconds

- Built in graphics library featuring over 5,000 of drag-and-drop elements
- Synchronize with FTP servers and MS SQL Server
- Mail Manager allows notifications to be sent to one or several defined recipients via text message and e-mail; report or logged data files can be attached to e-mail