

## **Secrets Revealed – how to significantly increase production by 3 to 5% on canter lines by spending pocket change!**

ScanMeg, with input from some of its good customers, has developed a secret weapon against downtime on canter lines that you can employ to increase throughput by 3 to 5% by spending pocket change. You don't have to send budgets to the Board of Directors for approval to get an instant payback simply for redeploying your maintenance dollar allocation.

Read on to find out the secret now used by companies such as Simpson Timber, Roseburg Forest Products, Weyerhaeuser, Tolko, Interfor, Dunkley Limber, Interfor and Abitibi have increased the number of logs per shift through their primary and secondary breakdown lines through the use of some simple devices.

The devices that have proven to increase uptime on your log cut-up-line, log sorting and primary-breakdown lines, are the specially-designed, ScanMeg *Area Photocells*.

With LEDs at one-inch spacing and with sizes of 4", 8", 12" and 16" there is a size for all applications. These area photocells replace existing stacked photocell arrays to provide a much more economical and reliable solution. Only one I/O is required for the complete unit.

- How many times has a production line stopped because vibration misaligned a photocell?
- What about sawdust or dirt build-up blocking a photocell?
- What about a single failed photocell in a stack that stops the canter or log sorting line?
- What about a crooked or badly swept log that misses a photocell completely and screws up the sequencing or timing through the line?
- Miss-alignment resulting in Cross talk – thing of the past with the ScanMeg Type P Area Photocell – it just doesn't happen.
- How often does your Electrician change his electrician's hat for a custodian's hat just to clean a photocell? Doesn't he have other jobs to do that are more important? Let's not waste his valuable time....

Perfect spots to install them are on those typical locations with severe conditions – e.g. before and after log cut-off-saws that depend on automatic operations, flying log turners, before canter heads, before and after saw sections and log or cant kickers. Vertical curve-sawing lines are particularly vulnerable to false signals since the sweep is in the vertical plane making stacked photocells or the area photocells mandatory.

### What is the SECRET that makes them work so well?

Sequenced, parallel LEDs eliminate cross talk entirely. Even at a +/- 10° offset, they still function 100%! No alignment issues here.....

The ScanMeg Area Photocell has been specifically-designed for the tough requirements of the sawmill. These sensors are tough!

And smart too....

In each receiver there is a small chip that can be programmed through two banks of dip switches located under a small cover on the end cap.

The functions that can be easily programmed are:

- Debounce and latch time
- Forced cross talk for ½”
- Annulling LEDs that are permanently obstructed by sub-steel or conveyor
- Minimum sequential LEDs that must be blocked before it outputs a change of state
- PNP or NPN



Dust, flying chips, water, extreme temperatures and vibration don't affect their operation. Some of these powerful features that are embodied in the design include:

- Can set minimum number of consecutive LEDs that must be blocked before unit sends a trip signal – *this is probably the biggest feature of the units to increase uptime.*
- Special isolation of electronic components that prevent vibration damage.
- Totally hermetically-sealed enclosure made from extruded aircraft aluminium provides a tough, water and dust-proof structure. As Dan Browning at Roseburg Lumber said, “*we even ripped one photocell out with a front-end-loader – stuck it back into position, repaired the wires and away it went!*”
- High-speed applications are no problem as they operate at 4000 scans/sec or special models, used in lineal lumber graders, up to 8000 scans/sec.
- Easy to clean lens that consists of one flat piece.
- Simple to align as they can be offset +/-10° and still function – significantly reducing initial installation and alignment time.

## Minimum Log Size Setting

One of the biggest features noted above is the ability to set the minimum size of an object that is to be considered before a change of state is outputted. This is really important so that smaller pieces of debris, like chunks of bark or splinters broken off the log at the flying log turner, won't activate the photocell and screw up sequencing through the line. In addition, any build-up of sawdust on the sensor will not stop production until at least the minimum number of LEDs are blocked. This is a **HUGE** feature that has substantially increased up-time on a canter line according to Claude Théberge of Abitibi Consolidated. He has been using the ScanMeg Area Photocells for three years and is sold on their performance. He has already documented the significant uptime on their canter lines that had the ScanMeg sensors and is sharing their success with their other mills.

This minimum log diameter feature was requested by Chuck Woodbury, Electrical Superintendent, of Simpson Timber on his DLI canter quad line. He was getting miss-sequencing errors that resulted in damage to saws as well as 'sets not complete' errors on his canter. With the ScanMeg Area Photocell, these false outputs were eliminated. Originally this feature was hard-coded into the on-board CPU and the sensor had to be ordered that way. Dan Browning, the Electrical Superintendent at Roseburg had us make it programmable by the customer and this made this feature even more useful. Having the on-board CPU made this a very easy thing to do to accommodate their requests.

Chuck even had to change out the 110 volt photocells that were originally installed and had to put in 24-volt relays to interface to the ScanMegs – he obviously felt that these sensors were worth it!



In his own words Chuck says: *“ScanMegs have increased my Photocell Cell reliability and Machine Center Uptime. I asked them for a photocell that required a certain amount of the array needed to be blocked before a blocked signal is sent. They responded quickly with a Type P that is programmable for just that. Wood chips that used to pile up and cause false trips in a standard PC array have virtually been eliminated by replacing them with ScanMegs. No more nuisance shutdown trips. I have found the staff was openly receptive to any ideas the customer may have and will work to achieve the same.”*

Chuck Woodbury  
Electrical Systems Supervisor  
Simpson Timber, Tacoma WA

Whether a 16”-model is used on the log deck to catch the top end of a tree-length stem that is 10-inches off the conveyor; or at the outfeed of an automated log cut-off saw with piles of sawdust flying around; or the 8” long-range model is used on a DLI canter line to make sure that the sequencing is not compromised, there is a size and model that will work for you.



ScanMeg Photocells are found throughout the DLI Canter Quad line at Simpson Timber. The most dramatic use is around the canter head and bandsaws where there is lots of debris flying around.



**ScanMags before and after Quad Bands at Simpson Timber's mill in Tacoma – handles dust just fine!**

Erin Valance, the Electrical Superintendent at Murphy Veneer, had the ScanMeg photocells installed before and after the saw in his Nicholson SuperSaw. He really didn't believe they would work with the cloud of wet sawdust that erupted with each cut and contained within the SuperSaw's frame – but they did!

There are some very important trouble-shooting features built into the design that helps the electrician maintain the sensors:

- LEDs on both emitter and receiver to show they have power.
- A synchronisation LED to show that there is communication between emitter and receiver.
- A synchronisation LED placed beside each phototransistor on the receiver that lights up as soon as the LED/phototransistor is blocked. If there were a problem then the LED would light up continuously.
- Tough military connectors

#### **Nicholson SuperSaw with ScanMeg control**



#### **DLI Canter Quad Line at Interfor, Western Whitewoods**

- Easy installation
- Easy alignment
- Easy maintenance
- One I/O
- Programmable
- Built-in diagnostics

ScanMags on DLI line – handles all the crooked logs you can throw at them.



**ScanMegs on VKB debarker outfeed –  
16-inch unit never misses a log**



**V-flight conveyor photocell feeding USNR  
canter/circle quad with Curve-sawing VSA**



**LEDs, on the receiver beside each photo  
transistor , show which cells are blocked**



**P12" unit at curve-sawing VSA outfeed**

*“Scanmegs work great in the sawmill environment. We often fight chips, dust, shims, and broken pieces in our process. We have programmed the Scanmegs to not register a blockage unless it blocks 3 of the diodes. Just picking up the logs and cants has given us continuous flow where we previously were plagued with nuisance stops. We plan on implementing the Scanmeg in all of our problem areas. The cost compared to the results is a “no-brainer”.”*

Kevin Moore  
Process Control  
Tolko Industries Ltd., Nicola Operations, Merritt BC

With production lines significantly increasing piece counts it is imperative that they run at as close to 100% uptime as possible. With these photocells you have just increased your uptime and therefore your production – at a very minimal cost.

Cost wise, they are about the *same price of two, to two and a half times the price of a single photocell* but cover a much larger area and are much more reliable. If you need more than two in a stack then it is *cheaper* to purchase ScanMeg photocells. Plus the added benefit of only one I/O, no matter how many LEDs in the sensor....less wiring and maintenance required.

Just give us a call, send us a fax order or an email and try one today. Take me up on the challenge – put them into your worst applications and if you don't discover their advantages for yourself, like we know you will, we will cheerfully return your money! You have nothing to lose – and much more production to gain!

Best regards,

**ScanMeg West**



John Wilby

**ScanMeg West**



Mike Wilby

**Call today at 604.582.2157 or send an email:**

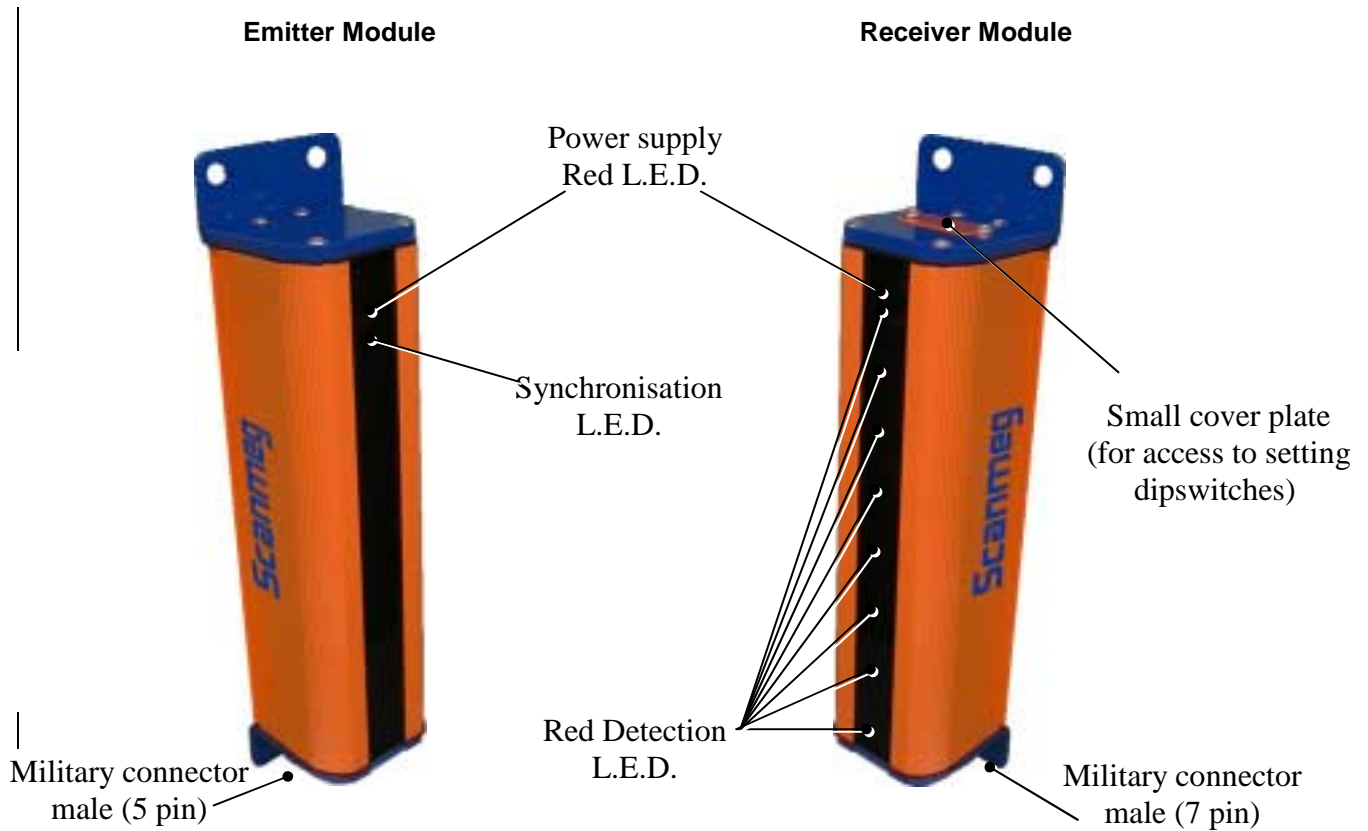
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[For complete Type P Photocell Specifications go to :](#)

[www.scanmeg.com](http://www.scanmeg.com)

PS. If you are presently purchasing a new primary breakdown line does it make sense installing conventional photocells now – only to replace them with the ScanMeg Area Photocell later to achieve greater up-time? This increase in up-time is too valuable to miss out on. Why do you think these other sawmills upgraded – after they installed conventional photocells – because they recognized their value. As Kevin Moore said, “*The cost compared to the results is a “no-brainer.”* Just figure out what a 3 to 5% increase in uptime means to you!



**Design of the Type P Photocell**

MODEL	FIELD OF VIEW (IN.)	RANGE (FEET)	SCANNING RATE (SCANS/SEC)		SUPPLY (VOLTS DC)	CURRENT CONSUMPTION	OUTPUT	OPERATING TEMPERATURE
			Precision 1"	1/2"				
<b>P4</b>	4	10	6950	4450	12 - 24	250 mA	PNP or NPN	-40°C to 50°C
<b>P8</b>	8		3990	2280		260 mA		
<b>P12</b>	12		2800	1530		270 mA		
<b>P16</b>	16		2160	1160		280 mA		
<b>P4EX</b>	4		3475	2225		270 mA		
<b>P8EX</b>	8		1995	1140		280 mA		
<b>P12EX</b>	12		1400	765		290 mA		
<b>P16EX</b>	16		1080	580		300 mA		
<b>P4LR</b>	4	25	3475	2225		270 mA		
<b>P8LR</b>	8		11995	1140		280 mA		
<b>P12LR</b>	12		1400	765		290 mA		
<b>P16LR</b>	16		1080	580		300 mA		