# Throughput Monitoring, Part Counting, and OEE

- Easily add part counting to legacy machines
- Monitor throughput to increase uptime and utilization
- Collect Overall Equipment Effectiveness (OEE) data to optimize your operation
- Enable IIoT for real-time monitoring and decision making

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Improve production efficiency

Improve production efficiency by monitoring the in-feed and out-feed of machine/process counts

- Track process and machine availability
- Monitor machine states and performance
- Get data for real time quality measurements
- Create alerts based on user configurable settings to reduce downtime
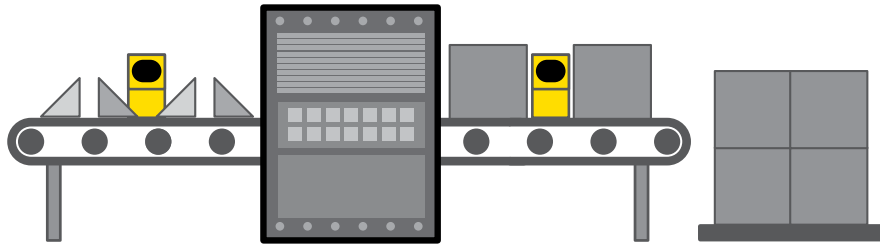
Q45 Photoelectric
- Photoelectric sensor with integrated wireless node
- Battery-powered – up to 1.5 years of battery life
- Truly peel & stick for fast installation and ease of changovers
- Totalizes up to 960 parts per minute

Retrofit processes

Retrofit machines with existing part counting sensors and wireless nodes

- Improve visibility to part counting data
- Easy installation with wireless data transmission
- Monitor production data via scoreboard, PLC or cloud server
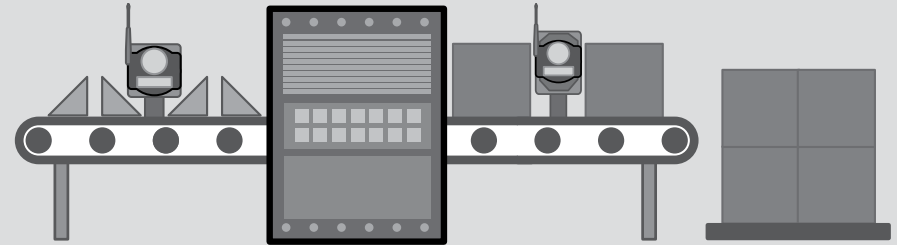
Performance – P16E Node
- Two configurable asynchronous counter inputs
  Totalize up to 10,000 parts per second
- 10 to 30 V DC power
- Battery backup – never lose a count
- Wire in any sensor – including existing sensors
- Field wireable terminals
- LCD display to read counts on the line
- Outputs available to activate a warning light

Performance – P14 Node
- One configurable asynchronous counter input
  Totalizes up to 10,000 parts per second
- Battery-powered – easy-to-install
- Wire in any sensor – including existing sensors
- Field-wireable terminals
- LCD display to read counts on the line

Collect count data

Control wireless networks, collect count data,
and create alerts

- Track counts and time stamps for machine states
- Utilize OEE Solution Guide to configure part counting system
- Connect to the network and send data to the cloud or PLC
- Send text or email alerts

DXM100 and DXM150 Controllers
- Ethernet and cellular connectivity for IIoT
- Event/data logging with email and text push
- User programmable LCD
- Notifications, alerts, alarms
- Add other devices to your wireless network

Text or Email Notification

Data Logging

Throughput data / OEE Metrics

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Wireless Q45 Sensors

Models	Frequency	Sensing Range	Inputs and Outputs
DX80N9Q45D	900 MHz	300 mm	Diffuse mode photoelectric sensor with event counter
DX80N2Q45D	2.4 GHz		

Models	Frequency	Sensing Range	Inputs and Outputs
DX80N9Q45LP	900 MHz	0.15 to 6 m	Retroreflective photoelectric sensor with event counter
DX80N2Q45LP	2.4 GHz		

Performance Series Nodes

| Models	Frequency	
DX80N9X1S-P14	900 MHz	**Inputs:** One configurable discrete, one configurable analog, one thermistor, one asynchronous counter
DX80N2X1S-P14	2.4 GHz	**Switch Power Outputs:** One

Models	Frequency	Inputs and Outputs
DX80N9X1S-P16E	900 MHz	**Inputs:** Two configurable asynchronous counters
DX80N2X1S-P16E	2.4 GHz	**Outputs:** Four NMOS

DXM Wireless Controllers

Models	Description
DXM100-B1R1	Wireless Controller with DX80 ISM 900 MHz radio
DXM100-B1R3	Wireless Controller with DX80 ISM 2.4 GHz radio
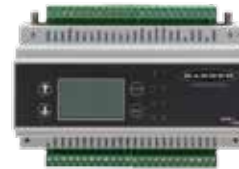
Models	Description
DXM150-B1R1	Wireless Controller with DX80 ISM 900 MHz radio
DXM150-B1R3	Wireless Controller with DX80 ISM 2.4 GHz radio
DXM150-B2R1	Wireless Controller with DX80 ISM 900 MHz radio
DXM150-B2R3	Wireless Controller with DX80 ISM 2.4 GHz radio

Additional information and complete specifications can be found on the product datasheets.