

**Simplifying Processes.
Standardizing Excellence.**

Check-list of Functionality For Line-side Labeling & Process Automation

Are you looking for a way to improve control over your material handling processes at line-side, to ensure Finished Parts are accurately identified, counted, packed, labeled and shipped?

SPEDE Automated Line-side Solutions can leverage technology you already have to increase the accuracy and efficiency of line-side processes. We integrate PLCs, vision technology, weigh scales, touch screens, WiFi and other technologies to control processes and ensure every customer shipment has the correct parts, in the correct quantities and with the correct labels. Our solutions also capture and display real-time production counts and machine run data, to enable easy monitoring of production at line-side, create traceability records, and automatically update host ERP, EDI and OEE (Overall Equipment Effectiveness) systems.

Use this Check-list as a Starting Point

This check-list can help you begin to identify and prioritize the functionality you may need at individual production lines. Our solutions can be tailored to fit the procedures, equipment and data requirements of each line, and you can expand functionality in the future as your needs require.

Line-side Labeling: Semi-Automated? Or Fully-Automated?

A fully automated labeling solution eliminates human intervention in the labeling process and provides the highest level of control and error-proofing. But it may not be applicable for all production lines. For example, at lines where a single part number is being produced, a simple semi-automated Poke Yoke solution can ensure the correct label will always print for the Part Number being made.

Semi-Automated Labeling – Uses WiFi Push-Buttons

- Designed for production lines that make only one Part Number at a time.
- This solution requires the operator to do a manual pack count, and then trigger a container label to print when the pack count is reached.
- The operator triggers a label by touching a WiFi button.
- The WiFi button and a barcode printer or mobile print station are located at line-side.
- Before start of run, the WiFi Push-button is configured to print the label for the Part Number to be made. A sample label can be affixed to the Push-button device as a visual confirmation of the label that is currently set-up to print.
- The data from the printed container labels is automatically exported to your existing host Shipping System.



Fully-Automated Labeling - Uses PLCs, Scales, Touch Screens and/or Vision Technology

SPEDE fully-automated labeling solutions print a container label automatically when a pack count is reached, eliminating the manual tasks of identifying and counting parts, differentiating between Good and Scrap parts, and making sure the container's part number and quantity match the container label.

Which of These Solution Ideas Might Improve Your Operation?

- Use your production machine's PLC to count both Good Parts and Scrap Parts; automatically print a container label when the PLC indicates a pack count of Good Parts is reached.
- Use a Weigh/Count Scale to determine when the container is full; automatically print a container label.
- Use a Vision Sensor to verify whether a Part is Good or Scrap as it leaves the production machine.
- Use a Vision Sensor to count both Good and Scrap Parts, then automatically print a container label when a pack count of Good Parts is reached.
- Print a serialized barcode label or use laser etching to serialize each individual Part.
- Automatically scan or read each Part's serial number to provide accurate counts for inventory and production, and serialized parts traceability.
- Use a Touchscreen PC at line-side to display real-time counts and enable the operator to adjust for Rejects /Scrap.
- Use a power cart and WiFi printer as a mobile print station.
- Automatically export Production Counts, Machine Data and Container Label Data to your existing ERP/EDI /Shipping System.



PLC -directed



Vision Technology



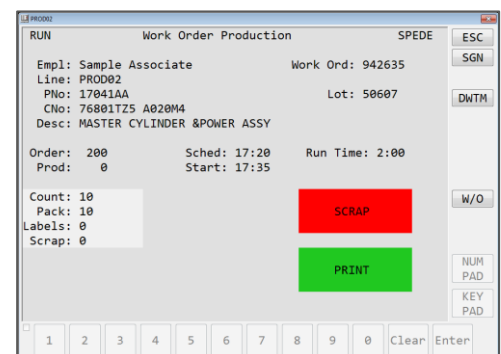
Weigh Scale Interface

Extended Line-side / OEE Functionality – Beyond the Labeling Process

“Extended Functionality” offers additional benefits beyond labeling, such as real-time production visibility, accurate control of packing and shipping processes, serialized parts traceability, and compliance with Honda MPRs (Minimal Process Requirements) for accurate labeling and shipping processes. These options can be added at any time to improve the quality, accuracy and efficiency of your operations.

1. Get Real-time Production Information at Line-side:

- Validation of Parts and/or Tools at Start-of-Run
- Validation of Parts at Kitting or Packing
- Real-time Machine Counts of pieces produced
- Actual Machine Counts vs. Targets
- Operator productivity (good parts, rejects, scrap)
- Alert/Report if Operator varies from standard processes
- Collect/Store PLC metrics for production machine in SQL DB for Operational Efficiency (OEE) reports
- Retain a detailed Individual Part History including any Rework history



2. Get Real-time Control of Partial:

- Control of containers of Partial at End-of-Run / End-of-Shift / Break-times
- Control of leftover Partial after combining multiple Partial to make up a full pack
- Read a part serial number that is laser etched or barcoded on each part

3. Get Serialized Parts Traceability:

- Print a serialized part barcode label for each part.
- Use laser etching or other technology to serialize each individual Part.
- Control serialized containers of Partials at End-of-Shift.
- Retain detailed Individual Part History including any Re-work history.
- Maintain the association of individual serialized parts to a serialized container of Parts.
- Maintain the association of serialized containers of parts to a serialized pallet label.
- Maintain the association of a serialized pallet to a unique customer shipper/RAN/ASN.
- Maintain Part Traceability from a Customer backwards to the Shipper number / Pallet/ Container/ Machine/ Shift/ Operator.
- Maintain Part Traceability backwards from a Production Machine to the Lot Numbers of Raw Materials used.
- Maintain Part Traceability backwards from the Lot Numbers of Raw Materials used in production to the Supplier(s) of those Raw Materials.
- Collect/Store Production Run Statistics (good/reject/scrap) in SQL DB for inquiries/reports.

Part Nbr	Description	Run Nbr	Start	Stop	Elapsed	Scrap	Good	Containers
C729-103-0000	ACCORD M/T RADIATOR	000012001	08:03:22	12:01:10	03:57:48	11	200	40
C729-103-0000	ACCORD M/T RADIATOR	000012004	13:01:06	17:38:57	04:37:51	19	240	48
C729-103-0000	ACCORD M/T RADIATOR	000012007	18:20:07	23:30:45	05:10:38	9	280	52
					13:46:17	39	700	140
C729-101-0000	CIVIC M/T RADIATOR	000012012	07:58:26	12:10:00	04:11:34	13	180	36
C729-101-0000	CIVIC M/T RADIATOR	000012016	13:12:35	17:28:20	04:15:45	8	180	32
C729-101-0000	CIVIC M/T RADIATOR	000012017	19:00:05	23:40:10	04:40:05	11	205	41

4. Get Detailed Production Reports and Accountability:

- Export production reporting data to ERP, inventory control and/or OEE systems.
- Maintain Operator accountability (who made what, where, when, etc.).
- Confirm / Report that each Operator is following your processes.
- Collect/Store PLC metrics for production machine in SQL DB for OEE reports.

If you would like to discuss your line-side issues and Functionality Check-list with a business analyst, please call us. Or email your completed Check-list to Bob Bunsey at bbunsey@spede.com.

Your Name _____ Job Function _____

Company _____ Phone _____

EDI System _____ ERP, EDI System _____

Project Timeframe _____



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