

Cobalt Sentinel – In-line Verification

IN-LINE VERIFICATION



Real-time and accumulated barcode quality at a glance

BARCODE VERIFICATION

In production, COBALT SENTINEL checks the grade of every code, after application to the product, regardless of position or throughput speed, and including two separate codes on adjacent or opposing surfaces. The ANSI equivalent grade is displayed on the screen, in real time, and for every code. The accumulative results throughout the production period are expressed in time series or bar chart format, ensuring the ANSI grade being maintained is evident at all times.

Quantitative counts of A, B, C, D or F ANSI equivalent grades provide the operator with factual information on quality variation and the extent of bar code degradation. Early stages of degradation are identified, prompting corrective action at the next natural line stop and preventing interruption of production. In the unlikely event of rapid degradation or unreadable bar codes, COBALT SENTINEL will activate reject lanes or bring the line to a controlled stop.

INTEGRATED INTO THE PRODUCTION LINE

An integral part of the production line, COBALT SENTINEL manages the printing and application of labels to products. The status at all times is displayed via a three light beacon as well as on the screen. Ethernet ports accommodate the receiving and sending of data across the network. I/O outputs provide for a broad range of reactive activities including the operation of reject lanes, controlled line stoppage, reducing line speed and remote beacon further up stream.

High quality barcodes are key to reliable supply chain logistics. Major retailers have fully automated Distribution Centres where efficient handling can only be achieved if every traded unit and pallet barcode is readable. Maintaining the quality is the responsibility of the manufacturer, and therefore a critical part of the production process.

IN-LINE QUALITY CONTROL

In a highly competitive market, production output and uptime is paramount with quality control being an intrinsic part of the manufacturing process. The complexity of product variants and compliance to EU178 regulations requires all TUC and Pallet data to be printed in-line, adding a further quality procedure.

COBALT SENTINEL provides in-line barcode quality control from the generation of the code, to verification after application and logging of the completed event with the grade achieved. At the start of production, the COBALT SENTINEL initiates the printing of the first label and validates the content via the scanning head or by comparing with a data file supplied remotely across the network. At the same time an ANSI equivalent grade is displayed on the screen confirming production can commence, or prompting corrective action.



Verification after apply guarantees barcode quality and label positioning

Whilst consistent high quality coding applies, the beacon will show a green light. Early stages of degradation will show an orange light. If this is a blip instead of a development, it will be clear on the COBALT SENTINEL screen, allowing an informed decision to be made, preventing line stoppage. In the event of serious degradation or no read conditions, a red light will show and reactive signalling will apply.

SECURE ACCESS TO SETTINGS

Sophisticated access controls are simply operated using biometric technology. Fingerprint authentication ensures that no one has to remember user id and passwords, and no identities are 'shared' through group passwords. Permissions are granted at operator, supervisor, engineer and administrator levels, and only the functions available to each user are shown. Every action is recorded in the event log, with associated reason codes, giving a true history of setting changes, should they be needed later to identify interference or training issues. Engineer and Administrator logs show the setup and maintenance function history. All activity logs are retained locally for a limited period and frequently passed to a local server using the SQL injector.

Operator interaction is primarily related to using Print Manager to set up a print batch – choosing product details, label layout and entering variable data. Setup data can be entered locally, or collected across a network. Supervisors are able to set a 'match code' which is used as a set value to check the barcode is correct to product.

More advance users are able to set the response of the system to barcode quality deterioration and no reads. I/O signals are defined to give warning, reject, and line stop actions based on barcode quality and level of degradation

TRACK AND TRACEABILITY

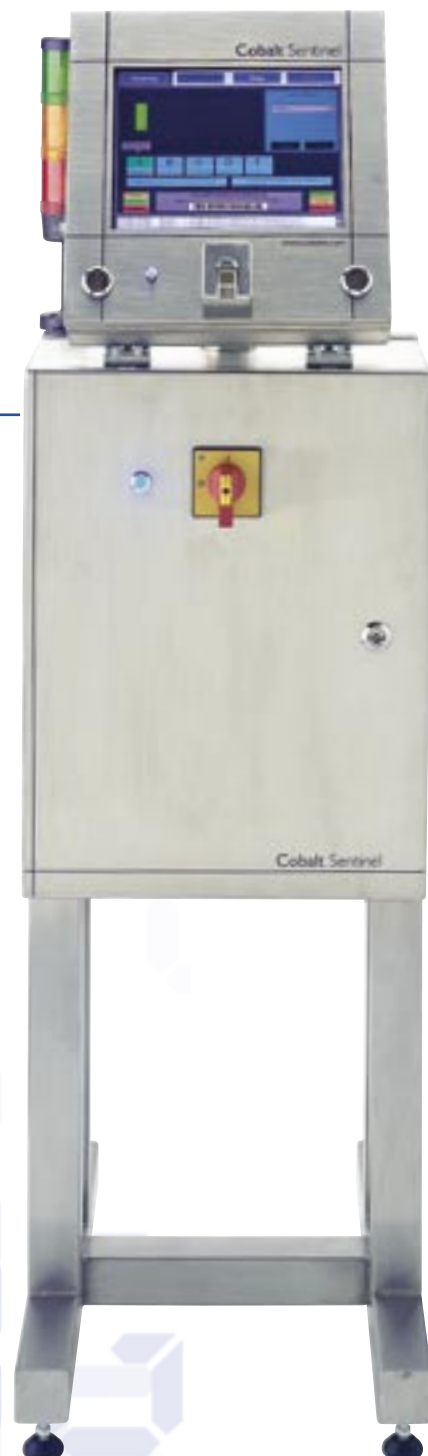
Pack, case and pallet labelling, on receipt or despatch, are key points in building a traceability history for a product. COBALT SENTINEL uses the labelling event to collect real-time data of the unique pack identity from the EAN128 or epcglobal code, adding the time it was created.

COBALT SENTINEL stores this data in encrypted logs, along with the barcode quality rating, which cannot be edited. The last 24 hour history of data is held locally, and all data is passed, in real-time, to host systems using the SQL injector.

OCR APPLICATIONS

Substituting the barcode scanning head with a camera extends the range of verification and validation functions the COBALT SENTINEL can provide. Where there is the need to print critical text information in the production line process, COBALT SENTINEL validates that the text is complete and accurate, logging the successful event with a date and time.

Canned food products rely on the inkjet human readable code to identify content up until the product label is applied. This high speed process can lead to incorrect identification and consequently serious disruption in the supply chain. COBALT SENTINEL validates the legibility of this code at the time of print and again checks this code against the label during application. Unreadable Inkjet text or an incorrect match of code to label initiates a controlled line stop.



EQUIPMENT SPECIFICATION

APPLICATION

Barcode verification for products, packs, cases and pallets
Optical Character Recognition inkjet coding validation
Canned product content to labelling verification
Sleeved product validation
Character and graphical validation
Auditable verification log 21 CFR 11 compliant

CONNECTIVITY

16 Digital I/O channels
Ethernet, USB, parallel
SQL, Access and Oracle links

HARDWARE FEATURES

10.4" Touch Panel screen for HMI
Biometric scanner
Beacon for long range status
Raster scanner for side of product verification
Line scanner for front of product verification
IP65 rated
Fanless, diskless technology

12 months warranty and CE conformity.
Patent Pending

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SOFTWARE FEATURES

Intuitive user interface
Graphical display of barcode history
Barcode consistency check
Current product barcode quality indicator
Barcode position indicator
Biometric authentication and password controlled access
Expected value control and comparison
Variable batch limit function to control product output
Full data encryption of verification and activity data
Access history logs
Print Manager functions for controlling Print & Apply equipment
Embedded XP platform
Diagnostic help
Constant consistency and logic checking

SERVICES

Universal power supply
100-240v AC
47Hz - 63Hz
Single Phase



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