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Message from the CEO

TEN YEARS AGO, we penetrated the market with a product that was deemed avant-garde and ahead of its time: an electronic shelf label featuring an E-paper display. SOLUM has grown rapidly since then, producing labels for global retail giants such as LOBLAW, REWE, TESCO, MACY'S, and more

In fact, we've supplied more than 86+ million ESLs in over 35 countries and over 8,000 stores worldwide.

Despite the relative success with our initial rollout, we are far from satisfied. We are fully aware that growth, whether digital or otherwise, is always continuous. To be successful with technological endeavors, a business should aim to never be stagnant.

And where does the initiative to grow and keep growing begin? At the top. I believe that digital transformation rests on the shoulders of C-level leaders. Business managers and owners need to do their due diligence; whether that's researching on their own volition or hearing the advice of more knowledgeable members of their board. CEOs in particular must never fall asleep at the wheel, and be the driving force so the rest of the company may be mobilized to reassess their approach to technology and growth.

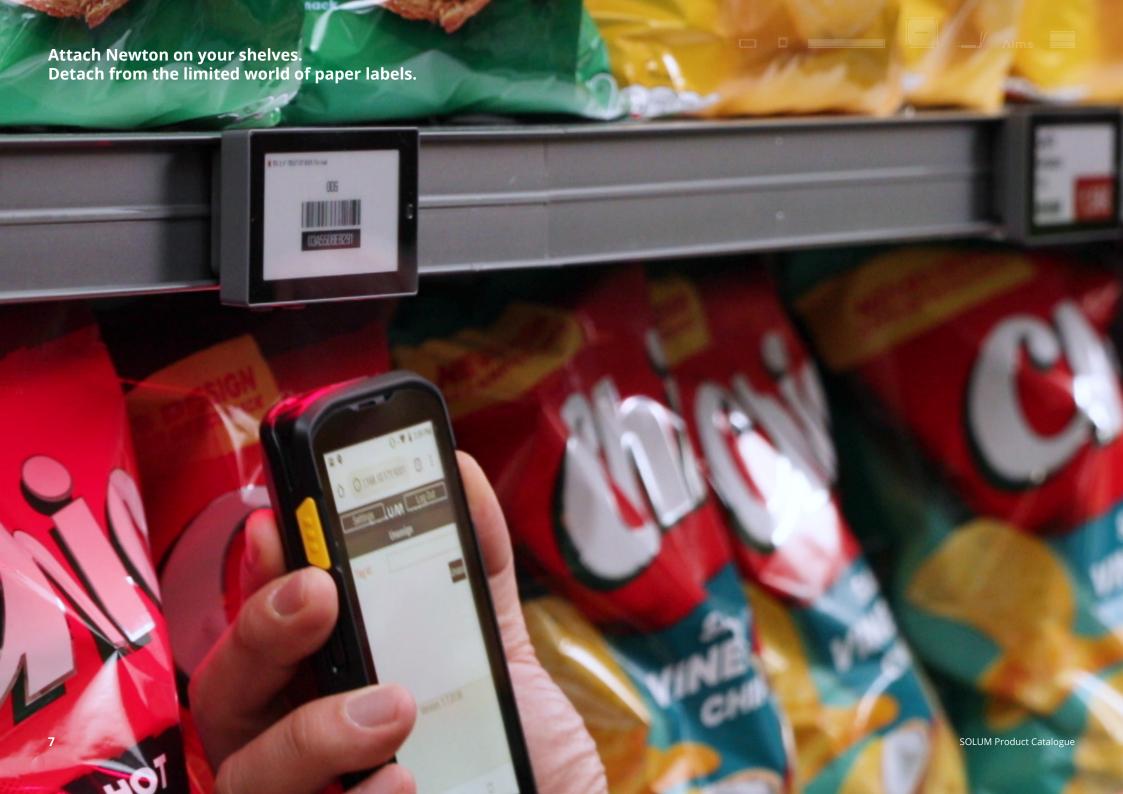
This product catalogue showcases what our company has to offer for all our clients across the retail and industrial sector. We don't just think that our daily lives are now more technologically-driven... we know so. Which is why we champion the newer, the faster, the better. In this issue, we announce the biggest news in Electronic Shelf Label technology: the launch of Newton, a product that will change the retail industry as we know it. We've upgraded the ESL with features that will drive customers to physical retail stores and ultimately improve your businesses' ROI. On that note, may your future business endeavors be triumphant... and digital!

> Sungho Jun CEO





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SOLUM creates solutions that not only scale businesses but also help them stay more sustainable in the long run. In the big picture, the goal is to help businesses advance while also being better for the planet.

We have summarized our sustainable Corporate Social Responsibility into three parts:

Reducing Food Waste

With real-time updates, inventory control, and shelf life management, businesses are able to track perishables and automatically adapt the prices in relation to their sell-by dates. With a simple click of a button, you can send signals to ESLs and alert staff and customers which food items are put on sale in a matter of seconds.

Buyers want sustainable products; and over one-third will pay 25% more for them. Sustainability drives demand and customer loyalty, which is why across the globe, businesses are taking action to implement more eco-friendly processes and products.

Promoting Paperless Operations

Going paperless is one of the many efforts companies are taking to go green. As the name suggests, electronic shelf labels give you the option to replace paper shelf labels with more sustainable ESLs. Other business processes such as inventory management and record-keeping can be turned digital. This reduces your company's paper consumption by almost 90% while streamlining and automating your operations, and reducing costs in the long run.

Reducing Energy Consumption

Our Newton range has a 10-year battery life, which means (among other things) fewer toxic chemicals in landfills. Reducing energy consumption saves your company money and reduces greenhouse gas emissions which contribute to climate change.



Sure, this emerging technology is exciting and interesting... but what does it do for your business, exactly?

Targeted advertising

Among other things, one great feature offered by ESLs is better and more effective advertising campaigns. Connect with smart consumers and send precise, targeted promotions to your patrons based on past purchases, search engine histories, and social media activities.

The technology also allows showrooming consumers to show competitors' prices and user reviews, which can be really effective in convincing customers to patronize your stores.

Digital records

ESLs allow businesses to get ahead of their competition and respond to big data at a much faster speed. Taking the responsibility of manually replacing paper labels away from store associates will not only reduce costs but free up your employees' plates, giving them more time to focus on sales and other important tasks.

Simply update any shelf-edge, anywhere, in mere seconds. And you know what's the best thing about having a digital system in place for managing pricing? It's that you will automatically have audit trails that can be viewed, stored, and manipulated on a digital platforms.



Additional revenue from brand partnerships

Some ESL modules have colorful and fully digital displays, and therefore can feature promos and rewarding in-store offers. This can open up so many possibilities, such as partnerships with brands to endorse their products on your labels.

Easier management of inventory

Other important internal processes may be sped up, too. Since inventory information is now digital, associates will be better able to locate where stock needs to go, improving replenishment and returns. This inventory information can also be connected to your online store, so order fulfillment done through your store's website can be easily managed.





The rise of progressive e-commerce websites has been posing a threat to traditional retailers, which is what moved these brick and mortar stores to explore alternative strategies that will allow them to rise to the challenge of their competitors. Although brick-and-mortar stores will still be the heart and soul of shopping, several steps and components of the typical consumer experience can be improved by digital platforms.

With the help of technology and big data, physical stores can be transformed into dynamic spaces that can provide personalized, exciting, and modern customer experiences.

Reports postulate that the industry's skyrocketing growth is driven by several factors:

- 1. The ever-growing popularity of retail automation
- 2. Issues arising with regards to government regulations on commodity pricing
- 3. Rising labor cost
- 4. Optimized operational efficiency
- 5. Real-time product positioning



Shelf labels of today are more than just price displays.

For many, the shelf edge is prime real estate: being at consumer eye level, there is so much potential in this area even though it only measures several square inches.

Newton has redefined what it is that shelves can do for store owners, and for warehouse managers, and especially for customers.

Limitless possibilities. That's the Newton promise.



DOWNLOAD LEAFLET



SCAN the QR code to visit the product page

10 **53**·

10 Years Battery Life

For the last 20 years, the general expected lifetime of the ESL has been 5 years. But with Newton, changing batteries every five years is now a thing of the past. We have managed to increase Newton's battery life to an unparalleled ten years.



Newton comes with two programmable buttons which allows for more efficient tasks execution in retail and industrial environments. These two buttons can be associated with simple or complex actions - from initiating help from customer service to completing an order picking process.



Refined Aesthetic Design

When it comes to design, we've completely redefined the capabilities of an ESL. SOLUM Newton comes with a whole new look—sleek and straightforward—giving a premium and modern look to wherever you choose to put it.



NFC

Newton's built-in NFC capabilities allow you to perform mobile payments (selfcheckout), link to your company's online website, and download a digital coupon.

10_x

x10 Fast Update Speed

Three thousand tags can be updated within 5 minutes with a single Newton Gateway, which means it takes 0.1 seconds to update one tag. That makes Newton 10 times faster compared to other ESLs.



Location-based Service (LBS)

Thanks to radio-frequency identification (RFID) technology, Newton is able to support Location Based Service. This feature allows automated product location and product navigation by detecting signal strength between the Gateways and ESLs.



Customizable Design

The real beauty of Newton is the fact that it is customizable. With Newton, you can incorporate your company's colors, patterns, and company logo. Now, that's what we call branding.



Collision-free Communication

Newton allows more than 60 RF channels (meanwhile, competitors offer only 11~16 available channels) which means it's a lot easier to select the communication channels in case of a very crowded WIFI circumstance.



7 Colors LED

This new generation tag allows the continuous LED blinking for a promotional purpose. With 3 sec of interval and 8 hours of operation in a day (8,228 times of LED light per a day) and for 100 days for a year, the battery life can still go up to 5 years.



Protection Window

Labels can break for many reasons: they can be dropped, stepped on, or hit by shopping carts. The new screen protection cover increases the durability of the label screen up to 80% (323 kg m/s2) making it safer from potential hazards.



Up to 7 Page

From nutritional facts to expiration dates to allergy warnings, all of this information can be uploaded into Newton's 7 pages. Using the multifunctional buttons, customers can flip through the different pages to access more data about the product.



IP67

Newton is fully water- and dustproof. You can put it anywhere, wet or dry. It can withstand the different temperatures in the fish, meat, or garden sections and last up to 30 minutes in water. Even the tiniest dust particles won't be able to penetrate it.



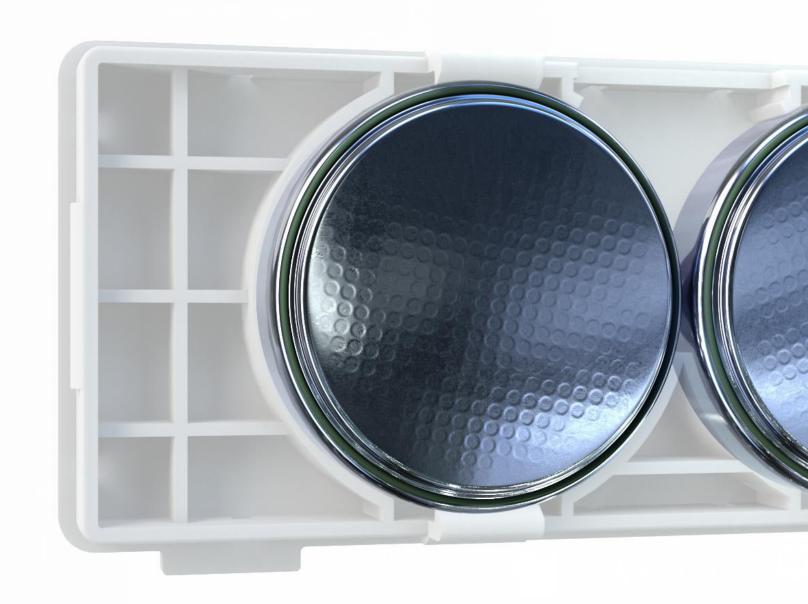
10 Years Battery Life

For the last 20 years, the general expected lifetime of the ESL has been 5 years. But with Newton, changing batteries every five years is now a thing of the past. We have managed to increase Newton's battery life to an unparalleled ten years.

The expected battery life of Newton is 10 years in 10° ~ 40° , 5 years in 0° ~ 10° and 3 years in 0° ~ 25° .

Advantages:

- a) Lower lifetime cost
- b) Lower labor cost



10_x

x10 Fast Update Speed

Three thousand tags can be updated within 5 minutes with a single Newton Gateway, which means it takes 0.1 seconds to update one tag. That makes Newton 10 times faster compared to other ESLs.

Advantages:

a) Assignment process time between a label and product is 6~10 seconds b) Labor efficiency, increased store productivity





7 Colors LED

The innovation of Newton in the battery life allows more possibility of heavy usage of LEDs. In other LED tags, the LEDs can only be lit on when it's requested to because of the high battery consumption.

Only 240 times of one LED light per a day (about 10 times of 10-seconds-set of LED blink-ing) is allowed to maintain the 5 years of battery life. But now this new generation tag allows the continuous LED blinking for a promotional purpose. With 3 sec of interval and 8 hours of operation in a day (8,228 times of LED light per a day) and for 100 days for a year, the battery life can still go up to 5 years.





2 Programmable Buttons

Newton comes with two programmable buttons which allows for more efficient tasks execution in retail and industrial environments. These two buttons can be associated with simple or complex actions - from initiating help from customer service to completing an order picking process.

With these buttons, customers can interact with the store more seamlessly, and staff can make their daily tasks easier and more efficient, leading to enhanced productivity.





Location-based Service (LBS)

Thanks to radio-frequency identification (RFID) technology, Newton is able to support Location Based Service. This feature allows automated product location and product navigation by detecting signal strength between the Gateways and ESLs.





Protection Window

Labels can break for many reasons: they can be dropped, stepped on, or hit by shopping carts. The new screen protection cover increases the durability of the label screen up to 80% (323 kg m/s2) making it safer from potential hazards.





Refined Aesthetic Design

When it comes to design, we've completely redefined the capabilities of an ESL. SOLUM Newton comes with a whole new look—sleek and straightforward—giving a premium and modern look to wherever you choose to put it.









Up to 7 Page

All products are not created equal: there are some that are accompanied with more information than others. From nutritional facts to expiration dates to allergy warnings, all of this information can be uploaded into Newton's 7 pages. Using the multifunctional buttons, customers can flip through the different pages to access more data about the product.





NFC

Newton's built-in NFC capabilities allow you to perform mobile payments (self-checkout), link to your company's online website, and download a digital coupon.





Collision-free Communication

Newton allows more than 60 RF channels (meanwhile, competitors offer only 11~16 available channels) which means it's a lot easier to select the communication channels in case of a very crowded WIFI circumstance.

Even though we've found a means to prevent unexpected WIFI collisions thanks to our more than 60 RFI channels, the Auto Channel Section function of Newton gives you the opportunity to move to a free channel to avoid any RF interference. This means your store associates need not worry about any wireless communication issues, as the ESL system is always interference-free.



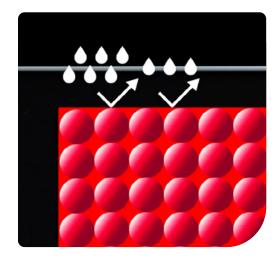


IP67

Newton is fully water- and dustproof. You can put it anywhere, wet or dry. It can withstand the different temperatures in the fish, meat, or garden sections and last up to 30 minutes in water. Even the tiniest dust particles won't be able to penetrate it.



Secondary Features



Complete Sealing System

The screen is also completely sealed to prevent the display colors from fading or drying out, meaning your display can retain that crisp color for longer.



High Resolution

Newton's screen resolution got upgraded by 20%: now, the crisp and clear display comes with 184dpi for our 1.6" display, and 145dpi for our 2.9".



Easy Locking System

Installation and removal have never been easier with Newton's easy locking system. You won't need any other tools for installation. Just use the Newton remover to detach a tag from the shelves.



Easy Battery Replacement

Each Newton unit comes with its own battery, which can be replaced manually. Instead of sending a whole tag to the RMA (Returns Management Authorization) center, SOLUM can simply deliver a replacement battery pack. This reduces the processing time and cost. The LED tags on each ESL unit are also programmed to blink constantly as an indication that a tag is running low on battery.



Model

W:EL016H3WRA/WWW B:EL016H3BRA/WWW

Dimension (inches)

1.4 x 1.7 x 0.5

Active display area (inches)

1.0 x 1.0

Resolution (pixel)

200 x 200

Pixel density

184 dpi

Display technology

Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW / BWR / BWY

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 1ea

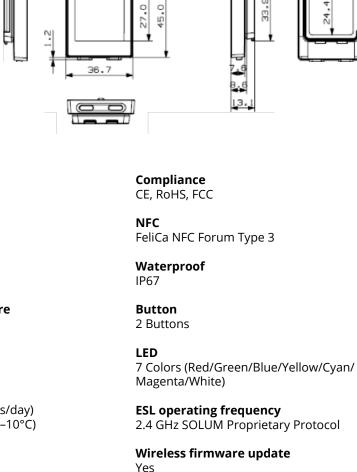
Battery lifetime

Up to 5 years (2 updates/day) or 3 years in 32-50°F (0-10°C)

Encryption

128-Bit AES





31.6





W:EL022H3WRA/WWW B:EL022H3BRA/WWW

Dimension (inches)

2.6 x 1.4 x 0.5

Active display area (inches)

1.8 x 1.0

Resolution (pixel)

296 × 160

Pixel density

156 dpi

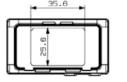
Display technology

Full Graphic E-ink Display

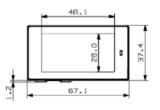
Bezel color

White or Black, Customizable Color(Optional)



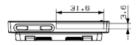






57.5





Pixels color

BW / BWR / BWY

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 2ea

Battery lifetime

Up to 10 years (2 updates/day) or 5 years in 32–50°F (0–10°C)

Encryption

128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/Magenta/White)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes









W:ELF22H3WMA/WWW B:ELF22H3BMA/WWW

Dimension (inches)

2.6 x 1.4 x 0.5

Active display area (inches)

1.8 x 1.0

Resolution (pixel)

296 × 160

Pixel density

156 dpi

Display technology

Full Graphic E-ink Display

Bezel color

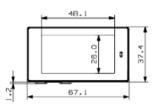
White or Black, Customizable Color(Optional)



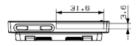












Pixels color

BW

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

-13-32°F (-25-0°C)

Battery

CR2450 × 2ea

Battery lifetime

Up To 3 years (1 Update/day)

Encryption

128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/ Magenta/White)

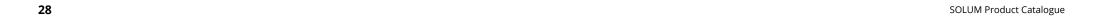
ESL operating frequency

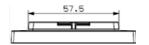
2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

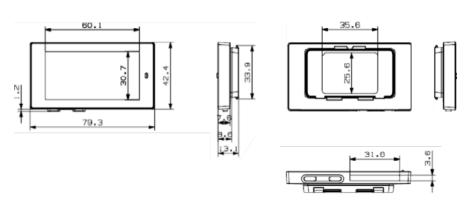
Yes











Model

W:EL026H3WRA/WWW B:EL026H3BRA/WWW

Dimension (inches)

3.1 x 1.6 x 0.5

Active display area (inches)

2.3 x 1.2

Resolution (pixel)

 360×184

Pixel density

152 dpi

Display technology

Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW / BWR / BWY

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 2ea

Battery lifetime

Up to 10 years (2 updates/day) or 5 years in 32–50°F (0–10°C)

Encryption 128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/ Magenta/White)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes







Model

W:ELF26H3WMA/WWW B:ELF26H3BMA/WWW

Dimension (inches)

3.1 x 1.6 x 0.5

Active display area (inches)

2.3 x 1.2

Resolution (pixel)

 360×184

Pixel density

152 dpi

Display technology

Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

79.3

-13-32°F (-25-0°C)

Battery

CR2450 × 2ea

Battery lifetime

Up To 3 years (1 Update/day)

Encryption

128-Bit AES

31.6

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button 2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/ Magenta/White)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes







Model

W:EL027H3WRA/WWW B:EL027H3BRA/WWW

Dimension (inches)

2.9 x 1.9 x 0.5

Active display area (inches)

2.2 x 1.5

Resolution (pixel)

300 × 200

Pixel density

133 dpi

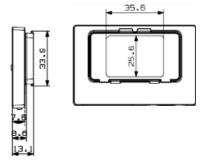
Display technology

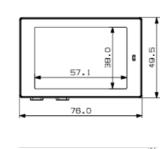
Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)









Pixels color

BW / BWR / BWY

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 2ea

Battery lifetime

Up to 10 years (2 updates/day) or 5 years in 32–50°F (0–10°C)

Encryption

128-Bit AES

Compliance CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/ Magenta/White)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes







W:EL029H3WRA/WWW B:EL029H3BRA/WWW

Dimension (inches)

3.3 x 1.6 x 0.51

Active display area (inches)

2.6 x 1.1

Resolution (pixel)

384 × 168

Pixel density

144 dpi

Display technology

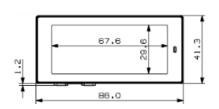
Full Graphic E-ink Display

Bezel color

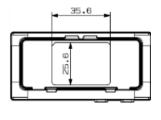
White or Black, Customizable Color(Optional)











Pixels color

BW / BWR / BWY

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 2ea

Battery lifetime

Up to 10 years (2 updates/day) or 5 years in 32–50°F (0–10°C)

Encryption

128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/ Magenta/White)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

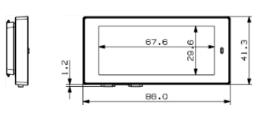
Wireless firmware update

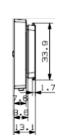
Yes

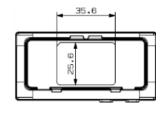












Model

W:ELF29H3WMA/WWW B:ELF29H3BMA/WWW

Dimension (inches)

3.3 x 1.6 x 0.51

Active display area (inches)

2.6 x 1.1

Resolution (pixel)

384 × 168

Pixel density

144 dpi

Display technology

Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

-13-32°F (-25-0°C)

Battery

CR2450 × 2ea

Battery lifetime

Up To 3 years (1 Update/day)

Encryption

128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/ Magenta/White)

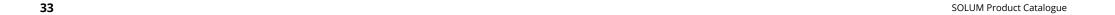
ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes









W:EL042H3WRA/WWW B:EL042H3BRA/WWW

Dimension (inches)

3.8 x 3.2 x 0.5

Active display area (inches)

3.3 x 2.5

Resolution (pixel)

400 × 300

Pixel density

120 dpi

Display technology

Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW / BWR / BWY

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 2ea

Battery lifetime

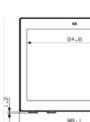
Up to 10 years (2 updates/day) or 5 years in 32–50°F (0–10°C)

Encryption

128-Bit AES

1







Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/ Magenta/White)

ESL operating frequency

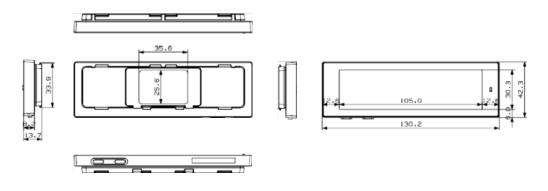
2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes







Model

W:EL043H3WRA/WWW B:EL043H3BRA/WWW

Dimension (inches)

5.1 x 1.6 x 0.5

Active display area (inches)

4.14 x 1.20

Resolution (pixel)

522 × 152

Pixel density

125 dpi

Display technology

Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW / BWR / BWY

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 2ea

Battery lifetime

Up to 10 years (2 updates/day) or 5 years in 32–50°F (0–10°C)

Encryption

128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/ Magenta/White)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes





Model

W:EL060H3WRA/WWW B:EL060H3BRA/WWW

Dimension (inches)

5.2 x 4.2 x 0.5

Active display area (inches)

4.5 x 3.3

Resolution (pixel)

 600×448

Pixel density

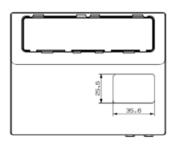
132 dpi

Display technology

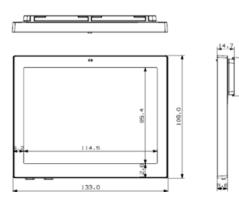
Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)







Pixels color

BW / BWR / BWY

Viewing angle

Nearly 180°

Usable pages

Up to 3 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 4ea

Battery lifetime

Up to 10 years (1 update/day) or 5 years in 32–50°F (0–10°C)

Encryption

128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/Magenta/White)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes



6.0 inch







W:EL075H3WRA/WWW B:EL075H3BRA/WWW

Dimension (inches)

4.9 x 7.2 x 0.6

Active display area (inches)

6.4 x 3.8

Resolution (pixel)

800x480

Pixel density

126 dpi

Display technology

Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW / BWR

Viewing angle

Nearly 180°

Usable pages

Up to 3 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 4ea

Battery lifetime

Up to 10 years (1 update/day) or 5 years in 32–50°F (0–10°C

Encryption 128-Bit AES

Compliance CE, RoHS, FCC

3.6

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

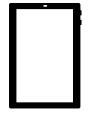
LED
7 Colors (Red/Green/Blue/Yellow/Cyan/Magenta/White)

ESL operating frequency

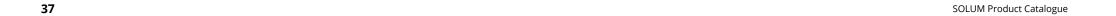
2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes



7.5 inch





11.6 inch

Model

W:EL116H3WRA/WWW B:EL116H3BRA/WWW

Dimension (inches)

7.55 x 10.5 x 0.8

Active display area (inches) 6.4 x 9.62

Resolution (pixel) 640 × 960

Pixel density

100 dpi

Display technology

Full Graphic E-ink Display

Bezel colorWhite or Black, Customizable Color(Optional)

Pixels color BW / BWR

Viewing angle Nearly 180°

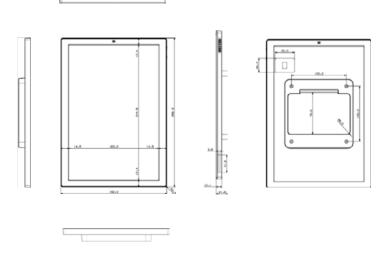
Usable pagesUp to 3 pages

Operating temperature 32–104°F (0–40°C)

Battery AA × 4ea

Battery lifetime Up to 10 years (1 update/day) or 5 years in 32–50°F (0–10°C)

Encryption 128-Bit AES



Compliance CE, RoHS, FCC

NFCFeliCa NFC Forum Type 3

Waterproof IP67

Button 2 Buttons

LED
7 Colors (Red/Green/Blue/Yellow/Cyan/Magenta/White)

ESL operating frequency 2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update Yes



Newton Sub-Giga

Industrial applications rely on automation, feasibility and simplicity - properties that ensure increased productivity. Designed to be extra efficient and reliable in an industrial environment, our Newton Sub-Giga line-up ensures high modularity and adaptability to various industrial processes.

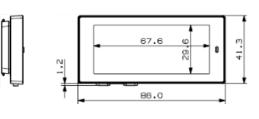
Our Sub-Giga line-up consists of electronic shelf labels operating at sub-giga speed. This allows for long working range, low interference data transmission, fast updates and data exchange - making it an ideal IoT solution in the industrial environment.

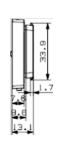
Available in Black/White/Red display, the Sub-Giga variant is also equipped with two programmable buttons and 7-color LED indicator

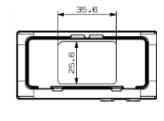












Model

W:EL029D3WRA/EEU B:EL029D3BRA/EEU

Dimension (inches)

3.3 x 1.6 x 0.51

Active display area (inches)

2.6 x 1.1

Resolution (pixel)

384 × 168

Pixel density

144 dpi

Display technology

Full Graphic E-ink Display

Bezel color

White or Black

Pixels color

BWR

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 2ea

Battery lifetime

Up to 10 years (2 updates/day) or 5 years in 32–50°F (0–10°C)

Encryption

128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/ Magenta/White)

ESL operating frequency

Sub-Giga (863-868MHz)

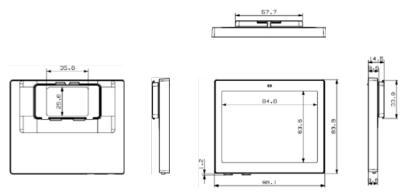
Wireless firmware update

Yes



2.9 sub-giga





Model

W:EL042D3WRA/EEU B:EL042D3BRA/EEU

Dimension (inches)

3.8 x 3.2 x 0.5

Active display area (inches) 3.3 x 2.5

Resolution (pixel)

400 × 300

Pixel density

120 dpi

Display technology

Full Graphic E-ink Display

Bezel color

White or Black

Pixels color

BWR

Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 2ea

Battery lifetime

Up to 10 years (2 updates/day) or 5 years in 32–50°F (0–10°C)

Encryption

128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/ Magenta/White)

ESL operating frequency

Sub-Giga (863-868MHz)

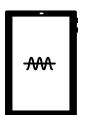
Wireless firmware update

Yes



4.2 sub-giga





7.5 sub-giga

W:EL075D3WRA/EEU B:EL075D3BRA/EEU

Dimension (inches)

4.9 x 7.2 x 0.6

Active display area (inches)

6.4 x 3.8

Resolution (pixel)

800x480

Pixel density

126 dpi

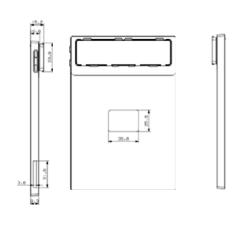
Display technology

Full Graphic E-ink Display

Bezel color

White or Black

07.5



Pixels color

BWR

Viewing angle

Nearly 180°

Usable pages

Up to 3 pages

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 4ea

Battery lifetime

Up to 10 years (1 update/day) or 5 years in 32–50°F (0–10°C

Encryption

128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/

Magenta/White)

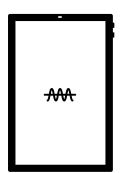
ESL operating frequency

Sub-Giga (863-868MHz)

Wireless firmware update

Yes





11.6 sub-giga

W:EL011D3WRA/EEU B:EL011D3BRA/EEU

Dimension (inches)

7.55 x 10.5 x 0.8

Active display area (inches)

6.4 x 9.62

Resolution (pixel)

640 × 960

Pixel density

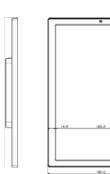
100 dpi

Display technology

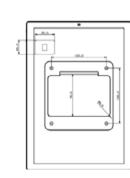
Full Graphic E-ink Display

Bezel color

White or Black







Pixels color

BWR

Viewing angle

Nearly 180°

Usable pages

Up to 3 pages

Operating temperature

32-104°F (0-40°C)

Battery AA × 4ea

Battery lifetime

Up to 10 years (1 update/day) or 5 years in 32-50°F (0-10°C)

Encryption 128-Bit AES

Compliance CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button 2 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/

Magenta/White)

ESL operating frequency Sub-Giga (863-868MHz)

Wireless firmware update







Built specially for the industrial environment, the 4.3" LED Picking is an ESL with Sub-Giga operating frequency, allowing for fast and continuous data transmission and low power consumption.

With three programmable buttons, 5-year battery life, and multi-color LED, this label enables smarter manufacturing and distribution processes.



EU: EL043DWWRA/NUS

Dimension (inches)

6.6 x 1.7 x 1.2

Active display area (inches)

4.1 x 1.2

Resolution (pixel)

522 x 152

Pixel density

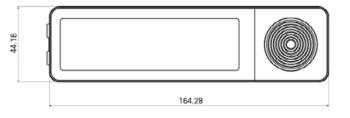
125 dpi

Display technology

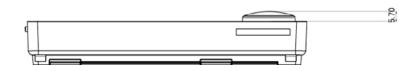
Full Graphic E-ink Display

Bezel color

White







Pixels color

BW / BWR

Viewing angle

Nearly 180°

Usable pages

Default: 3 pages, Optional: Up to 7 pages

Operating temperature

32-104°F (0-40°C)

Battery

 $AA \times 4ea$

Battery lifetime

Up to 5 years (2 updates & 100 LED blinks/day) or 3 years in 32–50°F (0–10°C)

Encryption

128-Bit AES

Compliance

CE, RoHS

NFC

MiFARE® NFC Forum Type 2

Waterproof

IP54

Button

3 Buttons

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/Magenta/White)

ESL operating frequency

Sub-Giga (EUROPE:863MHz~868MHz)

Wireless firmware update

Yes



4.3 inch LED Picking

Newton 4-Color

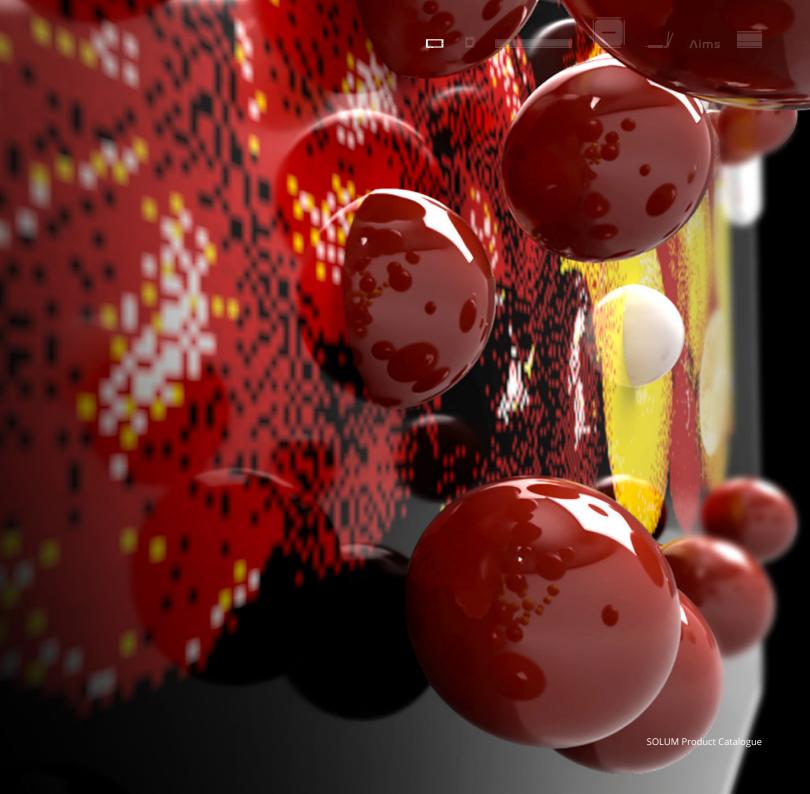
Experience a more dynamic, color-rich ESL display with Newton's latest 4-color variant. This latest option brings together Newton's unparalleled power and speed with the newest e-paper technology that utilizes red, yellow, black, and white colors in a single display.

With Newton 4- Color, you can take advantage of a more vibrant and crisper ESL display that gives way to more effective and versatile in-store marketing and branding campaigns.

Whether it's a one-time sale event or ongoing product promotions, the all-new Newton 4-Color can make your products stand out, and your sales take off. Elevate your business with this latest ESL innovation from SOLUM. Experience a more vibrant digital shelf display with Newton 4-Color.



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Key Features The same real-time update speed and powerful features of Newton. Higher temperature range for red and yellow pixels for a more eye-catching display. More flexible deployment in various retail sections. Better in-store promotion campaigns and brand image across the shelves. SOLUM Product Catalogue 46



Dimension (inches)

TBD

Active display area (inches)

1.16 × 1.16

Resolution (pixel)

168 × 168

Pixel density

144 dpi

Bezel color

White or Black, Customizable Color

(Optional)

Pixels color

BWRY

Viewing angle Nearly 180°

Battery

CR2450 × 1ea

Encryption 128-Bit AES

Compliance CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button 2 Buttons

ESL operating frequency

2.4 GHz

Wireless firmware update

Yes



1.64



Dimension (inches)

TBD

Active display area (inches)

 2.05×1.16

Resolution (pixel)

296 × 168

Pixel density

144 dpi

Bezel color

White or Black, Customizable Color (Optional)

Pixels color

BWRY

Viewing angle Nearly 180°

Battery

CR2450 × 2ea

Encryption 128-Bit AES

Compliance CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof IP67

Button 2 Buttons

ESL operating frequency

2.4 GHz

Wireless firmware update

Yes



2.4



Dimension (inches)

TBD

Active display area (inches)

 2.77×1.16

Resolution (pixel)

400 × 168

Pixel density

144 dpi

Bezel color

White or Black, Customizable Color

(Optional)

Pixels color

BWRY

Viewing angle Nearly 180°

Battery

CR2450 × 2ea

Encryption 128-Bit AES

Compliance CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button

2 Buttons

ESL operating frequency

2.4 GHz

Wireless firmware update

Yes



3.0



Dimension (inches)

TBD

Active display area (inches)

3.54 × 2.55

Resolution (pixel)

512 × 368

Pixel density

144 dpi

Bezel color

White or Black, Customizable Color

(Optional)

Pixels color

BWRY

Viewing angle

Nearly 180°

Battery CR2450 × 2ea

Encryption 128-Bit AES

Compliance CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

IP67

Button 2 Buttons

ESL operating frequency 2.4 GHz

Wireless firmware update

Yes



4.4





8.2

Dimension (inches)

TBD

Active display area (inches)

7.09 × 3.99

Resolution (pixel)

512 × 368

Pixel density

144 dpi

Bezel color

White or Black, Customizable Color (Optional)

Pixels color

 BWRY

Viewing angle Nearly 180°

Battery CR2450 × 2ea

Encryption 128-Bit AES

Compliance CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof IP67

Button 2 Buttons

ESL operating frequency 2.4 GHz

Wireless firmware update

Yes





Newton 7-Color

Being colorful is always striking. For a wide-range color option of electronic shelf label, there is Newton 7-Color. This Newton variety brings together Newton's unparalleled power and speed with the newest e-paper technology that utilizes red, yellow, blue, green, magenta, orange, black, and white colors in a single display.



Dimension (inches)

TBD

Active display area (inches)

4.54 × 3.93

Resolution (pixel)

600 x 448

Pixel density

132 dpi

Bezel color

White or Black, Customizable Color (Optional)

Viewing angle

Nearly 180°

Battery CR2450 × 4ea

Encryption 128-Bit AES

Compliance CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof IP67

Button 2 Buttons **ESL** operating frequency 2.4 GHz

Wireless firmware update

Yes



6.0

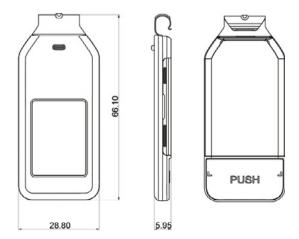


Newton Peghook is a unique ESL tag with a flat metal hook that enables fast and easy attachment on various shelving units and product items.

Available in Black/White/Red and Black/White/Yellow display, Peg Hook is also equipped with 3-color LED and 7-page display, allowing for effective in-store promotion and information sharing to customers.







Model

TBD

Dimension (inches)

2.4 x 1.1 x 0.2

Active display area (inches)

 1.0×0.77

Resolution (pixel)

200 x 144

Pixel density

189 dpi

Display technology

Full Graphic E-ink Display

Bezel color

White

Pixels color

BWR

Viewing angle

Nearly 180°

Usable pages

7 pages

Operating temperature

BWR (0 ~ 40°C) / (32 ~ 104°F)

Battery

CR2450 × 1ea

Battery lifetime

Up To 5 years (2 Update & 100 led blinking/ Day) * 3 years in 32–50°F (0–10°C)

Encryption

128-Bit AES

Compliance

CE, RoHS, FCC

NFC

None

Waterproof

No

Button

1 Button

LED

3 Color (Red/Green/Yellow)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes



1.3 inch





Switching to digital shelf labeling should never be a complex process, and we made this feat possible with Newton LITE.

Offering the same advanced features of Newton - speed, 7-color LED, and durability - Newton LITE is a line of compact ESLs designed to take your shelf labeling efforts to a whole new level.

Newton LITE is SOLUM's most cost-effective ESL especially designed for retailers and businesses who are new to the ESL technology. Available in 5 sizes, Newton LITE guarantees a no-frills ESL experience both for your customers and staff.

No matter what your goals, Newton Lite is the business solution for your retail shelves.



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Key Features



Newton System

Newton Lite comes with the advanced Newton System technology—that means it's 10 times faster than any other label in the market and is designed for maximum battery efficiency.



Screen Protection

Thanks to its additional screen protection, Newton Lite's screen is 80% stronger than older ESL models—it can handle up to 323kg/m/sqm of shock, making it safer from potential hazards.



Powerful + Compact Battery

Newton Lite comes with a battery pack which makes the battery replacement process so much easier, and is guaranteed to last 5 to 7 years in environments with 0-40 degrees temperature.



Unique Shelf Security Mechanism

Unlike other tags, Newton Lite is optimized for easy installation. The label can only be removed from the rail with a special tool, eliminating the need for complex shelf security systems.



Heavy-duty Case

The shockproof plastic case cover serves as a heavy-duty barrier against drops and bumps and can only be removed using the provided tool, protecting your ESLs from theft.



Label Positioning for Smarter Operations

Newton Lite's location-based system has an accuracy range of 1~2 meters, making it a perfect solution for more efficient operations and more seamless end-user experience.



Sticker Bezel

Newton Lite bezels may be customized with colorful printed stickers for a unique and creative advertising alternative.





Dimension (inches)

 $1.46 \times 1.84 \times 0.55$

Active display area (inches)

1.05 x 1.05

Resolution (pixel)

200 x 200

Pixel density

184 dpi

Display technology

Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW / BWR / BWY

Į

40.89

5.2

Viewing angle Nearly 180°

Usable pages

Up to 7 pages

Optional NFC Remote Controller is Required

26.8

37.12

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 1ea

Battery lifetime

Up to 5 years (2 updates/day) or 3 years in 32–50°F (0–10°C)

Encryption 128-Bit AES

Compliance

CE, RoHS, FCC

NFC

26.8 46.81

5

FeliCa NFC Forum Type 3

Waterproof

No

Button

No

LED7 Colors (Red/Green/Blue/Yellow/Cyan/Magenta/White)

8.23

14

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

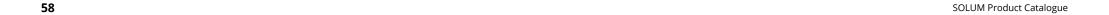
Yes

Barcode label position

Right Side(Inner Case) or Front Bottom(Inner Film)



1.6 inch





Dimension (inches)

 $2.80 \times 1.46 \times 0.55$

Active display area (inches)

 1.90×0.92

Resolution (pixel)

250 x 122

Pixel density

130 dpi

Display technology

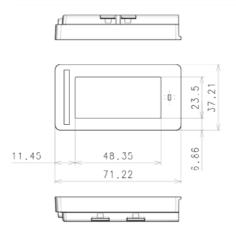
Full Graphic E-ink Display

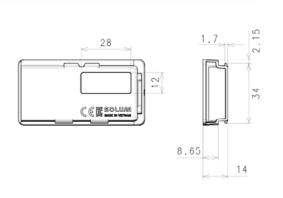
Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW / BWR / BWY





Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Optional NFC Remote Controller is Required

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 1ea

Battery lifetime

Up to 5 years (2 updates/day) or 3 years in 32–50°F (0–10°C)

Encryption

128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

No

Button

No

LED7 Colors (Red/Green/Blue/Yellow/Cyan/Magenta/White)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes

Barcode label position

Right Side(Inner Case) or Front Bottom(Inner Film)



2.2 inch



Dimension (inches)

 $3.16 \times 1.69 \times 0.55$

Active display area (inches)

 2.36×1.20

Resolution (pixel)

360 x 184

Pixel density

152 dpi

Display technology

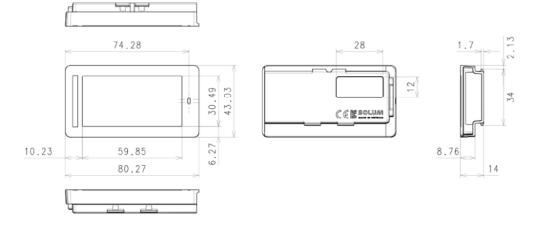
Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW / BWR / BWY



Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Optional NFC Remote Controller is Required

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 1ea

Battery lifetime

Up to 5 years (2 updates/day) or 3 years in 32–50°F (0–10°C)

Encryption 128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

No

Button

No

LED7 Colors (Red/Green/Blue/Yellow/Cyan/Magenta/White)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

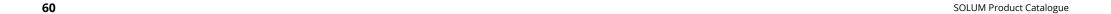
Yes

Barcode label position

Right Side(Inner Case) or Front Bottom(Inner Film)



2.6 inch





Dimension (inches)

 $3.04 \times 1.96 \times 0.55$

Active display area (inches)

 2.26×1.50

Resolution (pixel)

300 x 200

Pixel density

133 dpi

Display technology

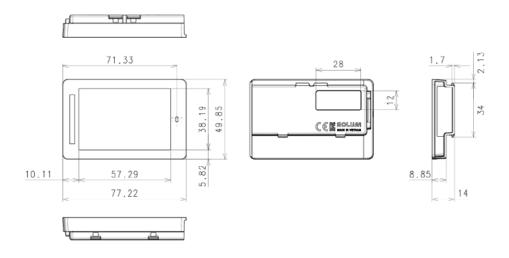
Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW / BWR / BWY



Viewing angle

Nearly 180°

Usable pages

Up to 7 pages

Optional NFC Remote Controller is Required

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 1ea

Battery lifetime

Up to 5 years (2 updates/day) or 3 years in 32–50°F (0–10°C)

Encryption 128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

No

Button

No

LED7 Colors (Red/Green/Blue/Yellow/Cyan/Magenta/White)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes

Barcode label position

Right Side(Inner Case) or Front Bottom(Inner Film)



2.7 inch



Dimension (inches)

 $3.44 \times 1.69 \times 0.55$

Active display area (inches)

 2.65×1.15

Resolution (pixel)

300 x 200

Pixel density

133 dpi

Display technology

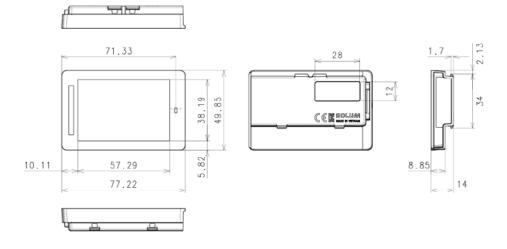
Full Graphic E-ink Display

Bezel color

White or Black, Customizable Color(Optional)

Pixels color

BW / BWR / BWY



Viewing angle

Nearly 180°

Usable pages

Up to 7 pages Optional NFC Remote Controller is Required

Operating temperature

32-104°F (0-40°C)

Battery

CR2450 × 1ea

Battery lifetime

Up to 5 years (2 updates/day) or 3 years in 32–50°F (0–10°C)

Encryption 128-Bit AES

Compliance

CE, RoHS, FCC

NFC

FeliCa NFC Forum Type 3

Waterproof

No

Button No

LED

7 Colors (Red/Green/Blue/Yellow/Cyan/Magenta/White)

ESL operating frequency

2.4 GHz SOLUM Proprietary Protocol

Wireless firmware update

Yes

Barcode label position

Right Side(Inner Case) or Front Bottom(Inner Film)



2.9 inch

Newton TOUCH

Interactive. Modern. Configurable. Newton TOUCH is designed and engineered to change the way people see and interact with your business.

Equipped with features that meet today's business requirements, Newton TOUCH not only allows customers to watch product videos and instructional demos.

With simple commands or gestures, they can also browse products, download content to their device, or add items into an online shopping cart.



DOWNLOAD LEAFLET



SCAN the QR code to visit the product page

Key Features



Interactive Interface

Unlike static digital signages, Newton TOUCH allows your customers to touch and swipe your Newton Touch panels, allowing them to perform special actions such as getting more content or claim coupons and discounts.



Two Display Sizes

Newton TOUCH is available in 23" and 29" variations – with slim bezels for a seamless viewing experience.



Immersive Full HD Display

Newton TOUCH uses IPS technology, supports up to 16.7 million colors, and is equipped with an anti-glare coating that minimizes reflection from an in-store lighting system.



High Performance Internals

Powered with Android OS, ARM®Cortex™-A17 processor, and Mali-T760 GPU, our solution is built to deliver maximum display performance.





Customizable Content

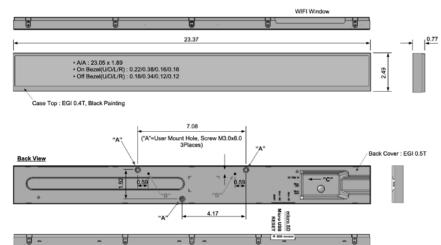
Display any combination of text, videos, images, product coupons with QR codes, digital brochures, interactive menus, and so much more.



Newton TOUCH CMS

With this intuitive platform, you can centrally manage Newton TOUCH efficiently and remotely. Manage all devices across different stores, upload media files, and set playback schedules all in one place.





Display Mode IPS

Sceen Size 23 inch

Resolution 1920 x 158

Display Colors 16.7 Million Colors

Surface TreatmentHard coating (4H), Anti-glare treatment

OS Android 7.1

CPU ARM Cortex[™]-A17, Quad-core, 1.6GHz

RAM 1GB DDR3 **Memory** 8GB Emmc

Network Wi-Fi 802.11 /b/g/n (2.4GHz)

Signal Output Micro HDMI

DC Power Input USB Type C

Temperature 32–113°F (0–45°C)

Video Codec MPEG-1/2, GOOGLE VP8, H.263, MOTION JPEG, VP8

Image Codec JPEG, BMP, GIF, PNG **Audio Codec**

MPEG, AUDIO, WAV, AUDIO, OGG AUDIO, FLAC AUDIO, MIDI AUDIO

Power Supply AC100-240V@50/60Hz

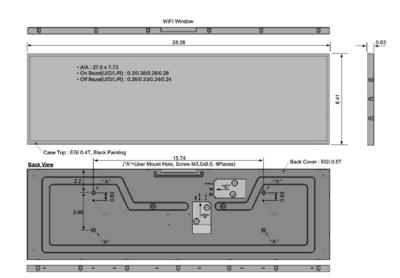
Power Consumption Typ.15W (TBD)

Operation Humidity 10~80%RH

Storage Temperature -20°C~60°C

23 inch





Display Mode IPS

Sceen Size 29 inch

Resolution 1920 x 540

Display Colors 16.7 Million Colors

Surface Treatment Anti-glare coating

OS Android 7.1

CPU ARM Cortex[™]-A17, Quad-core, 1.6GHz

RAM 1GB DDR3 Memory 8GB Emmc

Network Wi-Fi 802.11 /b/g/n (2.4GHz)

Signal Output Micro HDMI

DC Power Input USB Type C

Temperature 32-113°F (0-45°C)

Video Codec MPEG-1/2, GOOGLE VP8, H.263, MOTION JPEG, VP8

Image Codec JPEG, BMP, GIF, PNG **Audio Codec**

MPEG, AUDIO, WAV, AUDIO, OGG AUDIO, FLAC AUDIO, MIDI AUDIO

Power Supply AC100-240V@50/60Hz

Power Consumption Typ.15W (TBD)

Operation Humidity 10~80%RH

Storage Temperature -20°C~60°C



29 inch

Newton G/\TEI///Y

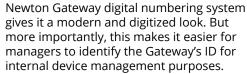




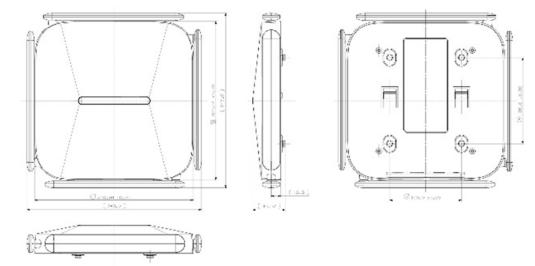
SCAN the QR code to visit the product page







Another improvement with Newton Gateway is that it has a tag and loadbalancing system which means that the number of connected labels will always be evenly distributed.



Communications

Ethernet (10/100/1000 Mbps) 2.4 GHz SOLUM Proprietary Protocol

Capacity

50,000 labels

Dimensions (WxHxD) (inches) 9.5 x 9.5 x 1.8

Weight

650 g / 23 oz

Enclosures

Plastic (ABS)

Power

PoE (Power over Ethernet (IEEE802.3af)) AUX DC Input (5-12V, 10W)

2.4 GHz RF Antenna Type

External Antenna Internal Antenna Fantasy Band (Tx, Rx): 2402MHz -2480MHz

Antenna Gain: External: 3.4 dBi / Internal 3.2 dBi

Operating Temperature

32-104°F (0-40°C)

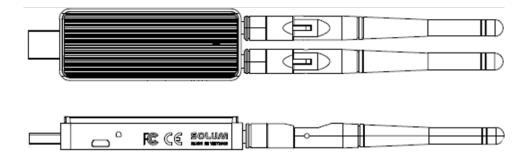


Newton Gateway



The USB Gateway is a stand-alone system. However, it can also be an extension to the Newton Gateway. It can offer additional capacity, memory, range, among others, without the added infrastructure.

With Newton's Gateways, you can achieve a more seamless and automated data exchange between your electronic shelf labels and your command system.





Dimensions (WxHxD) (inches)

1.2 x 7.9 x 0.5

Weight

50 g / 1.75 oz

Enclosures

Plastic (ABS) + Aluminum

Power

USB Power (5V,0.5A)

Antenna Type

Dipole Antenna (external type), 2ea

Transmit Frequency

2405MHz ~ 2480MHz

Receive Frequency

2405MHz ~ 2480MHz

Antenna Gain

2 dBi

Modulation

O-QPSK

Channels

16ch

Operating Temperature

32-104°F (0-40°C)









DOWNLOAD LEAFLET



SCAN the QR code to visit the product page

Aims Software

The central command center of our Newton label, Aims is an adaptable, scalable, and highly-intuitive ESL management software system specially designed to help you get the most out of our electronic shelf labeling solutions.

Our Aims Software can be deployed in three - On-Site, Cloud, and as a Software as a Service (SaaS). All these four options can be connected to all existing data sources which are relevant to your intended use of our ESL solutions, all while providing easy-to-use controls for commands such as price updates, stock replenishment, or locating distinct items in the warehouse.

For our retail clients such as hypermarkets, groceries, and fashion stores, Aims software can use data such as customer purchase history, stock levels, and product location to initiate timely promotional offers and discounts. In an industrial environment, Aims software can activate applications such as pick to light, wireless Kanban, and smart ordering system to achieve a more seamless, cost-efficient, and sustainable warehouse and manufacturing operations.

From activating store promos to managing industrial warehouse and manufacturing operations, Aims software is a holistic platform that powers our ESL solutions.

With this software, you can easily manage all the ESLs located across all their premises and location in a centralized manner – resulting in reduced infrastructure costs, improved staff productivity, better data management, and increased revenue.



Features

easy.

With our Aims solution, you will have a solid, reliable, and fast, ESL management software at your fingertips.

With our Aims software package, you will not only own and manage the software, but you can also scale and customize it based on your unique preferences and needs. A flexible ESL management system, for flexible scaling, for flexible companies.

Easy Integration with 3rd Party Solution

A modular architecture of Aims makes it

have a strong point in the integration with

other IT solutions through rest API fast and



AimsDashboard

Aims has a store and central monitoring dashboards that display important information such as:

- The number and online/offline status of Gateways
- The number and online/offline status of Newton Labels
- Information/configuration of Gateways
- Detailed status of Gateways
- The number and list of labels associated with the Gateway
- Abnormal labels; such as those with low battery and bad RF signal strength
- Update status; view labels by status
- Detail information of labels and image preview.



∧ims Layout Designer

Aims provides an easy and user-friendly Layout Designer tool that allows you to design the ESLs to fit the products you sell or to match your store's branding.



Aims Manager

With the web-based ESL management software for store PDA and mobile devices (Android or iOS), your staff can manage the ESLs remotely across your business premises.





Keep your business IT infrastructure flexible by deploying Aims in a Cloud.

By using various features in Aims Cloud, you can enhance performance on limited resources and improve information security.

Features



Horizontal Scalability

The user has the option to horizontally scale the server. So whenever there is more load, one can add more to another PC.



Load Balancing

Aims Cloud can divide all loads coming to the server in an equal manner and can also be configured. This allows the server to utilize all available resources (RAM and CPU) in different instances fairly.



Parallel Processing

All instances share the load equally and process all tasks simultaneously without interfering with our system processing.



High Availability

Aims Cloud works as Active-Active server mode. If one system is down, the load will be shared by other existing WAS (instance of Aims server) automatically.

Security

With so much valuable data filtering through Aims Cloud system, we also ensure that we pay attention to its security. SOLUM improves the security of our system and mitigates threats with robust data recovery and backup, user authentication, and disaster recovery.

- 1. Data recovery
- 2. Backup
- 3. Warning and Reporting
- 4. User authentication
- 4. Disaster recovery







SOLUM provides a SaaS model using a robust, open, and flexible cloud computing platform. The primary business benefit of this is that it will not require you to maintain your own data center nor store server to manage your ESLs – all you need to do is to install the gateway, put the ESLs in place, and get a hosting service from SOLUM.

Why Aims SaaS?



Reduced Implementation Time

Aims SaaS is already installed and configured, reducing the possibility of any issues that can get in the way of the software deployment.

100%

Maximum Performance

By using optimum auto-scaling criteria and resource monitoring features, SOLUM minimizes the redundancy in the production environment and ensure high performance even in the peak hours.



High Scalability and Integration

The need to buy another server or software when your capacity increases is no longer required as we will provide you with those as the need arises.



Seamless Upgrades

We will manage software updates and upgrades for you, eliminating the need to install or download patches. At any one time, you can be assured that you will always have the most up to date Aims software.

Features

The Aims SaaS comes with all the Aims Cloud features, but with the addition of the following:

- A stable operation which works on Cloud
- User Authentication / Authorization
- Horizontal Scalability for multiple and heavy traffic
- Fast & continuous deployment of services & features
- Performance & status monitoring and History check
- Easy to manage multiple location stores (price matching, stock, promotion, etc.)

Security

Security is an important factor when moving to the cloud. That's why we make sure that our software is bolstered with all the necessary security measures and controls that will ensure your important business data are safe from potential threats.

1. Identity Management

 User Authentication Based on Microsoft Azure Active Directory

2. API Authentication and Authorization

- Authenticate calls to the API to registered users only
- Track who is making the requests
- Track usage of the API Block or throttle any requester who exceeds the rate limits
- Apply different permission levels to different users.

3. Application Delivery Control

- Secure Sockets Layer termination and end-to- end SSL/TLS encryption
- WAF_v2: Centralized protection (Faster react by centrally patching a known vulnerability.)

l. Privacy

- All information is stored on Azure storage and Azure SQL Database
- Both encrypt data at rest by default using Azure Disk Encryption

5. Logging and Auditing

 All logging data is stored on the internal location. Retention period is configurable

Architecture

∧ims SaaS

Aims SaaS automatically scales up its capacity in real-time when new stores are added or when heavy traffic occurs. By doing so, there is no risk of making the performance down and always provides the high standard performance uniformity.

Dynamic Scalability

Easy store expansion. No need to install an ESL server any more. Putting the GWs and ELSs in place is enough for store setup. Auto Scaling based on resource usage and traffic allows seamless and consistent performance.

Service Monitoring

solum Support Team. Server monitoring and maintenance service is provided by one of the most skilled and experienced IT technicians of SOLUM. 24/7 follow the sun service is available by the service team of Korea, India, US and Europe. Not only for the server management, we can also provide a whole system monitoring of labels and Gateway health check for all stores.

User authentication & authorization

Users. Any authorized client can access the Aims Dashboard for monitoring the ESL system of each store. We provide user authentication and authorization for every access to be secured.

Third-party integration endpoints

Integrations. Our solution can easily communicate and integrate with your other services and software your team depends on, thus ensuring business process efficiency.

SFTP

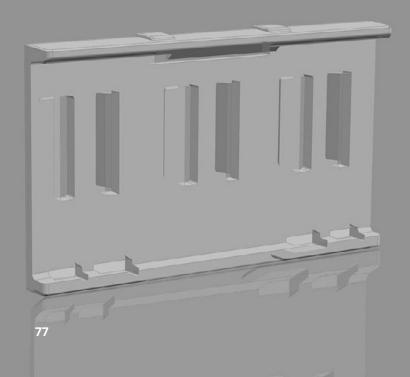
Pay per use

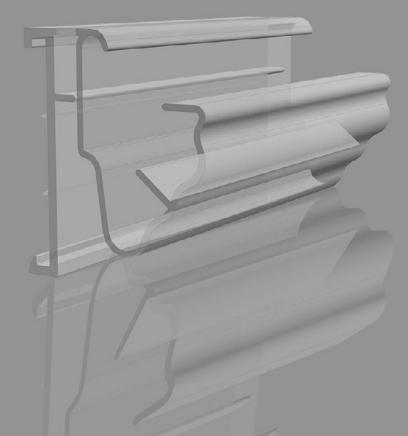
Cost. Pay per use based on a day traffic of a store with a minimum amount of hosting cost.

Accessories

SOLUM's ESL technology also comes with compatible accessories for different functions and surfaces that are available in different sizes and holds.

These accessories make for easier installation, swinging function, and different protective layers for different surfaces.







Shelf Rails

Rails are used to place ESL's onto shelves and other surfaces. Most of the railings come with hinges to allow movement or oscillation—giving flexibility and ease of use of our interactive ESL



140783

47.625" length with 1.21" back leg

• For typical gondola with C channel 1.21"

Type: Standard C Channel **Cut Length:** 47.625"

Color: Dark Grey, White, Black, Clear



140782

47.625 No Backleg with Tape

For flat surface

Type: Flat Surface Rail Cut Length: 47.625"

Color: Dark Grey, White, Black, Clear



140824

29.5 Freezer Rail

Type: Freezer rail-Type A (Clip on)

Cut Length: 29.5"

Color: Dark Grey, White, Black, Clear



140817

29.5 Freezer Rail

Type: Freezer rail-Type B (Clip on)

Cut Length: 29.5"

Color: Dark Grey, White, Black, Clear

Single Tag Attachments



140815

 Peghook-T Bar Accomodates 1.6, 2.2, 2.6, 2.9" tags

For T Bar Peg Hook

Type: Peg Hook Adaptor

Color: Clear



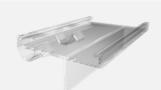
109593

 Peg Hook -Bent Wire L Shape Accomodates 1.6, 2.2, 2.6, 2.9" tags

Peg Hook bent wire (.149" to /.25")

Type: Peg Hook Adaptor

Color: Clear



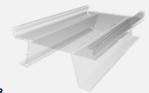
140814

• Basket Clip Accomodates 1.6, 2.2, 2.6, 2.9" tags

Wire rail/Basket Clip

Type: Wire Rail/ Basket Clip on

Color: Clear



140798

 C-clip holder-Fits various size C Channels- Accomodates 1.6 up to 6" tags

C Channel tag holder

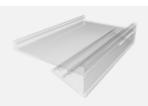
Type: C Channel Single tag holder

Color: Clear

Multiple Field Accessories

While railings can hold multiple ESL's in a single unit, adapters are the way to go if you need something to hold your ESL's individually.

Single Tag Attachments



140812

- Single Small Grip Clip Accomodates 1.6 up to 4.2" tags
- .125" to .25" shelf edge clip

Type: Clip on holder-Clips to flat surfacevertical front edge of shelfs (.125 to .25" thickness)

Color: Clear

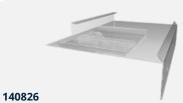


140811

- Single Large Grip Clip Accommodates 1.6 up to 4.2" tags
- .38 to .625 shelf edge clip

Type: Clip on holder-Clips to flat surface-vertical front edge of shelfs (.38 to .625" thickness)

Color: Clear



- 7.5" Flex Hinge Fixture
- 7.5" shelf edge (mostly used at end cap)

Type: Accessory **Color:** Clear



140854

- Large Clip holder (use w/ 2" C-Channel rail) for 2.9, 4.2 and 6" tags
- Clip for larger tags-2.9", 4.2", 6"

Type: Accessory **Color:** Clear



150701

- 11.6" 90 degree easel w/ magnet For open coolers
- 90degree easel with magnet base

Type: Accessory **Color:** Clear



150700B

- 7.5" & 11.6" Tall Easel-Double sided for 2 tags
- Table top stand (Holds 1 or 2 tags)
- Double sided

Color: Black



- 2.9" and 4.2" Easel stand
- Tabel top easel (2.9" & 4.2")

Type: Accessory **Color:** Clear



150363

- 11.6" Easel stand
- Table top easel (11.6")

Type: Accessory **Color:** Clear

Multiple Field Accessories

While railings can hold multiple ESL's in a single unit, adapters are the way to go if you need something to hold your ESL's individually.



6НВ

- 6" & 7.5"Hainging Bracket
- 7.5" hanging bracket

Type: Accessory **Color:** White



11HB

- 11.6" Hanging Bracket
- 7.5" hanging bracket

Type: Accessory **Color:** Clear



ESLAK089XX000

Tag remover tool

Type: Accessory **Color:** Silver







Sector: Super/Hyper **Country:** Canada

ESL Introduction Year: 2019

Requirements

One of the main drivers for Loblaws to invest in ESL was the desire to both simplify and revolutionize their shelf labeling processes. They recognized that a fast, secure and reliable two-way wireless transmission system was needed in-store to enable real-time feedback on the status of the labels. It requested a product solution with clear shelf label visibility from the shopper's perspective. In addition, they were seeking a flexible solution for all types of stores: supermarket, hypermarket, express stores with refined design, easy to use and low infrastructure cost

Solution

SOLUM has reached an agreement after 4 months of an intensive pilot review. This includes all banners stores of the retailer coast to coast across Canada and the installation started in January 2019. The total number of ESL tags in this roll-out will be close to 10 million per year. About 40K tags per store will be installed. The project is expected to be completed at the end of 2021. This deployment is by far, the largest ESL deployment in the history of US and Canada, not only for the groceries but also in all the retail industry.

Results

Now with ESL technology linking the POS price data with ESLs, Loblaws stores can automatically display accurate pricing information real-time and implement dynamic pricing at the shelf level. Using ESL, our client also enhanced the shopping experience by taking another step forward to digitizing the store and increasing the eco-friendliness of the store environment.





Sector: Department Store

Country: USA

ESL Introduction Year: 2017

Requirements

As a leader of technology and innovation, Macy's has been evaluating digitizing product pricing and information for years. Prior to SOLUM, all product-based electronic labels were shelf based and could not be used in the department store environments. Collaborating with and understanding Macy's requirements, SOLUM was able to design and develop the Item Label line. SOLUM Item Label not only provided the functionality of digitizing but also a new sleek design worthy of use with designer and fashion products.

Solution

SOLUM's design team worked with Macy's team to produce a vast lineup of designs for their different needs, which was ultimately narrowed down to 3 specific designs. SOLUM was able to expedite design, development, and manufacturing of 500,000 ESLs within 3 months to meet Macy's target timeline. All this was possible because of SOLUM's in-house capabilities. For tag management, SOLUM provided the AIMS Central Server allowing Macy's to be able to centralize tag updates and pricing from a single location, helping save on infrastructure costs.

Results

Store associates no longer have to replace paper prices, they are able to focus more time on customer service and support. With SOLUM ESL, Macy's is able to update prices overnight for all stores and also schedule price changes during the day to provide dynamic store pricing, improve & efficiency, and increase sales. With the initial success, Macy's and SOLUM continue to discuss new design and application for future expansion.



REWE

Sector: Super/Hyper Country: Germany/Global ESL Introduction Year: 2012

Requirements

One of the main drivers in REWE's decision for ESL was the desire to both simplify and revolutionize their shelf-labeling processes. REWE recognized that a fast, secure and reliable two-way wireless transmission system was needed in-store to enable real-time feedback on the status of the labels. It requested a product solution with clear shelf label visibility from the shopper's perspective.

In addition, REWE was seeking a flexible solution for all types of stores: supermarket, hypermarket, express stores with refined design, easy to use and low infrastructure cost.

Solution

SOLUM appealed for reliability as the first e-paper based ESL provider and the only company that produces and supplies ESL with its own manufacturing capability. SOLUM introduced high contrast and sharp display e-paper ESL, which solved the downsides of conventional LCD labels. With over 45 years of know-how in wireless communication technologies and in-house IC technology, SOLUM provided advanced RF (Radio Frequency) & dual communication ESL system that meets customer's requirements for real-time updates and 100% price accuracy. In addition, SOLUM provided REWE three different types of ESL with a customized design that allows seamless integration within the existing store and shelf environment, reducing significant infrastructure investment.

Results

Now with ESL technology linking the POS price data with ESLs, REWE stores can automatically display accurate pricing information in real-time and implement dynamic pricing at the shelf level. Using ESL, REWE also enhanced the shopping experience by taking another step forward to digitizing the store and increasing the eco-friendliness of the store environment. From the continued 5 year success of ESL deployments in over 1,000 stores, REWE continues to adopt SOLUM's latest ESL technologies to further increase store innovation and promotion effects.



Migros

Sector: Super/Hyper

Country: Switzerland/Europe/Asia ESL Introduction Year: 2018

Requirements

The time the Migros store personnel needed to manually place paper labels on shelves is so significant that it required them to put more important tasks such as assisting their customers aside. To help the workers be more efficient in their jobs, a solution that can implement new prices for their products in real-time and in a wireless network is warranted. Other challenges such as implementing new prices in real time and reduction of paper labels were also considered by Migros as key drivers for switching to ESL.

Solution

In 2019, Migros partnered with Bison and SOLUM ESL to get one step closer to their goal of being the most sustainable retailer in the world. By implementing SOLUM's ESL as replacement for their paper labels and placards, Migros has significantly reduced their paper waste, improved their employees' productivity, and gave their customers a more intuitive retail experience.

Results

The first benefit that Migros gained from implementing ESL is being able to switch from paper-based labels to digitalized ones. This enabled the company to free up their employees' time, allowing them to become more productive and focus on other business activities, such as customer care. As a result, employees are more motivated to fulfill their roles more than ever.

The second benefit is that the time replacing the placards on the shelves and in showcase areas has been reduced dramatically.

While still in progress, the company is looking forward to saving at least 10 to 12 hours of a week in labor, which directly translates to cost savings. Another benefit is that employees are now capable of controlling the expiry dates of the products assigned to them. Through the central server, employees can identify the products that are nearing their expiration, thus giving ample time to develop strategies to get those items sold as soon as possible.





Sector: Super/Hyper **Country:** China

ESL Introduction Year: 2018

Requirements

Alibaba needed an ESL solution provider that could help initiate their Offline Ecosystem Program. With this program, Alibaba is showing how online and offline shopping experience can merge smoothly, day and night with a 24-hour delivery service. In the next five years, Alibaba aims to equip thousands of brick and mortar stores with ESL solutions.

Solution

Alibaba has chosen SOLUM as its ESL provider for its 65 stores located in major cities across China. SOLUM deployed ESL tags with a cloud server for operation and access to an e-commerce service which is unparalleled and fast delivery service of 30 min in a radius of 3km.

Results

By implementing SOLUM ESL, Alibaba has merged their online and offline retail channels smoothly. Hema stores are now equipped with thousands of SOLUM ESLs. Mobile payment, 24-hour delivery service, in-store online product reviews, and customer tracking are some of the functions that SOLUM ESLs support in Hema stores.





Sector: Smart/Factory/Industrial

Country: USA/Global

ESL Introduction Year: 2019

Requirements

With large volumes of machines being assembled and tested in Diebold Nixdorf's smart factory, it has been imperative that parts bins are replenished on time and consistent levels. Due to the increasing demand for company's hardware worldwide, the production of the facility must keep up. Empty or near-empty parts bins meant that the assembly of machines is put to halt, creating significant downtime in the production cycle.

Solution

SOLUM ESL's range of digital labels is designed and configured to automate and streamline menial yet crucial tasks in industrial factories and warehouses. Through the implementation of ESL, facility managers can reap benefits such as cost and downtime reduction, as well as shift from archaic paper-based shelf labelling to an IoT-powered business. Digital labels can be managed centrally for this purpose. Action buttons could be used to deregister the goods or to have an overview of the inventory. Also, with larger digital signage at the end of a shelf, warehouse management becomes clear and can be flexibly adapted to changes.

Results

By implementing ESL, the team at Diebold Nixdorf smart module factory was able to develop an Electronic Wireless Kanban System for each workplace for each technician across the facility. The KANBAN database allows each worker to reorder specific materials with a push of a button. The technician simply must push a button in front of him, and the green LED tells him that the information went to the server. SAP then processes the information in the background and visualizes the order on the ESL. The label informs the worker with a red box and additionally the exact order time.





Sector: Home Improvement/Retail

Country: USA

ESL Introduction Year: 2020

Requirements

Ensuring efficient store operations has been extremely vital to Lowe's success as a retailer. In order to streamline their operations and improve their product pricing and promotional activities, Lowe's decided to shift from using paper shelf labels to electronic shelf labels.

The ESL solution they looked for should allow Lowe's to ensure accurate price changing during holidays which often overlap, retain their sensitive data such as product information and sales analytics in-house, and execute successful in-store promotions.

Solution

Lowe's selected SOLUM as its ESL solution provider in 2020, primarily because of the newly introduced Newton label, which provides the fastest update speed in the market today. The total number of ESL tags in this roll-out is 565,000 – all are custom-designed with Lowe's logo prominently displayed in the lower bezel. The project is expected to be completed by the 3rd quarter of 2020.

Results

Newton's update speed meant that Lowe's could change the product prices across their stores in real-time, which enabled them to develop a more sophisticated dynamic pricing strategy that helps them stay competitive.

Aside from its speed, Newton's custom bezel design has also helped Lowe's achieve consistent brand identity inside their stores. The data the ESL gathers is also helping Lowe's to gain insights about their customer behavior, allowing them to create more effective and timely promotion strategies.





Sector: Consumer Electronics

Country: Greece

ESL Introduction Year: 2020

Requirements

Kotsovolos and its parent company, Dixons, were looking for a solution that can reduce their staff hours allocated for changing paper labels for every item on display in their stores.

At the same time, they also need a labeling system that can effectively display the specifications of their products, which can also serve as a sales tool for their store personnel.

Lastly, they were looking for an advanced ESL solution that can boost the ambiance inside their stores - which is part of their innovation program to deliver next-level customer service and interactivity to their customers.

Solution

In 2020, Dixons partnered SOLUM ESL to digitize their Kotsovolos stores in Greece. Driven by the need to digitize their electronics stores and the rapidly evolving competition, Kotsovolos chose SOLUM's digital label solutions. Through SOLUM ESL, Kotsovolos has become more environmentally sustainable, as well as more capable of delivering a more engaging experience to their customers by allowing them to view the product's full specifications straight from the ESL display.

Results

SOLUM's shelf labeling system accelerated Kotsolovos' overall operations, including improving customer service and providing a more convenient customer journey, as well as supplying a more efficient and data-driven practice to replace manual processes, improving productivity by a whopping seven percent.

With this success in their Kotsovolos stores, Dixons now have their sights set to start bringing ESLs to the entire Greek market.





Sector: Convenience Stores

Country: France

ESL Introduction Year: 2020

Requirements

In early 2020, a Carrefour City franchise store in Ville-d'Avray, Paris, France sought for a new electronic shelf label solution to replace their existing one. The ESL solution required must also complement the new look of the store, which was newly renovated at the said period. Lastly, it must also be compact and slim in size to fit the shelve and must provide the store with efficient features to allow their staff to control their product labeling and inventory operations more efficiently.

Solution

Teaming up with Toshiba, SOLUM offered Carrefour City the best-in-class retail solutions to complement his newly-revamped store in the heart of Paris. The offer consisted of SOLUM's latest and most advanced ESL – the Newton – in 1.6", 2.2", and 4.2" sizes, and Toshiba's mapping, software integration, installation and maintenance services.

Both Toshiba and Carrefour City believe that SOLUM offers the best edge in the market due to the flexibility, good customer service, and last but not least – the innovative solutions it provides.

Results

With the all-new Newton digital label being applied across all sections of the store, the massive improvements that SOLUM shelf labels' deliver are too significant not to notice. Newton's update speed meant that this newlyrevamped Carrefour City store could change the product prices across their stores at a much faster rate, allowing them to develop a more sophisticated dynamic pricing strategy that helps them stay competitive within their market vicinity. The blinking LEDs and high-resolution display of Newton will also prove vital to enticing them to buy products that are on sale or special discounts.

Become a Partner

We want to partner with experts in their industry, tech-forward business leaders who value innovation and quality above all else, and companies with successful sales track records. But more than that, we want partners whose work ethic and vision align with ours.

We are setting our sights long-term.

Criteria

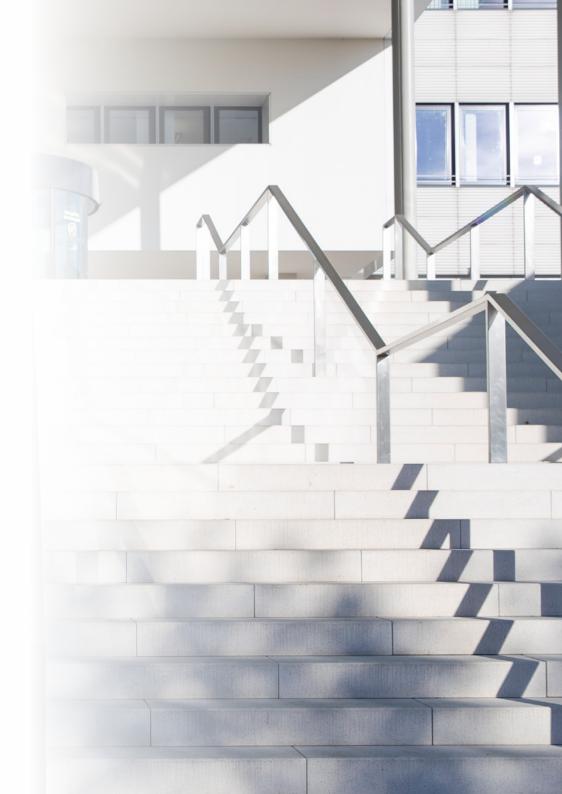
- Capability to provide onsite service nationwide.
- Capability to handle servicing for both software and hardware SOLUM ESLs.
- Willingness to undergo education and training for SOLUM ESL solutions.
- Has at least 5 years experience in retail service section
- Positive feedback from their current/previous retail customer.
- Provide service with a reasonable price but still sustainable.

Why partner with us?

SOLUM works in collaboration with many of the world's leading retail brands. We have established a name for ourselves globally, having provided 86+ million tags to over 8,000 stores in 35 countries.

Become a partner

Align yourself with the best, and reap the benefits. Join us on SOLUM.



Newton Demo Kit

Exclusive to our partners, SOLUM's latest demo kit comes with everything needed to provide on-site demonstrations of our Newton electronic shelf label system for prospective customers.

The demo kit also includes a 5-year license of our very own Aims software, enabling users to control all labels connected to the Newton Gateway and USB Gateway all at once.

With the demo kit, you can:

- Give prospects a first-hand experience of how Newton improves their business operations.
- Experience a convenient and complete demonstration of Newton's features wherever and whenever you want.
- Provide a clear understanding of the cutting-edge functions of Newton and Aims software.
- Amplify your sales pitch and boost your representatives' during presentations.



Newton

Get the newest demo kit now.

Go to www.solumesl.com/GetNewton to learn more.

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