CHROMA

3-colour fully graphic electronic shelf labels (ESLs) – red or yellow, black and 'paper-white'



Chroma electronic shelf labels (ESLs) feature the latest electrophoretic display (EPD) technology, providing fully graphic displays. With the ability to display in three colours – black, 'paper-white' and red or yellow, they deliver extra impact at the point of sale. Chroma ESLs offer a near 180° viewing angle for excellent readability.

FULLY GRAPHIC

- Deliver rich content digitally, helping to influence the purchasing decision where it matters: at the shelf edge
- Freeform label design enables any combination of text, images including QR codes, manufacturer logos, etc., to be displayed allowing ultimate flexibility
- Each ESL has up to 6 pages in memory that can be used to deploy promotions quickly, provide store staff with merchandising information and enable them to undertake customer service, replenishment and inventory management tasks more easily

RICH COLOUR

- Use colour to highlight promotions and special offers
- Accentuate images, branding and logos
- Emphasise important product information
- Switch the colour on and off as required

SUPERIOR READABILITY

- 3-colour, black, 'paper-white' and red or yellow electrophoretic display (EPD)
- Near 180° viewing angle with excellent readability

LOW POWER, LONG LIFE

- Bistable displays require zero power to retain their image, enabling a longer battery life (typically 5 years^{2,3})
- Replaceable batteries for extended life

TRUE TWO-WAY COMMUNICATION

- Powerful two-way broadcast of price, product and promotional information to fully graphic electronic shelf labels with 100% accuracy
- Each ESL individually responds back to base, confirming that updates have been received and activated

VERSATILITY

- ESLs available in a range of different sizes and specifications to suit all requirements across an entire retail estate
- Every ESL can be managed across the same RF infrastructure

PERSONALISATION

 Fully graphic ESLs can display QR codes that link to the retailer's own website or link to a retailer's loyalty programme



For further Chroma product images, please visit www.displaydata.com



CHROMA

Technical Information

Technical data	Chroma 16	Chroma 21	Chroma 29	Chroma 37	Chroma 42	Chroma 60	Chroma 74
Dimensions External (W x H x D)	42 x 48 x 13mm 1.7 x 1.9 x 0.5"	68 x 34 x 13mm 2.7 x 1.3 x 0.5"	87 x 43 x 13mm 3.4 x 1.7 x 0.5"	100 x 58 x 14mm 3.9 x 2.3 x 0.6"	100 x 85 x 13mm 3.9 x 3.3 x 0.5"	133 x 107 x 13mm 5.2 x 4.2 x 0.5"	182 x 122 x 15mm 7.2 x 4.8 x 0.6"
Visible screen area (W x H)	27.5 x 27.5mm 1.08 x 1.08"	49 x 24mm 1.9 x 1"	67 x 29mm 2.6 x 1.1"	81.5 x 47mm 3.2 x 1.85"	85 x 64mm 3.3 x 2.5"	120 x 89mm 4.7 x 3.5"	163 x 98mm 6.4 x 3.9"
Weight	20 grams (0.7 oz)	28 grams (0.98 oz)	36 grams (1.27 oz)	54 grams (1.91 oz)	76 grams (2.75 oz)	126 grams (4.44 oz)	210 grams (7.41 oz)
Display Pixels	152 x 152 (23,104)	212 x 104 (22,048)	296 x 128 (37,888)	416 x 240 (99,840)	400 x 300 (120,000)	600 x 448 (268,800)	640 x 384 (245,760)
Dots per inch (DPI)	141	111	112	130	120	128	100
Туре	Red or Yellow, black and paper-white bistable EPD						
Orientation	Landscape or Portrait						
Viewing angle	Near 180° viewing angle						
Appearance	Standard unit available with white bezel front, dark grey rear						
Unit identifier barcode	Front	Front	Front	Front and Side	Side	Side	Front and Side
Features Pages	6						
Operational Operating temperature range and humidity range (RH - Relative Humidity)	0°C to 30°C +32°F to 86°F 35-70% RH						
Storage temperature range and humidity range (RH - Relative Humidity)	-20°C to 40°C -4°F to 104°F 35-70% RH Store in white state ¹						
Battery life (typical)	4 years ² 5 years ³						
Replaceable batteries	1 x CR2450	2 x CR2450	2 x CR2450	3 x CR2450	4 x CR2450	4 x CR2450 ⁴	6 x CR2450
Fittings	Compatible with a variety of fixtures and fittings, available from Displaydata and our Preferred Partner						
Communications	868MHz or 915MHz ISM Band 2-way wireless						
Technical compliance Approvals	CE EU: ETSI EN 300-220, ETSI EN 301-489 USA: FCC Part 15c CA: RSS-210, RSS-Gen						
Safety approvals	IEC\UL 60950-1 UL, CB						
Options Bezel colours available	Yes (MOQ applies)						
Water resistant	No Yes - IP67, Requires Guard 42 No						

Technical data is subject to change at Displaydata's discretion.

Notes: Image quality and perception is limited to display resolution, colour and type/size of the font selected. It is highly recommended to use bold text when selecting small font sizes and any feature containing colour to be at least two pixels wide. Labels should be left at operational temperature for at least 1 hr before any updates are made.

¹ White state. This refers to a state where there is no image shown on the display, it is blank.

 $^{2\ \}mbox{ln}$ a well-managed RF environment and with up to $2\ \mbox{updates}$ per day.

³ In a well-managed RF environment and with up to 3 updates per day.

⁴ Chroma 60 ESLs are shipped with four batteries, however two additional batteries can be added to increase the operational life of a product (up to a total of six). Batteries are field replaceable and can be procured from Displaydata.

AURA

Fully graphic black on 'paper-white' electronic shelf labels (ESLs)



Featuring the latest electrophoretic display technology (EPD), Aura electronic shelf labels (ESLs) are fully graphic black on 'paper-white' displays, offering excellent readability with a near 180° viewing angle.

FULLY GRAPHIC

- Deliver rich content digitally, helping to influence the purchasing decision where it matters: at the shelf edge
- Freeform label design enables any combination of text,images including QR codes, manufacturer logos, etc., to be displayed allowing ultimate flexibility
- Each ESL has up to 6 pages in memory that can be used to deploy promotions quickly, provide store staff with merchandising information and enable them to undertake customer service, replenishment and inventory management tasks more easily

SUPERIOR READABILITY

- Black on 'paper-white' electrophoretic display (EPD)
- Near 180° viewing angle with excellent readability

LOW POWER, LONG LIFE

- Bistable displays require zero power to retain their image, enabling a longer battery life
- Replaceable batteries for extended life

TRUE TWO-WAY COMMUNICATION

- Powerful two-way broadcast of price, product and promotional information to fully graphic electronic shelf labels with 100% accuracy
- Each ESL individually responds back to base, confirming that updates have been received and activated

VERSATILITY

- ESLs available in a range of different sizes and specifications to suit all requirements across an entire retail estate
- Every ESL can be managed across the same RF infrastructure

PERSONALISATION

• Fully graphic ESLs can display QR codes that link to the retailer's own website or link to a retailer's loyalty programme





For further Aura product images, please visit www.displaydata.com



AURA

Technical Information

Technical data	Aura 21	Aura 29	Aura 29F Freezer	Aura 29BLE Beacon	Aura 42	
Dimensions External (W x H x D)	68 x 34 x 13mm 2.7 x 1.3 x 0.5"	87 x 43 x 13mm 3.4 x 1.7 x 0.5"	87 x 43 x 13mm 3.4 x 1.7 x 0.5"	87 x 43 x 13mm 3.4 x 1.7 x 0.5"	100 x 85 x 13mm 3.9 x 3.3 x 0.5"	
Visible screen area (W x H)	49 x 24mm 1.9 x 1"	67 x 29mm 2.6 x 1.1"	67 x 29mm 2.6 x 1.1"	67 x 29mm 2.6 x 1.1"	85 x 64mm 3.3 x 2.5"	
Weight	28 grams (0.98 oz)	37 grams (1.31 oz)	37 grams (1.31 oz)	37 grams (1.31 oz)	80 grams (2.82 oz)	
Display Pixels	212 x 104 (22,048)	296 x 128 (37,888)	296 x 128 (37,888)	296 x 128 (37,888)	400 x 300 (120,000)	
Dots per inch (DPI)	111	112	112	112	120	
Type	Black and white bistable EPD					
Orientation	Landscape or Portrait					
Viewing angle	Near 180° viewing angle					
Appearance	Standard unit available with white bezel front, black rear	Standard unit available with white bezel front, black rear	Standard unit available with white bezel front, pale blue rear	Standard unit available with white bezel front, dark blue rear	Standard unit available with white bezel front, black rear	
Unit identifier barcode	Front	Front	Front	Front	Side	
Features Pages	6					
Operational Operating temperature range and humidity range (RH - Relative Humidity)	0°C to 40°C +32°F to 104°F 35-70% RH	0°C to 40°C +32°F to 104°F 35-70% RH	-25°C to 0°C -13°F to +32°F 35-70% RH	0°C to 40°C +32°F to 104°F 35-70% RH	0°C to 40°C +32°F to 104°F 35-70% RH	
Storage temperature range and humidity range (RH - Relative Humidity)	-20°C to 40°C -4°F to 104°F 35-70% RH Store in white state ¹	-20°C to 40°C -4°F to 104°F 35-70% RH Store in white state ¹	-25°C to 40°C -13°F to 104°F 35-70% RH Store in white state ¹	-20°C to 40°C -4°F to 104°F 35-70% RH Store in white state ¹	-20°C to 40°C -4°F to 104°F 35-70% RH Store in white state ¹	
Battery life (typical)	Typically 5 years (up to 5 updates/day) ²	Typically 5 years (up to 5 updates/day) ²	Typically 3 years (up to 3 updates/day) ³	Typically 1 year (up to 5 updates/day) ²	Typically 5 years (up to 5 updates/day)	
Replaceable batteries	2 x CR2450	2 x CR2450	2 x CR2450	2 x CR2450	4 x CR2450	
Fittings	Compatible with a variety of fixtures and fittings, available from Displaydata and our Preferred Partner					
Communications	868MHz or 915MHz ISM Band 2-way wireless					
Technical compliance Approvals	CE EU: ETSI EN 300-220, E USA: FCC Part 15c CA: RSS-210, RSS-Gen	CE EU: ETSI EN 300-220, ETSI EN 301-489 USA: FCC Part 15c CA: RSS-210, RSS-Gen				
Safety approvals	IEC 60950-1 UL, CB		IEC 60950-1 UL, CB	IEC 60950-1 UL, CB		
Options Freezer	No	Yes - Please refer to Aura 29F	Yes	No	No	
Bezel colours available	Yes (MOQ applies)					
Water resistant	No				Yes - IP67, Requires Guard 42	

Technical data is subject to change at Displaydata's discretion.

¹ White state. This refers to a state where there is no image shown on the display, it is blank.

² In a well-managed RF environment and with up to 5 updates per day.

3 In a well-managed RF environment and with up to 5 updates per day.

Notes: Image quality and perception is limited to display resolution and type/size of the font selected. It is highly recommended to use bold text when selecting small font sizes and any feature containing colour to be at least two pixels wide.

Labels should be left at operational temperature for at least 1 hr before any updates are made.

AURA 29F

Fully graphic black on 'paper-white' electronic shelf labels (ESLs) for the freezer



Featuring the latest electrophoretic display technology (EPD), Aura electronic shelf labels (ESLs) are fully graphic black on 'paper-white' displays, offering excellent readability with a near 180° viewing angle. The Aura 29F was designed specifically to be used within the freezer section of a retail store.

It offers the same features as our standard Aura ESLs, with the added benefit of operating temperature capabilities between -25°C and 0°C.

FREEZER OPTIMISED

- Fully graphic ESLs optimised for use within a freezer
- Aura 29F operates optimally at temperatures of -25°C to 0°C. It will continue to work at temperatures above this, but display quality and contrast may be suboptimal

FULLY GRAPHIC

- Deliver rich content digitally, helping to influence the purchasing decision where it matters: at the shelf edge
- Freeform label design enables any combination of text, images including QR codes, manufacturer logos, etc., to be displayed allowing ultimate flexibility
- Each ESL has up to 6 pages in memory that can be used to deploy promotions quickly, provide store staff with merchandising information and enable them to undertake customer service, replenishment and inventory management tasks more easily

SUPERIOR READABILITY

- Black on 'paper-white' electrophoretic display (EPD)
- Near 180° viewing angle with excellent readability

LOW POWER, LONG LIFE

- Bistable displays require zero power to retain their image, enabling a longer battery life (typically 3 years²)
- Replaceable batteries for extended life

TRUE TWO-WAY COMMUNICATION

- Powerful two-way broadcast of price, product and promotional information to fully graphic electronic shelf labels with 100% accuracy
- Each ESL individually responds back to base, confirming that updates have been received and activated

VERSATILITY

 The Aura 29F can be managed across the same RF infrastructure as the rest of Displaydata's range of ESLs

PERSONALISATION

• Fully graphic ESLs can display QR codes that link to the retailer's own website or link to a retailer's loyalty programme





For further Aura product images, please visit www.displaydata.com



AURA 29F

Technical Information

Technical data	Aura 29F			
Dimensions External(WxHxD)	87 x 43 x 13mm 3.4 x 1.7 x 0.5"			
Visible screen area (WxH)	67 x 29mm 2.6 x 1.1"			
Weight	37 grams (1.31 oz)			
Display Pixels Dots per inch (DPI)	296 x 128 (37,888) 112			
Type	Black and white bistable EPD			
Orientation	Landscape or Portrait			
Viewing angle	Near 180° viewing angle			
Appearance	Standard unit available with white bezel front, pale blue rear			
Unit identifier barcode	Front			
Features Pages	6			
Operational Operating temperature range and humidity range (RH - Relative Humidity)	-25°C to 0°C -13°F to +32°F 35-70% RH			
Storage temperature range and humidity range (RH - Relative Humidity)	-25°C to 40°C -13°F to 104°F 35-70% RH Store in white state ¹			
Battery life (typical)	Typically 3 years (up to 3 updates/day) ²			
Replaceable batteries	2 x CR2450			
Fittings	Compatible with a variety of fixtures and fittings, available from Displaydata and our Preferred Partner			
Communications	868MHz or 915MHz ISM Band 2-way wireless			
Technical compliance Approvals	CE EU: ETSI EN 300-220, ETSI EN 301-489 USA: FCC Part 15c CA: RSS-210, RSS-Gen			
Safety approvals	IEC 60950-1 UL, CB			

Technical data is subject to change at Displaydata's discretion.

¹ White state. This refers to a state where there is no image shown on the display, it is blank.

 $^{2\ \}mbox{ln}$ a well-managed RF environment and with up to 3 updates per day.

Notes: Image quality and perception is limited to display resolution and type/size of the font selected.

It is highly recommended to use bold text when selecting small font sizes and any feature containing colour to be at least two pixels wide.

Labels should be left at operational temperature for at least 1 hr before any updates are made.

AURA 29BLE

Fully graphic black on 'paper-white' BLE-enabled Aura 29 electronic shelf labels (ESLs)

Displaydata continues to lead innovation with its latest Aura 29 BLE-enabled ESL. Based upon the popular fully graphic Aura 29, it features the latest EPD technology, with a powerful Bluetooth Low Energy (BLE) beacon integrated within the display.

WHAT IS A BLE BEACON?

BLE Beacons are small wireless transmitters that continually transmit a discovery signal that is then received by BLE-enabled smartphones. When used within the context of a store environment, they can communicate with shoppers's smartphones, making mobile couponing and location-based services a reality.

WHY SHOULD I USE THEM IN MY STORE?

BLE enabled ESLs, combined with a retailer's mobile app, are a powerful tool for customer engagement and can play a vital part in the brand experience. By integrating loyalty card information, they allow retailers to deliver richer and more personalised content to shoppers as they browse the store – direct to their smartphones – including tailored offers and promotions, videos and customer reviews, helping to drive traffic and sales.

When a shopper's BLE-enabled smartphone is within range of a beacon, retailers can proactively push promotions and individualised messaging out to consumers – this could be when they arrive in the store, are browsing a department or looking at a range of products, or as they are about to leave the store. When combined with a retailers' loyalty app, this makes it possible to present shoppers with messages and promotional offers that are uniquely tailored to them, based on their historic shopping habits or behaviour during that visit.

Beacon-influenced in-store sales are projected to be \$4.1 billion for the top-100 U.S. retailers in 2015, and are expected to grow to \$44.1 billion in 2016, according to BI Intelligence*.

BENEFITS OF BLE

- A new level of personalisation
 Greet customers as they enter the store and
 offer special discounts
- 2. Enhance shopper loyalty and store revenue Increase store visits per shopper and boost sales



- 3. Real-time promotions

 Tailor offers to shoppers when they're actually in your store
- 4. Improve the success of promotions
 Real-time visibility over promotions with the ability to modify to maximise success
- 5. Supplier-sponsored promotions Strengthen relationships with CPG suppliers with special offers

COMPLETE CONTROL

As with the rest of Displaydata's ESL range, the Aura29 BLE ESL is controlled from within the Dynamic Central software suite. Managing a single system and hardware platform offers significant operational and cost advantages over managing separate systems, and provides complete control and visibility over the BLE beacons within stores.

KEY FEATURES

- Switch beacons on and off
- Flexibility to adjust the broadcast range as required
- Change the UUID (Universally Unique ID) signal, to distinguish your beacons from others
- Define Major number used to group related sets of beacons (e.g. store location)
- Define minor number used to identify a beacon within a group (e.g. product)
- Set transmission frequency and power levels
- Monitor battery levels
- Run health checks
- Devices support Apple's iBeacon and Google's Eddystone

FULLY GRAPHIC

- Deliver rich content digitally, helping to influence the purchasing decision where it matters: at the shelf edge
- Freeform label design enables any combination of text, images including QR codes, manufacturer logos, etc., to be displayed allowing ultimate flexibility
- Each ESL has up to 6 pages in memory

SUPERIOR READABILITY

 Black on 'paper-white' electrophoretic display (EPD) with near 180° viewing angle for excellent readability

^{*} uk.businessinsider.com/beacons-will-impact-billions-in-retail-sales-2015-2



AURA 29BLE

Technical Information

Aura 29BLE Beacon			
87 x 43 x 13mm 3.4 x 1.7 x 0.5"			
67 x 29mm 2.6 x 1.1"			
37 grams (1.31 oz)			
296 x 128 (37,888) 112			
Black and white bistable EPD			
Landscape or Portrait			
Near 180° viewing angle			
Standard unit available with white bezel front, dark blue rear			
Front			
6			
0°C to 40°C +32°F to 104°F 35-70% RH			
-20°C to 40°C -4°F to 104°F 35-70% RH Store in white state ¹			
Typically 1 year (up to 5 updates/day) ²			
2 x CR2450			
Compatible with a variety of fixtures and fittings, available from Displaydata and our Preferred Partner			
868MHz or 915MHz ISM Band 2-way wireless			
CE EU: ETSI EN 300-220 and 300-328 ETSI EN 301-489 FCC Part 15 Low Power Communication Device			
IEC 60950-1 UL, CB			

Technical data is subject to change at Displaydata's discretion.

¹ White state. This refers to a state where there is no image shown on the display, it is blank.

 $^{2\ \}mbox{ln}$ a well-managed RF environment and with up to $5\ \mbox{updates}$ per day.

Notes: Image quality and perception is limited to display resolution and type/size of the font selected.

It is highly recommended to use bold text when selecting small font sizes and any feature containing colour to be at least two pixels wide.

Labels should be left at operational temperature for at least 1 hr before any updates are made.

DYNAMIC COMMUNICATOR

The hub of the store network



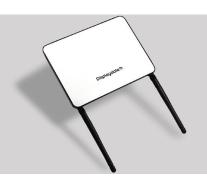
SIMPLE, LIGHT-TOUCH INFRASTRUCTURE

store software installation.

- Dynamic Communicator is very discrete in store and can be installed with just two screws and power from an Ethernet connection (PoE)
- Integrated wall/ceiling mounting bracket for ease of installation
- Rapidly deployable infrastructure: No need for a server or software to be installed in-store
- High data throughput rate means ESLs can be updated in-store quickly
- Ability to mix and match Displaydata's different ranges of ESLs over the same infrastructure for maximum flexibility
- An optional "mains" power supply unit (PSU) can be supplied separately where PoE is unavailable

TRUE TWO-WAY COMMUNICATION

- Powerful two-way broadcast of price, product and promotional information to fully graphic electronic shelf labels with 100% accuracy
- Each ESL individually acknowledges communication updates, reporting back internal status information such as battery, signal strength and temperature. Offering complete reassurance across an entire retail estate
- The Dynamic Solution provides status updates on battery power and ambient temperature and keeps a complete audit trail of updates



LONG-RANGE RF INFRASTRUCTURE

- Secure and reliable long-range two-way communication resilient to interference from other in-store communications i.e. 2.4GHz, WiFi, Bluetooth, Zigbee, etc.
- Extensive store coverage: Up to 50,000 sq. ft. (5000m²) and up to 200,000 ESLs from a single Communicator which can be extended with additional Communicators
- Extensible RF infrastructure capable of supporting additional devices and communications protocols

FULLY SCALABLE

- Centrally managed and fully scalable, allowing everything from an individual display to every detail on every ESL across an entire retail estate to be updated easily, wirelessly and instantly
- Ability to easily add more Communicators and ESLs as and when required
- Works across all retail environments regardless of number of stores, store size, ceiling height or number of ESLs
- No limit to the size of retail estate we can deliver
- The Dynamic Communicator is a PoE device and can be driven from any standard Ethernet network using powered Ethernet switches or PoE injector

NETWORK STABILITY & RESILIENCE

- Extremely resilient against RF interference, Dynamic Solution coexists with other RF protocols in-store
- In the event that the 'Master' Communicator is disconnected or fails, the system will alert the users as the fault occurs
- The Dynamic Solution takes care of backing up important network data by automatically performing regular backups of the Communicator and simplifying the replacement and restore process should a Communicator become damaged or fail



DYNAMIC COMMUNICATOR

Technical Information

Technical data				
Dimensions External (W x H x D)	158 x 115 x 35mm 6.2 x 4.5 x 1.4"			
Arial (length)	110 mm 4.3"			
Operational Power	1 x 10/100Mbit Ethernet port, Industry standard IEEE 802.3af-2008 PoE specification, Class 2 1 x DC power input (optional)			
Modes of operation	Master: Responsible for managing a store network of displays and communicators Note: Each store installation requires one Master Communicator Range Extender: Extends the range of the RF coverage within the store. Managed by the Master			
	Communicator			
Operating temperature range	0°C to 65°C +32°F to 149°F			
Storage temperature range	-20°C to 70°C -4°F to 158°F			
Features LED	Single LED showing Power/status			
Back-up	Automated back-up performed regularly			
Restore	Available through back-ups			
Fittings	Integrated wall/ceiling mount Shaped rear for cable management Unique downwards-facing antennas			
Communications	868MHz or 915MHz ISM Band 2-way wireless			
Technical compliance Approvals	CE EU: ETSI EN 300-220, ETSI EN 301-489 USA FCC rules in Part 18 of CFR 47 CA: RSS-210, RSS-Gen FCC Part 15 Low Power Communication Device			
Safety approvals	IEC\UL 60950-1 CB			

Technical data is subject to change at Displaydata's discretion.



