

iSMART ULTRA-WIDE DISPLAY

Opening up new dimensions

Outstanding width of iSmart Ultra-Wide Display gives you the opportunity to completely rethink the conventional route map by adding real-time information: connections, arrival time, and door operations.

iSmart Display portfolio provides aesthetic design and high visual rendering through lean design, immersive experience, seamless integration and smart technology.

KEY FEATURES

One-piece 1800 mm TFT Construction

Thanks to our in-house cutting process, we can deliver very wide iSmart Display with a narrow gap of 6 mm between the TFT panels.

Wide Viewing Angle

Enhanced optical filters provides wide angle of vision to make iSmart Display easy to read from anywhere in the coach.

Constant Luminosity Guaranteed for 15 years

Thanks to unique backlight intelligent management, iSmart Display has a constant luminosity and a much longer life.



PRODUCT'S LEVEL OF MATURITY

Concept Under Development **Available**

PRODUCT SPECIFICATION**TFT PANEL**

Technology	LCD TFT
Screen diagonal	2 x Full HD 41.5" 1/3 cut = 37" (other size on request)
Aspect ratio	32:3
Maximum brightness	1500 cd/m ² (typ.)
Brightness control	By ambient brightness
Contrast	3000:1 (typ.)
Viewing angle	Horizontal 176° (typ.), vertical 176° (typ.)
LED backlight lifetime	100 000h

CONTROLLER

Operating system	LINUX
Ethernet network	100 MBit/s
Protocols	VDV301, ITxPT, HTML, MQTT, SNMP, WebRTC, RTSP, TrainIT, TRDP (IEC61375-2-3), CIP, IPTCOM...

HOUSING

Enclosure material	Aluminum
Protection class acc. EN 60529	IP54 (higher on request)
Front Glass	Laminated safety glass 4.38 mm
Anti-reflection coating	Chemical

OPERATION

Temperature range in operation	EN 50155 OT3, -25 °C to +70 °C
Power supply	110 V DC, 72 V DC, 24 V DC

STANDARDS

Railway applications	EN 50155:2017
EMS	EN 50121-3-2:2015
Fire safety	EN 45545-2:2020-10

CONTACT

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iSMART CEILING DISPLAY

Opening up new dimensions

DATA SHEET

UNIQUE FEATURES

Only 28 mm Thick

Wrapped in an aluminum body and guarded by vandal-resistant safety glass, iSmart Display combines aesthetics and ruggedness.

High-Quality Visual Rendering

Enhanced optical filters increase visibility and brightness of iSmart Display's 1920 x 360 pixels high-resolution screens.

Low Energy Consumption

Wabtec's unique backlight technology reduces the energy consumption of the iSmart Display by 40% and increases its lifetime.

Double Sided

Independent content on each display side.

The high definition iSmart Ceiling Display is the perfect companion for rich travel information. Its remarkably thin design provides an impression of lightness while being extremely robust.



The iSmart Display portfolio provides aesthetic design and high visual rendering through lean design, immersive experience, seamless integration and smart technology.

PRODUCT'S LEVEL OF MATURITY

Concept Under Development **Available**

PRODUCT SPECIFICATION**TFT PANEL**

Technology	LCD TFT
Screen diagonal	Full HD 41.5" 1/3 cut = 37" (other size on request)
Aspect ratio	16:3
Maximum brightness	700 cd/m ² (typ.)
Brightness control	By ambient brightness
Contrast	3000:1 (typ.)
Viewing angle	Horizontal 176° (typ.), vertical 176° (typ.)
LED backlight lifetime	100,000h

CONTROLLER

Operating system	LINUX
Ethernet network	100 MBit/s
Protocols	VDV301, ITxPT, HTML, MQTT, SNMP, WebRTC, RTSP, TrainIT, TRDP (IEC61375-2-3), CIP, IPTCOM...

HOUSING

Enclosure material	Aluminum
Protection class acc. EN 60529	IP54
Front glass	Laminated safety glass 4.38 mm
Anti-reflection coating	Chemical
Weight	4 kg

OPERATION

Temperature range in operation	EN 50155 OT3, -25 °C to +70 °C
Power supply	110 V DC, 72 V DC, 24 V DC

STANDARDS

Railway applications	EN 50155:2017
EMC	EN 50121-3-2:2015
Fire safety	EN 45545-2:2020-10

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iSMART PARTITION GLASS

Opening up new dimensions

Adding displays in the platform area can be a challenge. So why not install partition glasses, and integrate the display into them? This is one of the main concepts behind Wabtec's iSmart Partition Glass: Smart integration of a removable double-sided display into a glass partition.

iSmart Display portfolio provides aesthetic design and high visual rendering through lean design, immersive experience, seamless integration and smart technology.

KEY FEATURES

Easy Maintenance

The display can be removed from the glass partition without disassembling the partition glass itself.

High Safe Load Partition at Only 30 mm Thick

iSmart partition glass is made of an innovative, very-compact stack of two TFT screens inserted between 2 safety glasses.

Double Sided

Independent content on each display side.

Low Consumption

Wabtec's unique back light technology reduces the energy consumption of the iSmart Display by 40% and increases its lifetime.



PRODUCT'S LEVEL OF MATURITY

Concept

Under Development

Available

PRODUCT SPECIFICATION**TFT PANEL**

Technology	LCD TFT
Screen diagonal	21.5" (other size on request)
Aspect ratio	9:16
Maximum brightness	700 cd/m ² (typ.)
Contrast	1000:1 (typ.)
Viewing angle	Horizontal 176° (typ.), vertical 176° (typ.)
LED backlight lifetime	100,000 h

CONTROLLER

Operating system	LINUX
Ethernet network	100 MBit/s
Protocols	VDV301, ITxPT, HTML, MQTT, SNMP, WebRTC, RTSP, TrainIT, TRDP (IEC61375-2-3), CIP, IPTCOM...

HOUSING

Enclosure material	Glass + aluminum
Protection class acc. EN 60529	IP54 (higher on request)
Glass	Safety glass
Thickness of the partition	30 mm
Maximum safe load	2 kN / 0.01 m ²

OPERATION

Temperature range in operation	EN 50155 OT3, -25 °C to +70 °C
Power supply	110 V DC, 72 V DC, 24 V DC

STANDARDS

Interior glazing for rail vehicles	EN17530
Electronics for rail vehicles	EN 50155
EMC	EN 50121-3-2
Fire safety	EN 45545-2
Shock and vibration	EN61373 – 1B

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iSMART STRIP DISPLAY

Opening up new dimensions

iSmart Strip Display is a great replacement for conventional reservation, ceiling, and partition displays in coaches. Its ideal location under the luggage rack provides all journey information near the passengers: seat reservation, next stops, toilet occupancy, bar direction, Wi-Fi status, special messages, breaking news. The location of reservation information follows the moving chair.

iSmart Display portfolio provides aesthetic design and high visual rendering through lean design, immersive experience, seamless integration and smart technology.

KEY FEATURES

Custom TFT Construction

Thanks to our in-house cutting process, we can deliver iSmart Strip Display which can be perfectly integrated under the luggage rack.

Easy Content Management

Logical display management provides a method of allocating virtual screens on the display strip that can be operated as real screens.

Constant Luminosity Guaranteed for 15 years

Thanks to unique backlight intelligent management, iSmart Display has a constant luminosity and a much longer life.



PRODUCT'S LEVEL OF MATURITY

Concept

Under Development

Available

PRODUCT SPECIFICATION**TFT PANEL**

Technology	LCD TFT
Screen diagonal	55" 1/9 cut = 37" (other size on request)
Aspect ratio	2 x 16:1
Maximum brightness	1500 cd/m ² (typ.)
Brightness control	By ambient brightness
Contrast	1000:1 (typ.)
Viewing angle	Horizontal 176° (typ.), vertical 176° (typ.)
LED backlight lifetime	100 000h

CONTROLLER

Operating system	LINUX
Ethernet network	100 MBit/s
Protocols	VDV301, ITxPT, HTML, MQTT, SNMP, WebRTC, RTSP, TrainIT, TRDP (IEC61375-2-3), CIP, IPTCOM...

HOUSING

Enclosure material	Aluminum
Protection class acc. EN 60529	IP54 (higher on request)
Front Glass	Laminated safety glass 4.38 mm
Anti-reflection coating	Chemical

OPERATION

Temperature range in operation	EN 50155 OT3, -25 °C to +70 °C
Power supply	110 V DC, 72 V DC, 24 V DC

STANDARDS

Railway applications	EN 50155:2017
EMS	EN 50121-3-2:2015
Fire safety	EN 45545-2:2020-10

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iSMART TRANSPARENT DISPLAY

Opening up new dimensions

Featuring multi-touch technology, the highly Transparent Organic LED iSmart Display will provide a view outside, while serving as an interactive information source for passengers. Ideal for underground metros when most of the time there is nothing to see through the window.

iSmart Display portfolio provides aesthetic design and high visual rendering through lean design, immersive experience, seamless integration and smart technology.

KEY FEATURES

Smart Integration

The technology is flexible enough to apply to windows, entry doors or other glass elements in a transit railway environment.

Interactive

The technology features touch-screen functionality and integrated speakers to play sound.

Easy Maintainability

And lower repair cost for the customers thanks to a detachable design.



PRODUCT'S LEVEL OF MATURITY

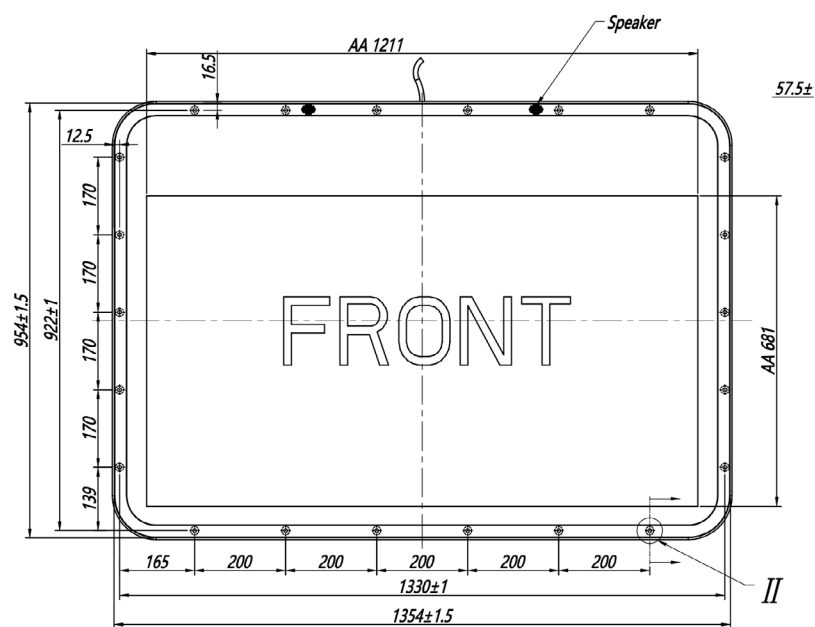
Concept

Under Development

Available

PRODUCT SPECIFICATION

Size	55" - 1221 mm (h) x 699 mm (v)
Resolution	Full HD
Brightness	150cd/m ² (Average Picture Level 100%), 400 cd/m ² (APL 25 %)
Color	1 Billion colors
Transparency	40%
Power consumption	150W - 350W max



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FULL COLOR LED DISPLAY

Opening up new dimensions

The fine pitch of Wabtec's Full Color LED display is the perfect companion for rich travel information outdoors in access doors, side of cars, behind windows, front of trains, or even indoor. Its remarkable vividness with color accuracy provides impressive images, animations and videos in all light conditions.

iSmart Display portfolio provides aesthetic design and high visual rendering through lean design, immersive experience, seamless integration and smart technology.

KEY FEATURES

Custom LED Construction

Thanks to our in-house assembling process, we can deliver full color LED Display which can be perfectly integrated in all applications.

Great Readability

Of reach content at any distance due to the fine pitch and the high-resolution.

Brightness Guaranteed for 15 Years

Thanks to unique intelligent luminosity management, full color LED display has a constant luminosity and a much longer life.



PRODUCT'S LEVEL OF MATURITY

Concept **Under Development** Available

PRODUCT SPECIFICATION

LED-PANEL

Technology	SMD-LED RGB
Visible area	On demand
Resolution	Up to HD
Minimal pixel pitch	1.5 mm
Display color	16.7 million
Brightness	2000 cd/m ²
Contrast	1000 000:1
LED lifetime	>15 years

CONTROLLER

Operating system	LINUX
Ethernet network	100MBit/s
Protocols	VDV301, ITxPT, HTML, MQTT, SNMP, WebRTC, RTSP, PDI, TrainIT, TRDP (IEC61375-2-3), CIP, IPTCOM...

OPERATION

Temperature range in operation	EN 50155 OT3, -25 °C to +70 °C
Power supply	110 V DC, 72 V DC, 24 V DC ...

STANDARDS

Railway applications	EN 50155:2017
EMS	EN 50121-3-2:2015
Fire safety	EN 45545-2:2020-10

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COLOR E-INK DISPLAY

Opening up new dimensions

Color E-Ink Display reinvents paper signage in transportation by bringing the power of real-time updates to passengers and increasing sustainability.

iSmart Display portfolio provides aesthetic design and high visual rendering through lean design, immersive experience, seamless integration and smart technology.



KEY FEATURES

Ultra-low Power Consumption

The E-ink technology consumes only when changing the image.

High Resolution

Its 150 DPI resolution is perfectly adapted to replace posters.

Cable Free for an Easy Installation

On existing trains thanks to a flat design that includes all components (controller, wireless communication, and power supply).

PRODUCT'S LEVEL OF MATURITY**Concept**

Under Development

Available

PRODUCT SPECIFICATION

Screen size	25.3 Inch
Display resolution	3200 (h) x 1800 (v) pixels
Active area	560 mm (h) x 315 mm (v)
Pixel pitch	0.175 mm (h) x 0.175 mm (v)

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VIDEO PASSENGER CALL UNIT

The highest grade of automation without on-board train personnel requires new signaling systems and cutting-edge passenger information solutions. Wabtec's Video Passenger Call Unit addresses this need with real-time video feeds to ground staff.

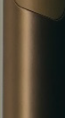
Wabtec's Passenger Call Unit portfolio provides smart custom mechanical aesthetic designs and seamless integration.

UNIQUE FEATURES

Highest level of remote human assistance: Video and audio bidirectional connection for any application of autonomous trains.

Customizable user interface: The touch screen can provide several call buttons depending on the language of the passenger or the service requested.

Tailored unit: The unit comes in a wide range of sizes with unique features that include an emergency handle, integrated loop-amplifier, and more.



PRODUCT'S LEVEL OF MATURITY**Concept**

Under Development

Available

PRODUCT SPECIFICATION**Audio**

Microphone frequency response	200 Hz -14 kHz at -10 dB
Loudspeaker frequency response	300 Hz to 4 kHz at -10 dB
Communication mode	Voice over IP: Full duplex with echo canceling Optional: Analog fallback through UIC lines
Activation	Push button or emergency alarm handle

Video

Display	Touchscreen 10" LCD TFT – 1280 x 800 px
Camera	Full HD – H264

Controller

Operating system	LINUX
Ethernet network	100 MBit/s
Protocols	SIP/RTP, HTML, MQTT, SNMP, WebRTC, RTSP

Housing

Enclosure material	Aluminum
Protection class acc. EN 60529	IP54 front face, IP20 rear
Weight	9 kg

Operation

Temperature range in operation	EN 50155 OT3, -25 °C to +70 °C
Power supply	110 V DC, 72 V DC, 24 V DC ...

Standards

Passenger alarm	Optional TSI/PMR compliant layout according to EN16334 or RTE 40100
Railway applications	EN 50155
EMC	EN 50121-3-2
Fire safety	EN 45545-2

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