Sat-System

www.railway-systems.eu
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Catalog Card
Multifunction display stand single-sided/ double-sided

Sat-System Sp. z o.o.
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ISO 9001:2015 IST/TS 22163:2017 AQAP 2110:2016 Świadectwo Bezpieczeństwa Przemysłowego Koncesja MSWiA

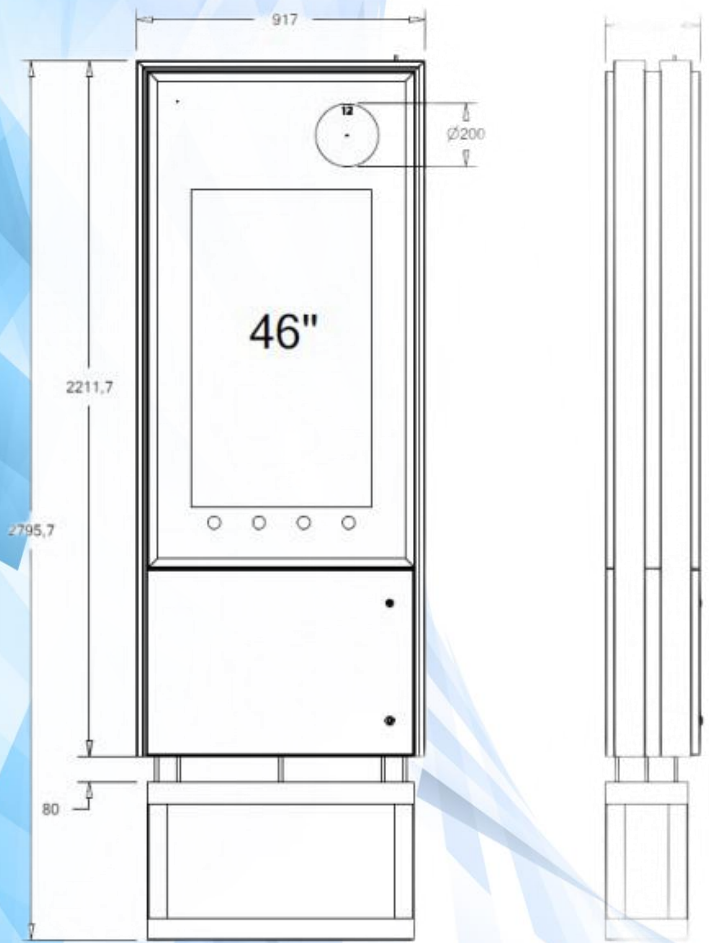
PURPOSE, FEATURES

The multifunction display is based on a professional 46" LCD screen designed for continuous operation 24/7 (24 hours/7 days a week). It is used for the presentation of information about the current train timetable at entrances to platforms or in tunnels, as well as for the presentation of other important additional and emergency information. It can also be used to present tourist information or as a city guide. The display has a set of touch-sensitive buttons underneath the screen, making it possible to change the mode and scroll through the timetable.

The display is suitable for use on outdoor platforms as well as indoors. The housing is IP-65 and IK09 protected. The design of the display prevents unauthorised access to the inside of the housing. The glass protecting the display screen is made of safety glass with an anti-reflective filter and a filter for preventing the inside of the device from heating up from sunlight. Built-in ambient light sensor to adjust the brightness level of the screen. It also features an analogue clock with a dial diameter of 200 mm with automatic backlighting of the dial.

Inside the display, a highly efficient heating and cooling system is built in, combined with humidity and temperature sensors to maintain the correct operating conditions inside the display, regardless of the climatic conditions at the installation site.

It is possible to manufacture the display as a double-sided display with screens and touch buttons located on both sides of the housing without changing its dimensions.



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TECHNICAL DATA

Technical parameters	
Matrix	1xLCD - 46"
Active Surface	1018,08 mm x 572,67 mm
Resolution	1920x1080
Contrast	5000:1
Luminance	2500 cd/m² (set remotely or automatically based on a reading from an ambient light sensor external illumination sensor)
Observation angle	178°/178°
Lifetime	80 000 h
Supply voltage	100 - 230VAC (±10%) 50-60Hz ±1%
Power consumption	380W/750W
Protection	Residual current; overcurrent; overvoltage
Sensors	Internal temperature and humidity, case opening, shock, light sensor, glass breakage
Controllers	backlighting, sensors, heating system, cooling system, for analysis and command execution CSDIP , equipped with a hardware and software watchdog
Protocols	TCP/IP; SNMP V1, V2 i V3; UDP; NTP
Clock	Analogue circular with a dial diameter of 200mm displayed in the board header with adjustable backlighting on the dial
Operating temperaturę range	-40°C do +60°C
Dimensions	2212mm x 917mm x 302mm
Weight	150kg
Housing	Made of corrosion-resistant material painted in RAL 5022.
Housing tightness	IP-65 (PN-EN 60529:2003)
Degree of protection	IK-09 (PN-EN 5012:2001)

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COMPLIANCE WITH STANDARDS

Study name	Number and title of the standard	Requirements
Luminance measurement average display	PN-ISO 9241-305:2009E Human interaction ergonomics and system - Part 305: Methods laboratory tests optical monitors electronic screens	Point 6.6.1 of the standard An average luminance of 300 cd/m2 is required for the minimum brightness level and 2500 cd/m2 for the maximum brightness level. It is allowed to conduct the test by an independent non-accredited test body
Measurement unevenness luminance display	PN-ISO 9241-305:2009E Ergonomics of human-system interaction - Part 305: Laboratory test methods optical monitors electronic screens	Point 6.6.3 of the standard Display backlight uniformity of at least 90% is required It is allowed to conduct the test by an independent non-accredited test body
Cold resistance	PN-EN 60068-2-1:2009 Environmental research. Part 2-1: Trials. Trial A: Cold	For external devices: Sharpness: -40oC For indoor units: Sharpness: -10oC
Dry resistance hot	PN-EN 60068-2-2:2009 Environmental research. Part 2-2: Trials. Test B: Dry heat	For external devices: Sharpness: +55oC For indoor units: Sharpness: +45oC
Resistance to humid hot cyclical	PN-EN 60068-2-30:2008 Environmental research. Part 2-30: Trials. Test Db: Damp heat cyclic	For external devices: Sharpness: +55oC Humidity: 95%
Resistance to sinusoidal vibration	PN-EN 60068-2-6:2008 Environmental research. Part 2-6: Trials. Fc test: Vibration (sinusoidal)	For external devices: Frequency: 3 - 40 Hz Amplitude: 0.2 mm Frequency: 40 - 100 Hz Amplitude: 0.03 mm
Impact resistant mechanical	PN-EN 60068-2-27:2009 Environmental research. Part 2-27: Trials. Trial of Ea: Strokes	For external devices: Shock acceleration: 2g Shock duration: 11 ms
Grade check IP protection	PN-EN 60529:2003/A2:2014-07 Degrees of protection provided by enclosures (IP code)	Device testing without negative pressure. 1. Main stations: IP42 2. Edge: IP65 3. Entrance platforms: IP65 4. Collective station: IP65 5. Multi-functional displays: IP65
Grade check IK protection	PN-EN 50102:2001 Degrees of protection by external mechanical impacts provided by electrical equipment enclosures (code IK)	For external device enclosures: IK09 (IK08 for multifunction display buttons) For indoor unit enclosures: IK07

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Measurement electromagnetic disorders conducted	PN-EN 55016-2-1:2014-09/A1:2017-12 Requirements for measuring equipment and disturbance measurement methods and immunity to disturbances - Part 2-1: Disturbance measurement methods and immunity tests - Conducted disturbance measurements	In accordance with the standards PN-EN 50121-1:2017-06 and PN-EN 50121-4:2017-04 Criterion B
Measurement electromagnetic disorders radial	PN-EN 55016-2-3:2017-06/A1:2020-01 Requirements for measuring apparatus and methods for measuring radio disturbances and immunity to disturbances - Part 2-3: Disturbance measurement methods and immunity tests - Disturbance measurements radiated	According to Norm PN-EN 61000-6-4:2019-12
Resistance to discharge electrostatic	PN-EN 61000-4-2:2011 Compatibility electromagnetic (EMC) - Part 4-2: Test and measurement methods - Immunity test electrostatic discharge	According to standards PN-EN 50121-1:2017-06 and PN-EN 50121-4:2017-04
Series resistance fast electrical states transitional	PN-EN 61000-4-4:2013-05 Compatibility electromagnetic (EMC) - Part 4-4: Test and measurement methods - Immunity test against bursts of electrical fast transients	According to standards PN-EN 50121-1:2017-06 and PN-EN 50121-4:2017-04
Impact resistant	PN-EN 61000-4-5:2014-10/A1:2018-01 Compatibility electromagnetic (EMC) - Part 4-5: Test and measurement methods - Surge immunity test	According to standards PN-EN 50121-1:2017-06 and PN-EN 50121-4:2017-04
Resistance to conducted disorders wired, induced by the field about frequencies radio	PN-EN 61000-4-6:2014-04 Compatibility electromagnetic (EMC) - Part 4-6: Test and measurement methods - Immunity to conducted disturbances induced by radio frequency fields	According to standards PN-EN 50121-1:2017-06 and PN-EN 50121-4:2017-04

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