

# ITA-81 Series Sales Kit

EN 50155 10.4" Fanless Railway Touch Panel PC with Intel Atom® x7-E3950



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# Target Applications on Rail Rolling Stock

## *Driving Coaches Driver's Desk*



**TRD**

- Train radio display

**CCD**

- Control and Command display

**TDD**

- Technical & Diagnostic display

**CCTV and PIS**

- Infotainment and passenger-related Display

**TCMS**

**ETCS**

**CBTC**



# ITA-81 Series Compelling Features

## Fanless / Reliable

Operating temperature: EN50155:2017 – Class OT4 (-40 °C to +70 °C)  
IP65-Rated for front panel protection



## Rolling Stock Power Input

24 , 48 , 72 , 110VDC ( $\pm 40\%$ ) to fulfill different train types (Class S3/C2)

## Expansion module Design

Easy to install extra IO module or interface, such as MVB



## Robust & Anti-Vibration

Solid aluminum enclosure;  
Mechanical protection follows IEC 61373

## Rail, EMC & Safety Certification

Latest regulation – EN50155:2017, EN50121-3-2:26, EN45545-2, UL62368



## Standard Keypad Layout

- 32-key layout (follows UIC 612-01)
- 1-key layout



## Auto Dimming

Integrated with light sensor

# Target Applications on Rail Rolling Stock

01

1-Key layout



1

10.4" & 12.1" (1024x768 resolution)

2

500 nits and 1300 nits(10.4") backlight

3

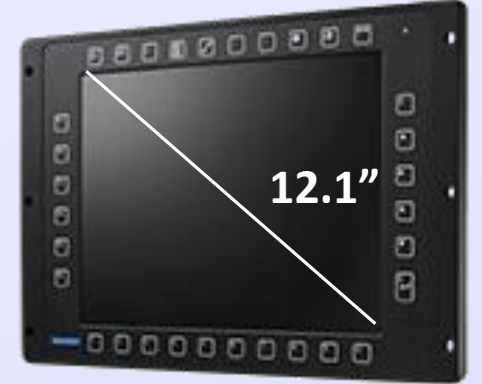
1 hard-key for backlight on/off

4

IP65 front panel

02

32-key layout



1

10.4" & 12.1" (1024x768 resolution)

2

500 nits and 1300 nits(10.4") backlight

3

32 hard-key (UIC 612-01 compliant)

4

IP65 front panel

# UIC 612-01 Keypad

TCMS

The keypad features a central display showing a 'TRAIN MAIN' interface. The interface includes a train diagram, a speedometer (0-240 km/h), a bar chart with 61% (red) and 39% (green) values, a digital display showing '10' and '3:50', and a pressure gauge. The keypad has a top row of function keys (K1.1-K1.10), a bottom row of function keys (F1-F6), and a numeric keypad (1-0). The keypad is surrounded by legends for key functions and UIC 612 codes.

UIC 612 Code	K1.1	K1.2	K1.3	K1.4	K1.5	K1.6	K1.7	K1.8	K1.9	K1.10
Top Row Keys										

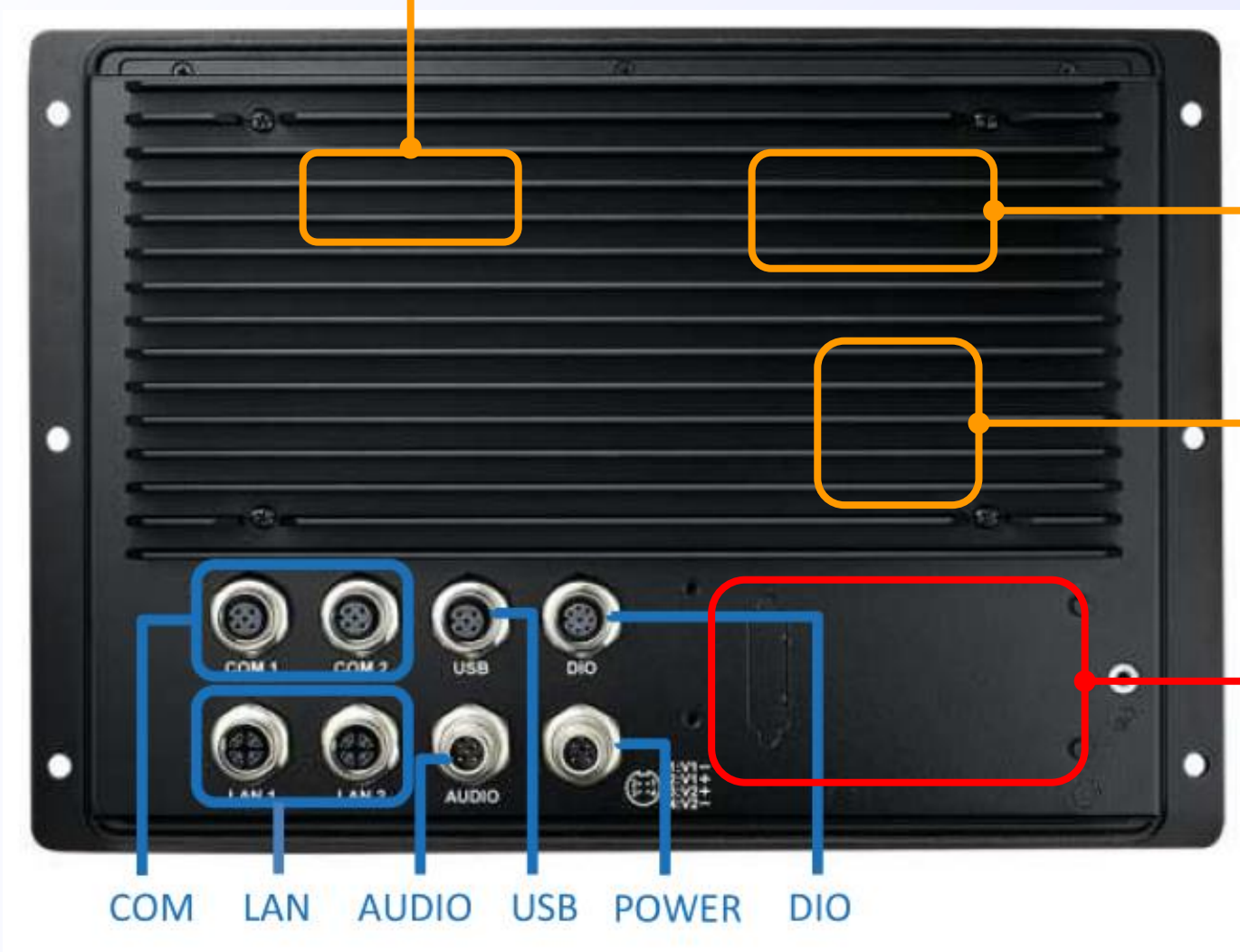
Bottom Row Keys	UIC 612 Code
	K4.1
	K4.2
	K4.3
	K4.4
	K4.5
	K4.6

Top Row Keys	UIC 612 Code
	K2.1
	K2.2
	K2.3
	K2.4
	K2.5
	K2.6

UIC 612 Code	K3.1	K3.2	K3.3	K3.4	K3.5	K3.6	K3.7	K3.8	K3.9	K3.10
Bottom Row Keys										

# ITA-8100 Rear View / Internal expansion

DDR3L SO-DIMM (4GB in default)



M.2 2242 SSD (64GB in default)

MiniPCIe

IO expansion module

TCMS

# Expendable Application



## Field communication bus & Data acquisition

- Serial – Isolated RS232/422/485
- CANBus/CANOpen – Isolated CAN 2.0A/B, CANOpen
- Data Acquisition – DIO
- MVB

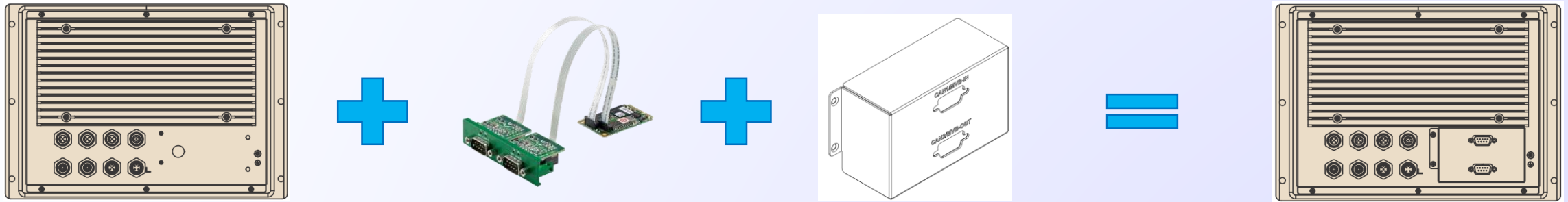


## Network Communication

- Wireless communication – Wi-Fi, 3G/LTE, GPS
- Emergency communication – GSM-R

# Expand I/O Thru. MiniPCle Slot + IO Bracket

- Easy installation in CTOS
- Standard product + MiniPCle module (such as iDoor) + I/O bracket



## Compatibility Table

IO Expansion Bracket	miniPCle Module	Expansion Function
<b>ITA8-2DB9-01</b> (2*DB9 Half-punch)	PCM-26D2CA-AE	2-port Isolated CANbus
	PCM-24D2R2-BE	2-port Isolated RS-232
	PCM-24D2R4-BE	2-port Isolated RS-422/485
	968AD0025	MVB – Duagon D017M
<b>ITA8-3SMA-01</b> (3*SMA half-punch)	EWM-G110H01E	GPS
	EWM-W189H02E	Wi-Fi
	AIW-343FQ	LTE Cat. 4 with SIM slot

✓ Another configuration by TPN support

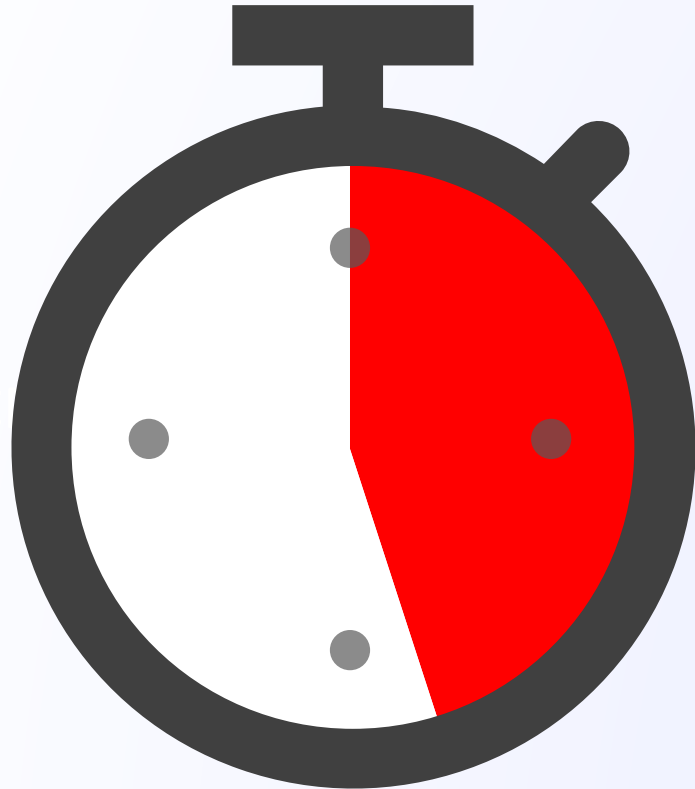
- 2 DB9 + 1 M12 (USB 2.0)

IO Expansion Bracket	miniPCle Module	M12 USB cable
<b>ITA8-2DB9M12-01</b> (2*DB9 Half-punch)	PCM-26D2CA-AE	1700031765-01
	PCM-24D2R2-BE	
	PCM-24D2R4-BE	
	968AD0025	

*Note – You can contact PD for other IO customization*



# Fast Boot-up Time (< 30 Seconds)



- Test model: ITA-8100-L00A1
- Operating System: Win10 IOT Ent LTSC 2016 (without customization of operating system)

Table 2.01.4.01 BIOS Time test data

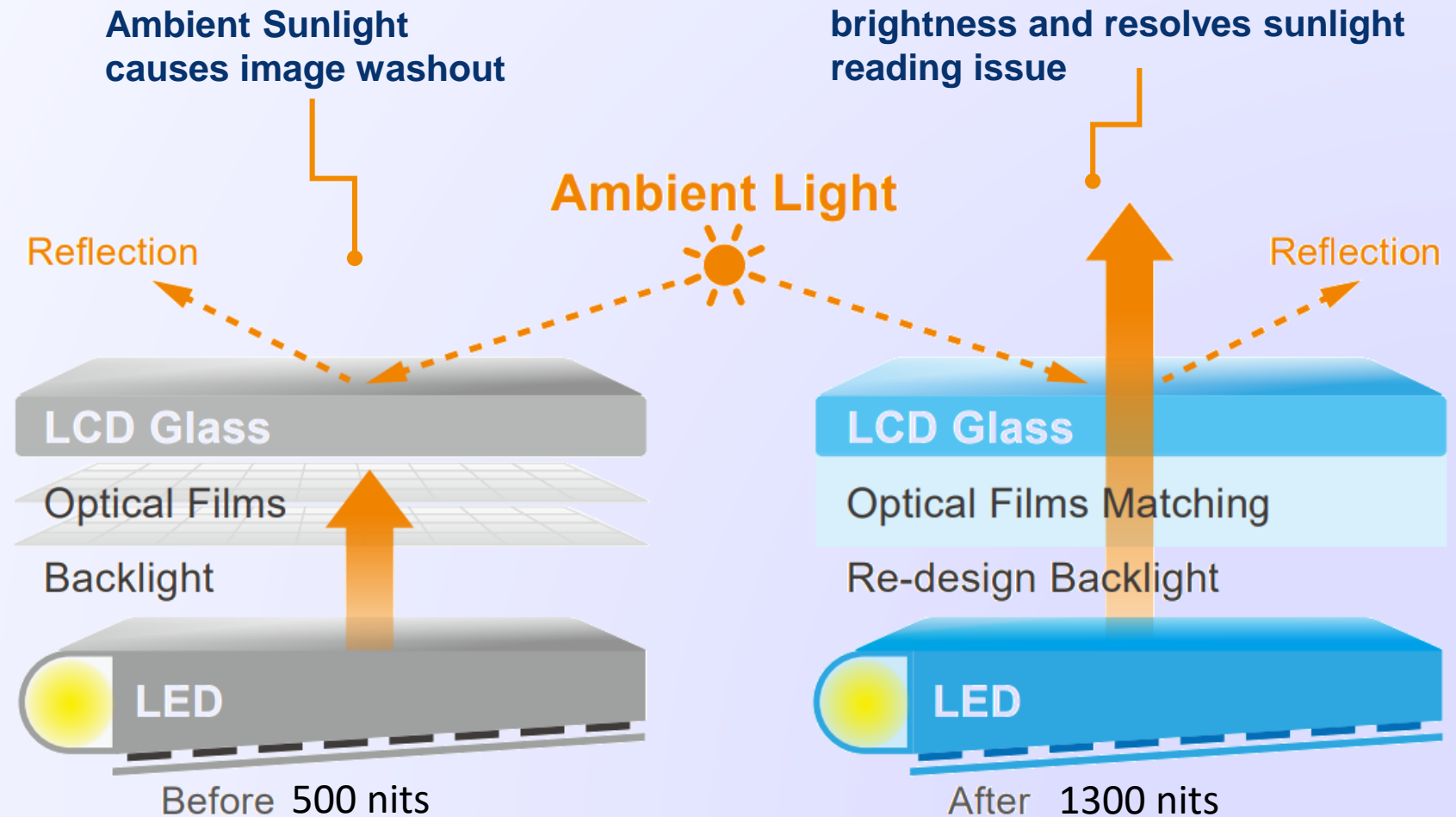
Item	Criteria	Measurement	Judgment	
Booting time	Check the target booting time of the system from off to Windows desktop must less than 45 seconds.	BIOS boot time	6.15 sec	PASS
		Total boot time	23.22 sec	PASS

# Leading technology in ITA-8100B





## High Brightness Enhancement



- Optical enhancement of lighting films, prismatic diffusor and lighting system boost brightness to 1300nits
- Enables applications like Locomotive, Trams, Light Rail and etc. to improve overall performance
- Combine with 99% dimming for night and day use





# Ordering Information – Model: ITA-8100

Part Number	Description	
ITA-8100-L00A1	10.4 DMI with 24V/48VDC power input, 4GB RAM, 64G SSD, 32-keypad	
ITA-8100-S00A1	10.4 DMI with 72V/110VDC power input, 4GB RAM, 64G SSD, 32-keypad	
ITA-8100-L01A1	10.4 DMI with 24V/48VDC power input, 4GB RAM, 64G SSD, 1-keypad	
ITA-8100-S01A1	10.4 DMI with 72V/110VDC power input, 4GB RAM, 64G SSD, 1-keypad	
ITA8-CBLE-01	Cable Kit 1 x Power : M12 A-Coded 4Pin (F) to Y type terminals, 50cm 2 x COM : M12 A-Coded 5Pin (M) to D-sub 9Pin (M), 20cm 2 x LAN : M12 X-coded 8P (M) to RJ45 (F), 100cm 1 x USB : M12 A-Coded 4Pin (M) to USB Type-A (F), 50cm	

# Ordering Information – Model: ITA-8100B

Part Number	Description	
ITA-8100B-L00A1	10.4" high brightness DMI with 24V/48VDC power input, 4GB RAM, 64G SSD, 32-keypad	
ITA-8100B-S00A1	10.4" high brightness DMI with 72V/110VDC power input, 4GB RAM, 64G SSD, 32-keypad	
ITA-8100B-L01A1	10.4" high brightness DMI with 24V/48VDC power input, 4GB RAM, 64G SSD, 1-keypad	
ITA-8100B-S01A1	10.4" high brightness DMI with 72V/110VDC power input, 4GB RAM, 64G SSD, 1-keypad	
ITA8-CBLE-01	<p>Cable Kit</p> <ul style="list-style-type: none"> <li>1 x Power : M12 A-Coded 4Pin (F) to Y type terminals, 50cm</li> <li>2 x COM : M12 A-Coded 5Pin (M) to D-sub 9Pin (M), 20cm</li> <li>2 x LAN : M12 X-coded 8P (M) to RJ45 (F), 100cm</li> <li>1 x USB : M12 A-Coded 4Pin (M) to USB Type-A (F), 50cm</li> </ul>	

# Ordering Information – Model: ITA-8120

Part Number	Description	
ITA-8120-L00A1	12.1 DMI with 24V/48VDC power input, 4GB RAM, 64G SSD, 32-keypad	
ITA-8120-S00A1	12.1 DMI with 72V/110VDC power input, 4GB RAM, 64G SSD, 32-keypad	
ITA-8120-L01A1	12.1 DMI with 24V/48VDC power input, 4GB RAM, 64G SSD, 1-keypad	
ITA-8120-S01A1	12.1 DMI with 72V/110VDC power input, 4GB RAM, 64G SSD, 1-keypad	
ITA8-CBLE-01	Cable Kit 1 x Power : M12 A-Coded 4Pin (F) to Y type terminals, 50cm 2 x COM : M12 A-Coded 5Pin (M) to D-sub 9Pin (M), 20cm 2 x LAN : M12 X-coded 8P (M) to RJ45 (F), 100cm 1 x USB : M12 A-Coded 4Pin (M) to USB Type-A (F), 50cm	

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