

Data Sheet

Tiger City IMX Industrial Computer with Linux OS

The Tiger City IMX minicomputer uses Linux operating systems and is equipped with several communication interfaces such as: Ethernet, USB 2.0, HDMI, GSM, RS232, RS485, 1-Wire and multiple analog-digital inputs and outputs. It can also be configured to include a Wi-Fi module and encryption modules that increase the security of the device. The casing enables installation on the DIN rail. The front panel has switches, an OLED display and a joystick for manual control of the device operation.

TCX IMX8



Features:

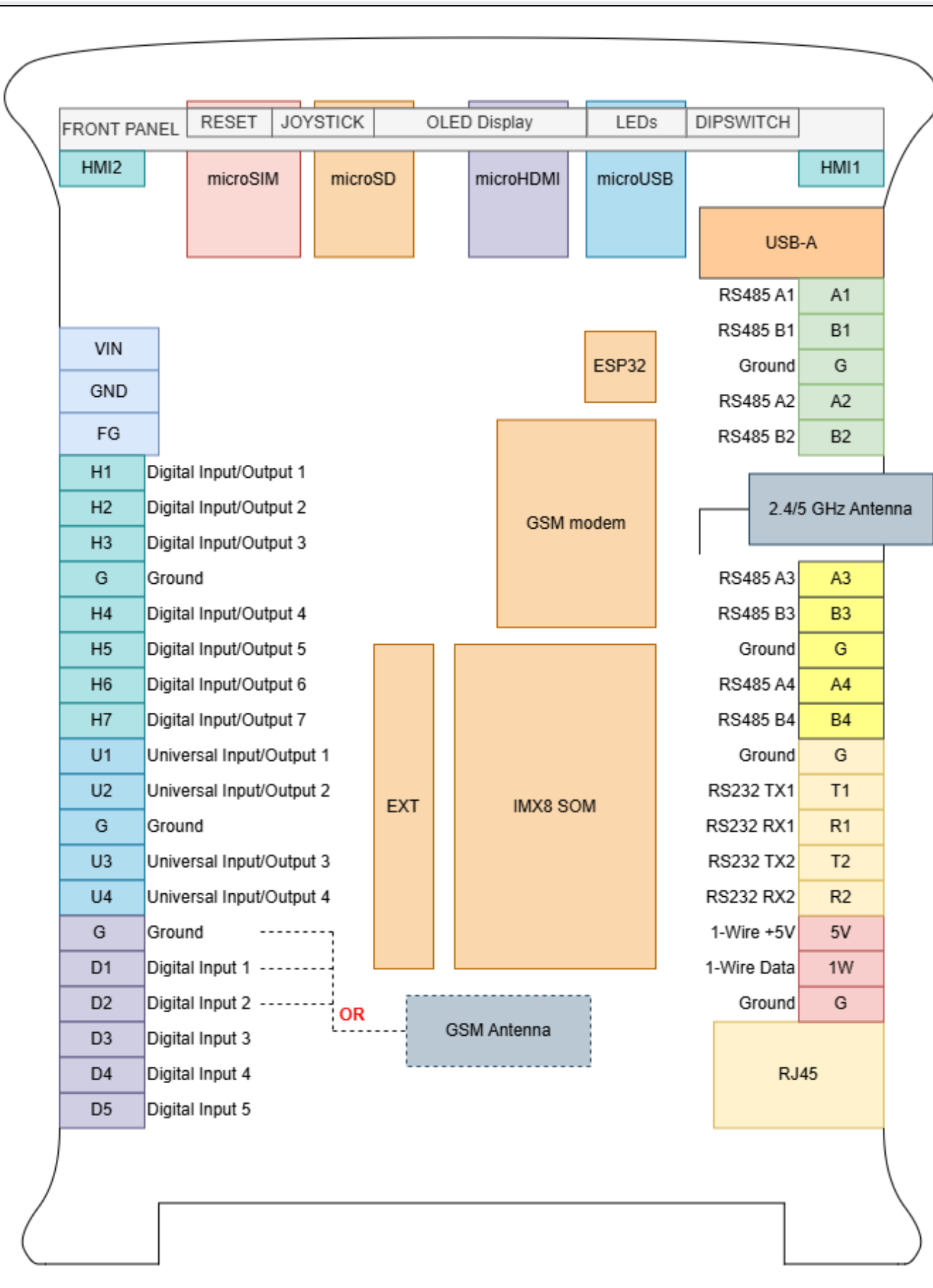
- Power: voltage 12-24 VDC +-20%, maximum power 25 W, reverse polarity protection
- SoM: VAR-SOM-MX8M-MINI
- Core: NXP's i.MX 8M Mini with 1.6 GHz Quad-core ARM Cortex-A53 and 400 MHz Cortex-M4 real-time processor
- Timing: 1.6 GHz
- RAM: 2 GB DDR4
- Flash eMMC: 16 GB
- 1x microSD connector
- 1x microHDMI 1.3a (optional)
- 1x microUSB 2.0 HOST / OTG, max. 500 mA (optional)
- 1x USB-A 2.0 HOST, max. 1 A
- 1x modem GSM SIM7600E + microSIM (optional)
- 1x 1-Wire (optional)
- 7x DIO - digital input/output, max. 30 V
- 4x UIO - universal analog-digital input/output (temperature measurement with sensors, e.g.: Pt1000, Ni1000, KTY, NTC, current, voltage and resistance sensors), max. 20 V (optional)
- 3x/5x DI - digital input max. 30 V (optional)
- 2x RS232, baudrate 50-115200 bps
- 2x RS485, baudrate 50-115200 bps (4x optional)
- 1x Ethernet 10/100 Mbps - RJ45 connector
- 1x Wi-Fi® / 2.4G module (optional)
- 1x secure element (optional)
- 1x display OLED 0.87" 128x32 px black&white (optional)
- 1x Joystick (optional)
- RTC (optional), buzzer, EEPROM
- TPM (optional)
- Software watchdog

Specifications

Redisage PN		LCX01	LCX02	LCX03	LCX04	LCX05	LCX06
Version		Light	Light GSM	Basic	Basic GSM	Max	Max GSM
Power input		12-24 VDC +-20%, maximum power 25 W, reverse polarity protection					
System on Module		VAR-SOM-MX8: NXP iMX8M-MINI					
Core		NXP's i.MX 8M Mini with 1.6 GHz Quad-core ARM Cortex-A53 and 400 MHz Cortex-M4 real-time processor					
Timing		1.6 GHz					
RAM		2 GB DDR4					
Flash eMMC		16GB					
Ports/ Connectors	RS232	2x	2x	2x	2x	2x	2x
	terminal block max. 2.5 mm ² wire max. 15 m at 115.2 kbps						
	RS485	2x	2x	2x	2x	4x	4x
	terminal block max. 2.5 mm ² wire max. 1,200 m at 9.6 kbps; max. 400 m at 115.2 kbps						
	Digital Input	:x:	:x:	5x	3x	5x	3x
	Digital Input/Output	7x	7x	7x	7x	7x	7x
Universal Input/Output	:x:	:x:	4x (Current Input, Voltage Input)	4x (Current Input, Voltage Input)	4x (Current Input, Voltage Input, Current Output, Resistance)	4x (Current Input, Voltage Input, Current Output, Resistance)	

Redisage PN	LCX01	LCX02	LCX03	LCX04	LCX05	LCX06
Version	Light	Light GSM	Basic	Basic GSM	Max	Max GSM
OS	Embedded Linux					
Dimensions [mm]	119 x 101 x 22.5					
Work temperature [°C]	-40 to +75					
Certification	CE, RoHS, ...					
Norms	Check here					

Placement of peripherals



FRONT PANEL RESET JOYSTICK OLED Display LEDs DIPSWITCH

HMI2 microSIM microSD microHDMI microUSB HMI1

USB-A

RS485 A1 A1
 RS485 B1 B1
 Ground G
 RS485 A2 A2
 RS485 B2 B2

VIN
 GND
 FG

ESP32

GSM modem

2.4/5 GHz Antenna

H1 Digital Input/Output 1
 H2 Digital Input/Output 2
 H3 Digital Input/Output 3
 G Ground
 H4 Digital Input/Output 4
 H5 Digital Input/Output 5
 H6 Digital Input/Output 6
 H7 Digital Input/Output 7
 U1 Universal Input/Output 1
 U2 Universal Input/Output 2
 G Ground
 U3 Universal Input/Output 3
 U4 Universal Input/Output 4
 G Ground
 D1 Digital Input 1
 D2 Digital Input 2
 D3 Digital Input 3
 D4 Digital Input 4
 D5 Digital Input 5

EXT

IMX8 SOM

RS485 A3 A3
 RS485 B3 B3
 Ground G
 RS485 A4 A4
 RS485 B4 B4
 Ground G
 RS232 TX1 T1
 RS232 RX1 R1
 RS232 TX2 T2
 RS232 RX2 R2
 1-Wire +5V 5V
 1-Wire Data 1W
 Ground G

GSM Antenna

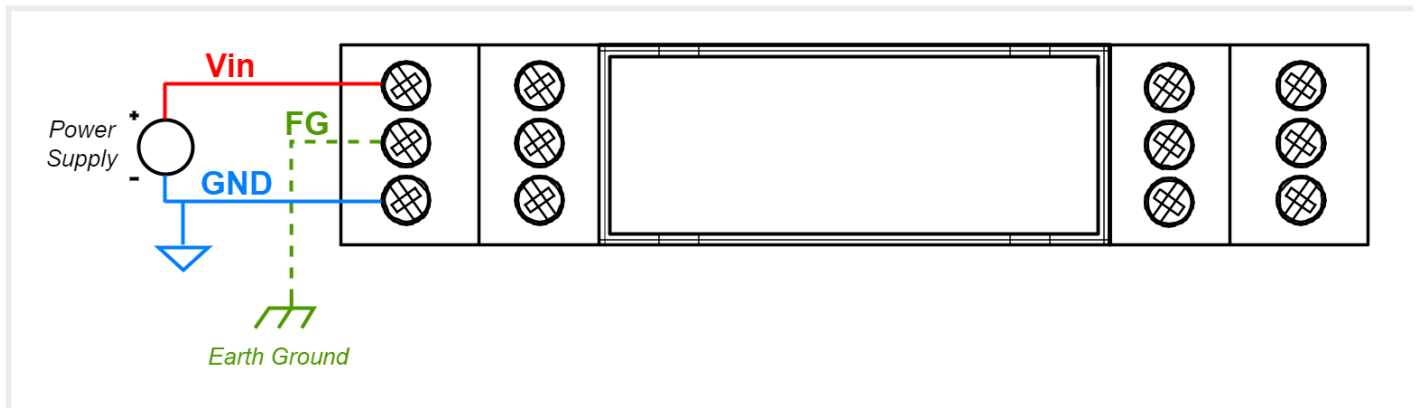
RJ45

OR

Frame ground FG

Electronic circuits are constantly prone to electrostatic discharge ESD. Redisage Electronics modules feature a design for the frame ground terminal block FG. The frame ground provides a path for bypassing ESD, which provides enhanced static protection ESD abilities and ensures the module is more reliable. Connecting FG terminal block to the earth ground will bypass the ESD disturbances outside the device so will provide a better level of protection against ESD.

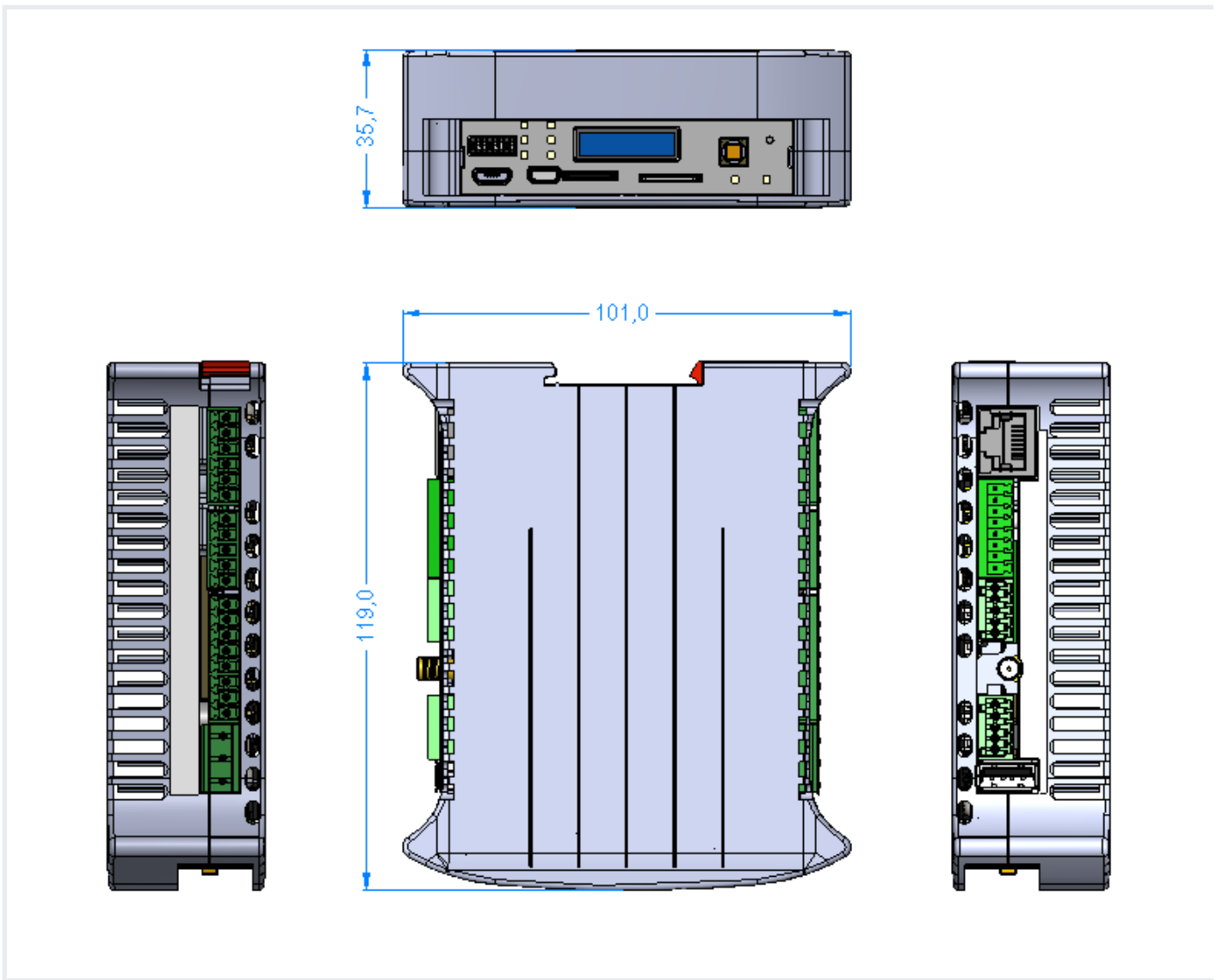
Frame Ground FG connection reference drawing is provided below.



If earth ground is not available FG can be left floating or it can be connected with the power supply GND.

Enclosure

The space that the device occupies can be approximated to a cube of the following dimensions: 119 mm x 101 mm x 35,3 mm.



Norms

EMC standards

Standard	Title	Description	Comments
Emission			
EN 61000-6-4	Generic Emission Standard	Emission standard for industrial environment	
EN 55011	Conducted Emission	Limits for Group 1, Class A	Power port
EN 55011	Radiated Emission	Limits for Group 1, Class A	
EN 55032	Conducted Emission	Limits for Class A	Ethernet port
Immunity			

EN 61000-6-2	Generic Emission Standard	Immunity standard for industrial environment	
EN 61000-4-2	Electrostatic discharge (ESD)	±4kV (contact discharge), ±8kV (air discharge)	
EN 61000-4-3	Radio Frequency immunity	10V/m	
EN 61000-4-4	Burst/EFT immunity	±1kV	All ports
EN 61000-4-5	Surge immunity	±0.5kV (line-to-line), ±1kV (line-to-earth)	Power port
EN 61000-4-29	Voltage Dips, Short Interruptions and Voltage Variations	In progress	Power port

Climatic standards

Standard	Title	Description	Comments
EN 61131-2	Product Standard	Programmable controllers - Part 2: Equipment requirements and tests	
EN 60068-2-1	Cold (storage)	Cold test "storage" suitable for non-heat emitting products. The object of the test is limited to determining the suitability of the components, devices or products for transport or storage at low temperatures.	
EN 60068-2-2	Dry Heat (storage)	Dry heat test "storage" suitable for non-heat emitting products. The object of the test is limited to determining the suitability of the components, devices or products for transport or storage at high temperatures.	
EN 60068-2-1	Cold (operation)	Cold test "operation" suitable for heat emitting products. The object of the test is limited to determining the suitability of the components, devices or products for operation at low temperatures.	

EN 60068-2-2	Dry Heat (operation)	Dry heat test "operation" suitable for heat emitting products. The object of the test is limited to determining the suitability of the components, devices or products for operation at high temperatures.	
EN 60068-2-14	Change of temperature (storage)	The change of temperature test "storage" is suitable for non-heat emitting products. The objective of this test is limited to determining the suitability of the components, devices, or products for operation during temperature changes.	
EN 60068-2-14	Change of temperature (operation)	The change of temperature test "operation" is suitable for heat emitting products. The objective of this test is limited to determining the suitability of the components, devices, or products for operation during temperature changes.	
Redisage	Cold start	Cold start test is suitable for non-heat emitting products just before starting the device. The objective of this test is limited to determining the suitability of the devices for start in cold conditions.	
EN 60068-2-30	Damp Heat (storage)	Damp heat test "storage" is suitable for non-heat emitting products. The objective of this test is limited to determining the suitability of the devices for transport or storage under cyclic damp heat conditions.	

EN 60068-2-30	Damp Heat (operation)	Damp heat test “operation” is suitable for non-heat emitting products. The objective of this test is limited to determining the suitability of the devices for transport or storage under cyclic damp heat conditions.	
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Additional notes

Wi-Fi® is a registered trademark of Wi-Fi Alliance®.

Related information and links		
Ordering information	Accessories	Similar products

Products family sample photo



<https://redisage.com>

DISCLAIMER NOTES

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

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