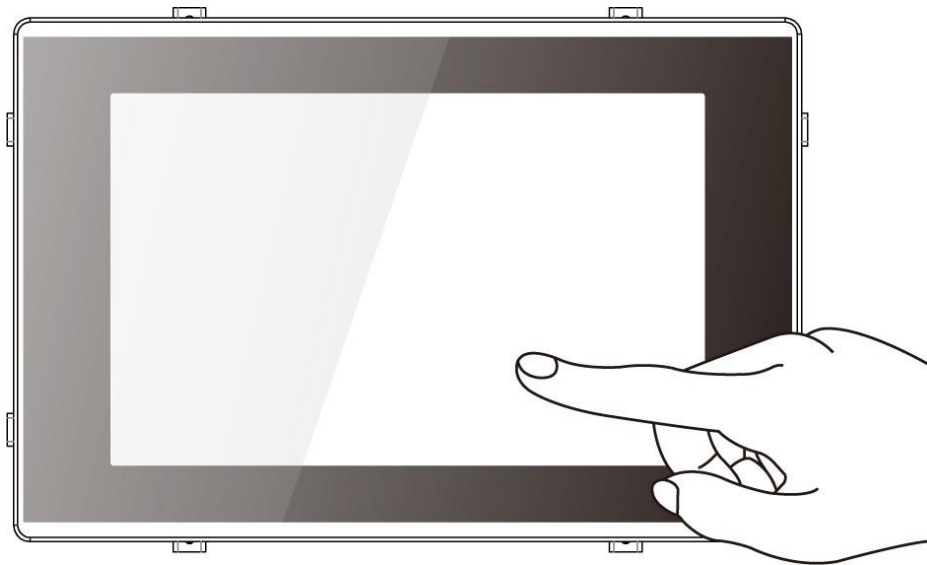# E-Series HMI

Ubuntu 16.04

Freescale® Cortex® A9 i.MX6 Dual Core, 1 GHz

Elegant Design

W04FA3S-EHT1
W07FA3S-EHT1
W10FA3S-EHH2
R15FA3S-EHC3
W15FA3S-EHA2

User Manual

Version 1.2

CONTENTS

PREFACE

Copyright Notice

No part of this document may be reproduced, copied, translated, or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the prior written permission of the original manufacturer.

Trademark Acknowledgement

Brand and product names are trademarks or registered trademarks of their respective owners.

Disclaimer

We reserve the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. We assume no responsibility or liability for the use of the described product(s) conveys no license or title under any patent, copyright, or masks work rights to these products, and make no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. Applications that are described in this manual are for illustration purposes only. We make no representation or guarantee that such application will be suitable for the specified use without further testing or modification.

Warranty

Our warranty guarantees that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, we will, at his/her option, repair or replace the defective product at no charge to the customer, provide it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service. If the serial number and the product shipping data differ by over 30 days, the in-warranty service will be made according to the shipping date. In the serial numbers the third and fourth two digits give the year of manufacture, and the fifth digit means the month (e. g., with A for October, B for November and C for December).

For example, the serial number 1W16Axxxxxxxx means October of year 2016.

Customer Service

We provide a service guide for any problem by the following steps: First, visit the website of our distributor to find the update information about the product. Second, contact with your distributor, sales representative, or our customer service center for technical support if you need additional assistance.

You may need the following information ready before you call:

- Product serial number
- Software (OS, version, application software, etc.)
- Description of complete problem
- The exact wording of any error messages

In addition, free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products.

Advisory Conventions

Four types of advisories are used throughout the user manual to provide helpful information or to alert you to the potential for hardware damage or personal injury. These are Notes, Important, Cautions, and Warnings. The following is an example of each type of advisory.

NOTE:
A note is used to emphasize helpful information

IMPORTANT:
An important note indicates information that is important for you to know.

CAUTION/ ATTENTION
A Caution alert indicates potential damage to hardware and explains how to avoid the potential problem.
Une alerte d'attention indique un dommage possible à l'équipement et explique comment éviter le problème potentiel.

WARNING!/ AVERTISSEMENT!
An Electrical Shock Warning indicates the potential harm from electrical hazards and how to avoid the potential problem.
Un Avertissement de Choc Électrique indique le potentiel de chocs sur des emplacements électriques et comment éviter ces problèmes.

ALTERNATING CURRENT / MISE À LE TERRE!
The Protective Conductor Terminal (Earth Ground) symbol indicates the potential risk of serious electrical shock due to improper grounding.
Le symbole de Mise à Terre indique le risqué potentiel de choc électrique grave à la terre incorrecte.

Safety Information

WARNING! / AVERTISSEMENT!

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Toujours débrancher le cordon d'alimentation du chassis lorsque vous travaillez sur celui-ci. Ne pas brancher de connections lorsque l'alimentation est présente. Des composantes électroniques sensibles peuvent être endommagées par des sauts d'alimentation. Seulement du personnel expérimenté devrait ouvrir ces chassis.

CAUTION/ATTENTION

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Toujours verifier votre mise à la terre afin d'éliminer toute charge statique avant de toucher la carte CPU. Les équipements électroniques moderns sont très sensibles aux décharges d'électricité statique. Toujours utiliser un bracelet de mise à la terre comme précaution. Placer toutes les composantes électroniques sur une surface conçue pour dissiper les charge, ou dans un sac anti-statique lorsqu'elles ne sont pas dans le chassis.

Safety Precautions

For your safety carefully read all the safety instructions before using the device. Keep this user manual for future reference.

- Always disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
- For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
- Keep this equipment away from humidity.
- Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
- The openings on the enclosure are for air convection and to protect the equipment from overheating.

CAUTION/ATTENTION

Do not cover the openings!

Ne pas couvrir les ouvertures!

- Before connecting the equipment to the power outlet make sure the voltage of the power source is correct.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
- Never pour any liquid into an opening. This could cause fire or electrical shock.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
- All cautions and warnings on the equipment should be noted.

*Let service personnel to check the equipment in case any of the following problems appear:

- o The power cord or plug is damaged.
- o Liquid has penetrated into the equipment.
- o The equipment has been exposed to moisture.
- o The equipment does not work well or you cannot get it to work according to the user manual.
- o The equipment has been dropped and damaged.
- o The equipment has obvious signs of breakage.

- Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20°C (-4°F) or above 60°C (140°F). It may damage the equipment.

CAUTION/ATTENTION

Use the recommended mounting apparatus to avoid risk of injury.
Utiliser l'appareil de fixation recommandé pour éliminer le risque de blessure.

WARNING! / AVERTISSEMENT!

Only use the connection cords that come with the product. When in doubt, please contact the manufacturer.
Utiliser seulement les cordons d'alimentation fournis avec le produit. Si vous doutez de leur provenance, contactez le manufacturier.

WARNING!/ AVERTISSEMENT!

Always ground yourself against electrostatic damage to the device.
Toujours vérifier votre mise à la terre afin que l'équipement ne se décharge pas sur vous.

- Cover workstations with approved anti-static material. Use a wrist strap connected to a work surface and properly grounded tools and equipment.
- Use anti-static mats, heel straps, or air ionizer for added protection.
- Avoid contact with pins, leads, or circuitry.
- Turn off power and input signals before inserting and removing connectors or test equipment.
- Keep the work area free of non-conductive materials, such as ordinary plastic assembly aids and Styrofoam.
- Use filed service tools, such as cutters, screwdrivers, and vacuum cleaners that are conductive.
- Always put drivers and PCB's component side on anti-static foam.

Important Information

Federal Communications Commission Radio Frequency Interface Statement

This device complies with part 15 FCC rules.

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class "B" digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at him own expense.

EC Declaration of Conformity

This equipment is in conformity with the requirement of the following EU legislations and harmonized standards. Product also complies with the Council directions.

Electromagnetic Compatibility Directive (2014/30/EU)

- EN55024: 2010 EN 55022: 2010 Class B
    - IEC61000-4-2: 2009
    - IEC61000-4-3: 2006+A1: 2007+A2: 2010
    - IEC61000-4-4: 2012
    - IEC61000-4-5: 2014
    - IEC61000-4-6: 2013
    - IEC61000-4-8: 2010
    - IEC61000-4-11: 2004
- EN55022: 2010/AC:2011
- EN61000-3-2:2014
- EN61000-3-3:2013

Low Voltage Directive (2014/35/EU)

EN 60950-1:2006/A11:2009/A1:2010/A12:2011/ A2:2013

ABOUT THIS USER MANUAL

This User Manual provides information about using the Winmate® E-Series HMI. This User Manual applies to the E-Series HMI – W04FA3S-EHT1, W07FA3S-EHT1, W10FA3S-EHH2, R15FA3S-EHC3, and W15FA3S-EHA2.

The documentation set for the E-Series HMI with Freescale® Cortex® A9 i.MX6 Dual Core provides information for specific user needs, and includes:

- **E-Series HMI User Manual** – contains detailed description on how to use the HMI device, its components and features.
- **E-Series HMI Quick Start Guide** - describes how to get the HMI up and running.

NOTE:
Some pictures in this guide are samples and can differ from actual product.

Document Revision History

Version	Date	Note
1.0	30-Jun-2017	Initial release
1.1	5-Dec-2017	Change mechanical design
1.2	25-Jan-2018	Add R15FA3S-EHC3

INTRODUCTION

This chapter gives you product overview, describes features and hardware specification. You will find all accessories that come with the HMI in the packing list. Mechanical dimensions and drawings included in this chapter.

1

CHAPTER 1: INTRODUCTION

Congratulations on purchasing Winmate® E-Series HMI. Winmate® continues developing new generation of Human Machine Interfaces for Industry 4.0 and Internet of Things (IoT). Our E-Series HMI runs on Ubuntu operating system that allows installing the latest applications (APPs). Thereby wide customization possibilities are available to satisfy the needs of industrial automation.

There is one USB 2.0 onboard to connect mouse or keyboard, USB OTG for system updates and micro SD card for data logging, backup or data storage. System memory of 1 GB ensures stable operation of applications.

With mounting clips for panel mounting there is no need to drill holes in a fixture. This saves you the time for mounting and guarantee aesthetic look of the wall after the unit gets removed.
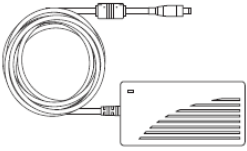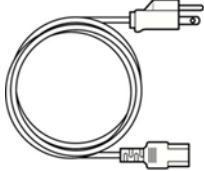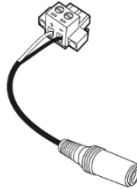
1.1 Product Features
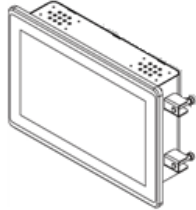
Winmate® E-Series HMI features:

- Freescale® Cortex® A9 i.MX6 Dual Core 1 GHz
- Projected Capacitive (P-CAP) Multi-Touch
- Fanless cooling system and ultra-low power consumption
- Front IP65 water and dust proof, rear IP22
- Optional PoE (Data and Power in a single cable)
- Mounting clips for quick Installation
- Elegant design for room booking, access control and room information applications
- Ubuntu 16.04 (Optional)

1.2 Package Contents

Carefully remove the box and unpack your device. Please check if all the items listed below are inside your package. If any of these items are missing or damaged contact us immediately.

Standard factory shipment list:

| HMI Device	Quick Start Guide (Hardcopy)	User Manual (Hardcopy)	User Manual & Driver CD
Varies by product specifications	Varies by product specifications	Varies by product specifications	Varies by product specifications
AC Adapter (12V/ 50W)	Power Cord	2 pin Terminal Block	Mounting Clips and Screws 7" HMI – 4 pcs 10.1" HMI – 8 pcs 15.6" HMI – 10 pcs
922D050W12VA	Varies by country	94J602G020K0	82111E240400

Package content may vary based on your order.

1.3 Description of Parts

This section describes appearance, connectors' layout and mechanical dimensions of E-Series HMI. Notice that this is a simplified drawing and some components are not marked in detail. Please contact our sales representative if you need further product information.
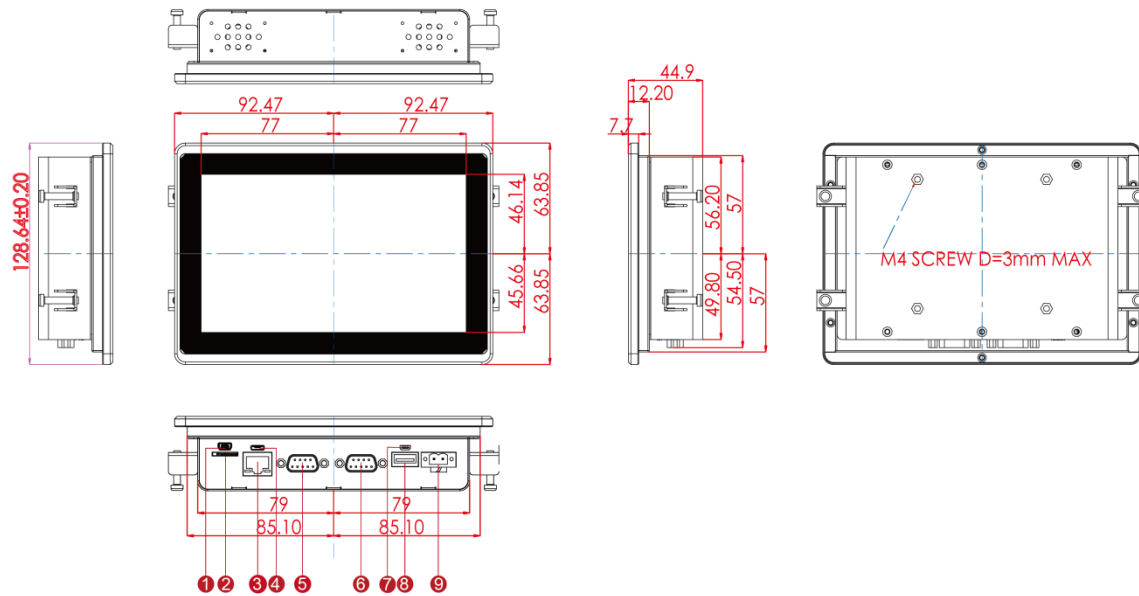
1.3.1 E-Series HMI 4.3"

Unit: mm
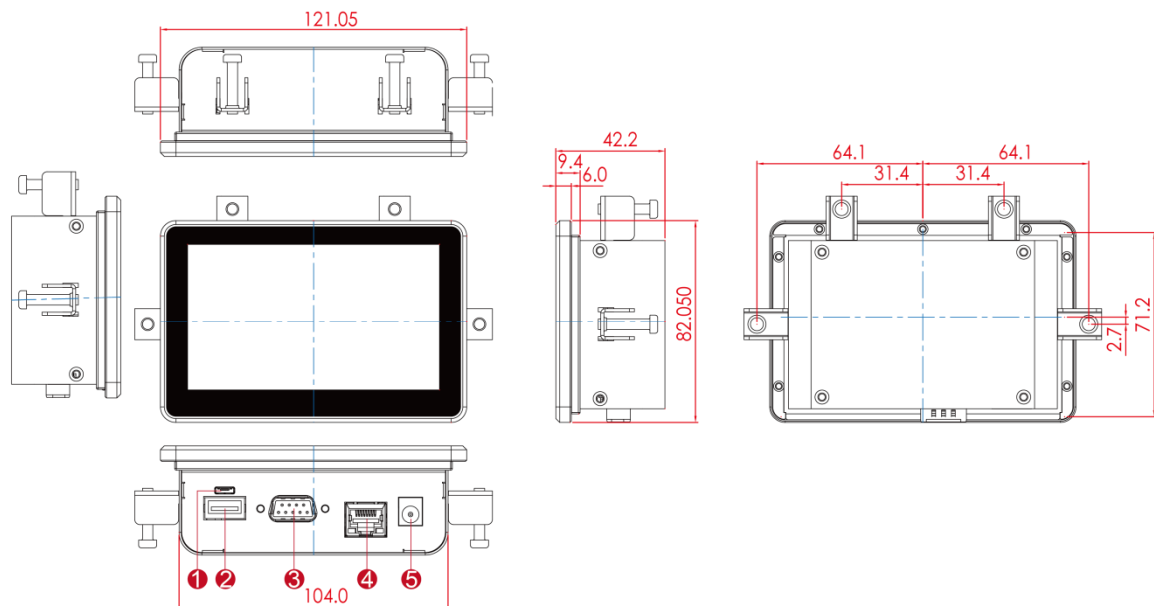
№	Description	№	Description
①	USB OTG	④	LAN/ Optional PoE
②	USB 2.0	⑤	12-24V DC in (Power jack)
③	RS485		

1.3.2 E-Series HMI 7"

Unit: mm

№	Description	№	Description
①	Mini USB Console (Linux use)	⑥	RS-232/422/485
②	Micro SD	⑦	Micro HDMI
③	LAN/ Optional PoE	⑧	USB 2.0
④	USB OTG	⑨	12V DC in (Phoenix type)
⑤	CANBUS		

1.3.3 E-Series HMI 10.1"

Unit: mm
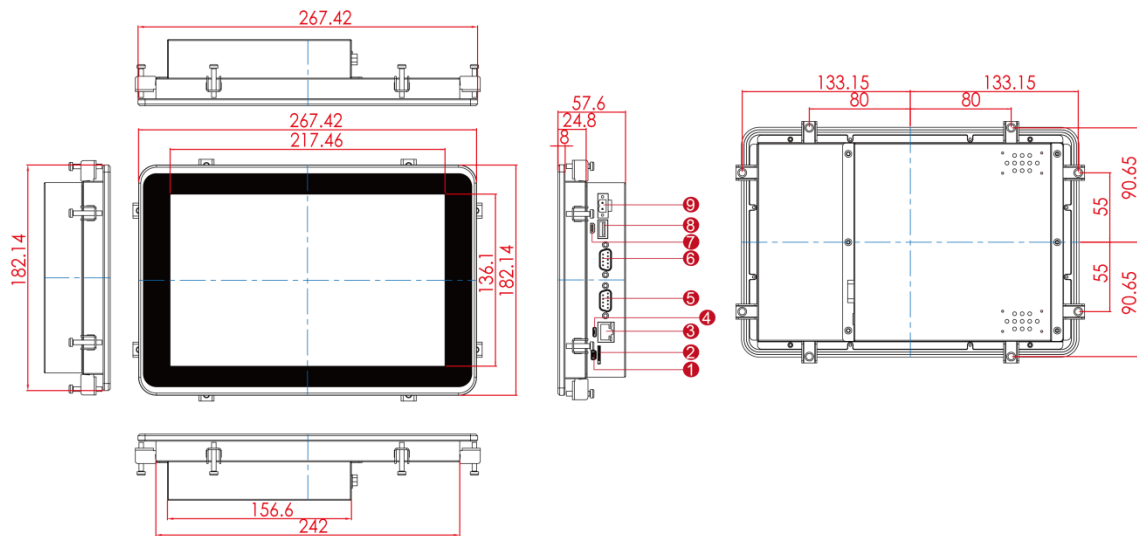
№	Description	№	Description
①	Mini USB Console (Linux use)	⑥	RS-232/422/485
②	Micro SD	⑦	Micro HDMI
③	LAN/ Optional PoE	⑧	USB 2.0
④	USB OTG	⑨	12V DC in (Phoenix type)
⑤	CANBUS		

1.3.4 E-Series HMI 15"

Unit: mm
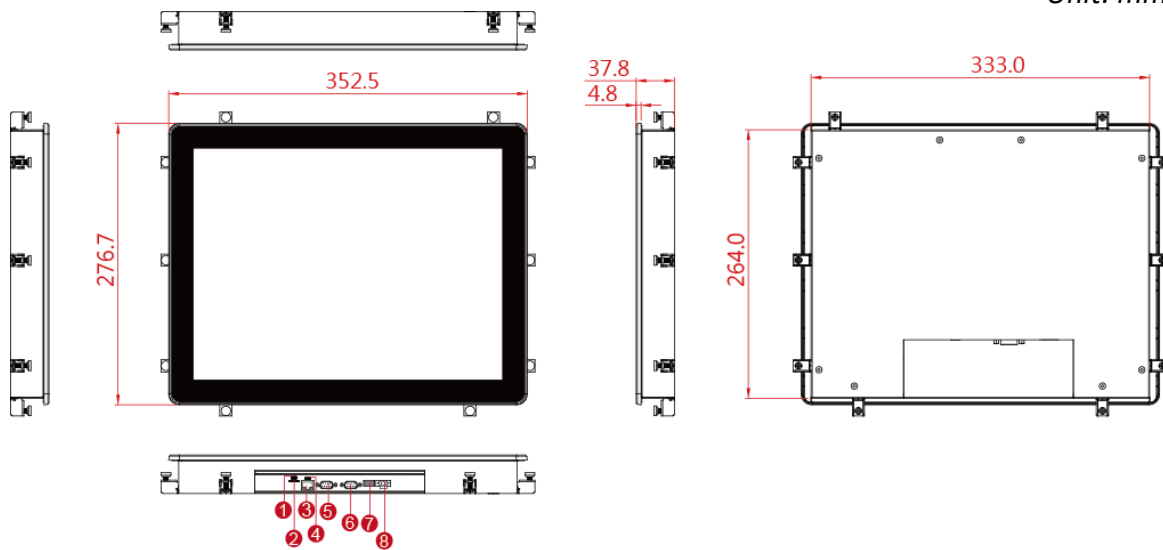
№	Description	№	Description
①	Mini USB Console (Linux use)	⑤	CANBUS
②	Micro SD	⑥	RS-232/422/485
③	LAN/ Optional PoE	⑦	USB 2.0
④	USB OTG	⑧	12V DC in (Phoenix type)

1.3.5 E-Series HMI 15.6"

Unit: mm
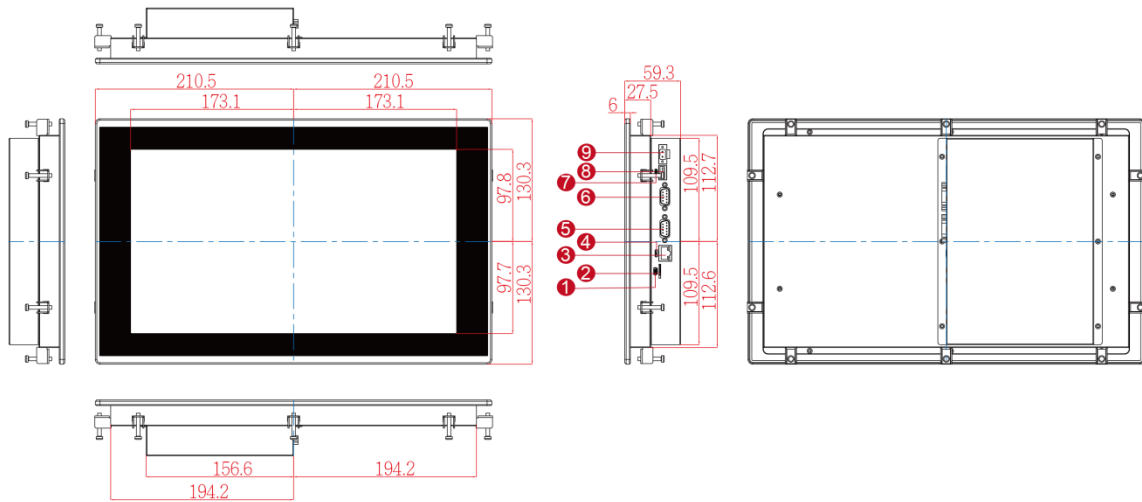
①	Mini USB Console (Linux use)	⑥	RS-232/422/485
②	Micro SD	⑦	Micro HDMI
③	LAN/ Optional PoE	⑧	USB 2.0
④	USB OTG	⑨	12V DC in (Phoenix type)
⑤	CANBUS		

GETTING STARTED

This chapter tells you important information on power supply, adapter and precautions tips. Pay attention to power considerations.
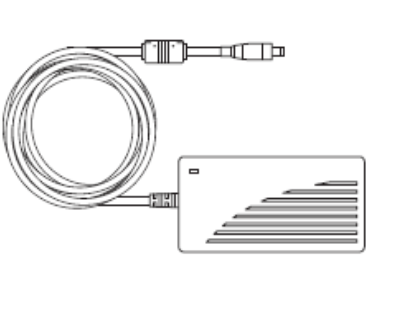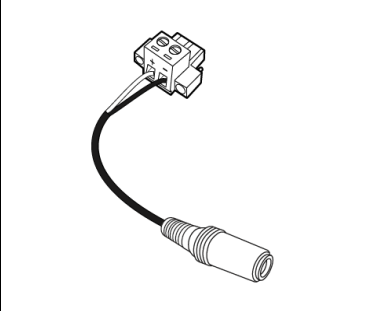
CHAPTER 2: GETTING STARTED

This chapter provides information on how to connect the HMI device to the source of power, connector pinouts and the guideline to turn on/off the HMI device.

2.1 Powering On

2.1.1 AC Adapter Components

AC Adapter	Power Cord	2 Pin Terminal Block to DC Jack

Safety Precautions:
- Do not use the adapter in a high moisture environment
- Never touch the adapter with wet hands or foot
- Allow adequate ventilation around adapter while using
- Do not cover the adapter with paper or other objects that will reduce cooling
- Do not use the adapter while it is inside a carrying case
- Do not use the adapter if the cord is damaged
- There are NO serviceable parts inside
- Replace the unit if it is damaged or exposed to excess moisture

While using the AC Adapter always:
- Plug-in the power cord to easy accessible AC outlet
- Plug-in the AC adapter to a grounded outlet

ALTERNATING CURRENT / MISE À LE TERRE!
This product must be grounded. Use only a grounded AC outlet. Install the additional PE ground wire if the local installation regulations require it.
If you do not use a grounded outlet while using the device, you may notice an electrical tingling sensation when the palms of your hands touch the device.

Ce produit doit être mis à la terre. Utiliser seulement un cordon d'alimentation avec mise à la terre. Si les règlements locaux le requiert, installer des câbles de mise à la terre supplémentaires.
Si vous n'utiliser pas une prise d'alimentation avec mise à la terre, vous pourriez remarquer une sensation de picotement électrique quand la paume de vos mains touche à l'appareil.

2.1.2 Power Considerations

The HMI device operates on external DC power. Use the AC adapter included in the package.

CAUTION/ATTENTION
Use only the AC adapter included in your package
(Rating: Output 12 V/ 6.6A). Using other AC adapters may damage the device.
Utiliser seulement le convertisseur AC inclu avec votre appareil
(Puissance: Sortie 12 V/ 6.6A). Utiliser d'autres convertisseurs pourraient endommager l'appareil.

2.1.3 Connecting the Power

Installation Instruction:

1. Connect a 2-pin terminal block to the HMI connector.
2. Connect the other side of the terminal block to the AC adapter.
3. Connect the AC adapter to the power cord.
4. Plug in the power cord to a working AC wall outlet. The device will boot automatically.
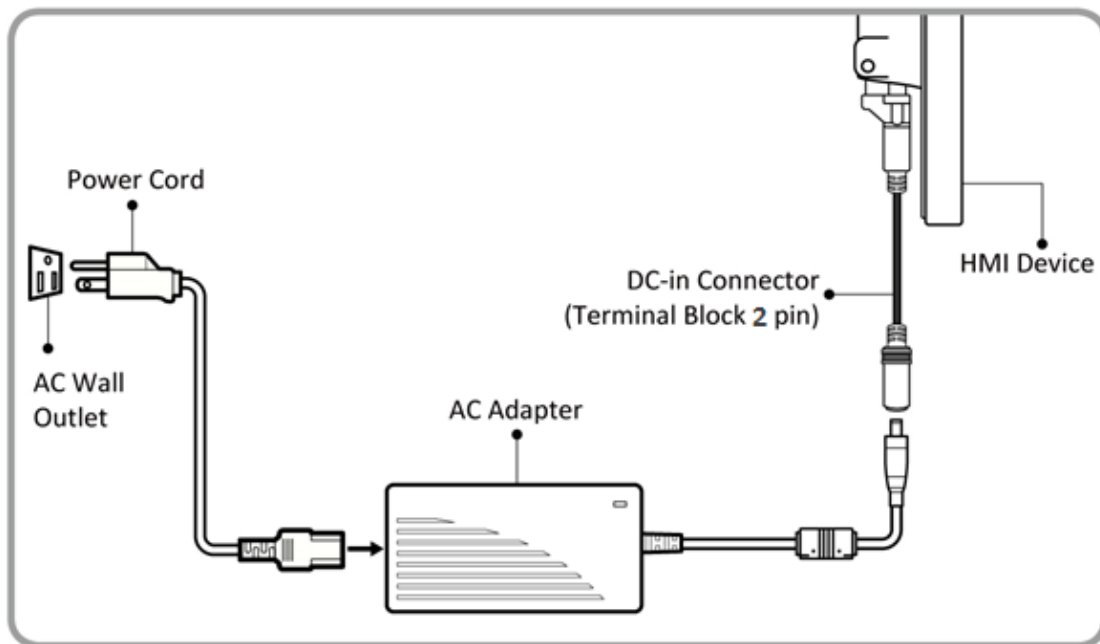
Note:
Power cords vary in appearance by region and country.

Note:
Based on the model, terminal block connector may be located either on the bottom or on the rear side of the HMI device.
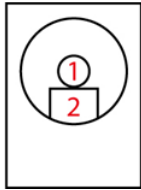
For 4.3" HMI connect AC Adapter to DC power jack.

2.2 Connector Pinouts
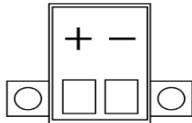
2.2.1 DC Input Connector

Power Jack
DC power source input for 4.3" HMI is power jack.

Pin №	Name
1	12V
2	GND

Terminal Block
DC power source input is a 2 pin terminal block connector. Power Input is 12V DC in.

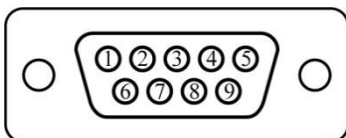|	
⚡ **Voltage**	Minimum Voltage 11.4V Maximum Voltage 12.6V Maximum Current 4.2A

IMPORTANT:
Support PoE (optional), requires IEEE 802.3at 25W power input
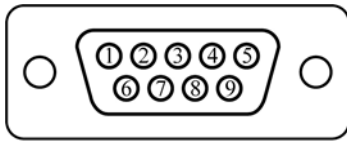
2.2.2 Serial Port Connector

RS-232/422/485

Refer to "Changing Serial Port Settings" of this manual for more details.

Pin №	RS-232 (Default)	RS-422	RS-485
1	DCD	TxD-	D-
2	RXD	TxD+	D+
3	TXD	RxD+	NC
4	DTR	RxD-	NC
5	GND	GND	GND
6	DSR	NC	NC
7	RTS	NC	NC
8	CTS	NC	NC
9	RI	NC	NC

RS-485

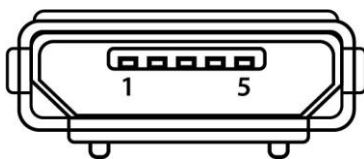| Pin №	RS-485
1	D-
2	D+
3	NC
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

2.2.3 USB 2.0 Connector

Use USB A Type (USB2.0) connector to connect your HMI device to other USB2.0 compatible devices.

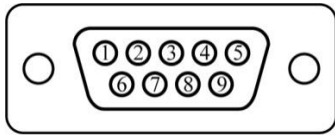| Pin №	Signal Name	Pin №	Signal Name
1	+5V	2	Data-
3	Data+	4	GND

2.2.4 USB OTG Connector

Use USB OTG connector to connect the HMI device to other external devices. Use USB OTG cable to install software on the HMI device.

Pin №	Signal Name	Pin №	Signal Name
1	+5V	2	USB_OTG_D-
3	USB_OTG_D+	4	USB_OTG_ID
5	GND		

2.2.5 CANBUS Connector

Use CAN BUS connector for the HMI machine-to-machine communication.

Pin №	Signal Name	Pin №	Signal Name
1	GND	2	CAN_L
3	GND	4	NC
5	NC	6	NC
7	CAN_H	8	GND
9*	+5V/NC		

PIN9 default is NC

2.2.6 LAN (RJ45) Connector

The E-Series HMI supports one 10/100/1000 Mbps Ethernet interface for connecting to the internet.
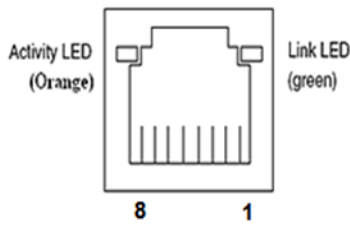
Pin №	Signal Name	Pin №	Signal Name
1	TX1+	2	TX1-
3	TX2+	4	TX2-
5	TX3+	6	TX3-
7	TX4+	8	TX4-

2.2.7 Micro HDMI Connector

The E-Series HMI has one Micro HDMI connector.

Pin №	Signal Name	Pin №	Signal Name
1	HP_DET_OUT	2	NC
3	HDMI_D2P	4	GND
5	HDMI_D2M	6	HDMI_D1P
7	GND	8	HDMI_D1M
9	HDMI_D0P	10	GND
11	HDMI_D0M	12	HDMI_CLKP
13	GND	14	HDMI_CLKM
15	HDMI_CEC_OUT	16	GND
17	H_CLK_OUT	18	H_DAT_OUT
19	HDMI_5V		

2.3 Turning On and Off the HMI Device

This section describes how to turn on and off the HMI device.

To **turn on** the HMI device:
1. Connect the HMI device to the source of power.
2. The unit is configured to **Power ON** when is connected to the power source.

Refer to Ch.2, "Powering On" of this User Manual for more details on how to power on the HMI device.

To **turn off the** HMI device:
1. Click the lower right Logout button on the desktop ⏻.
2. Choose **Shut Down** option to shut down the HMI device.
3. Disconnect the HMI device from the power source (if necessary).

OPERATING THE DEVICE

This chapter provides detailed information on how to operate the device. If you have been using Android touch-screen Panel PCs before, the interface may look familiar. Sections include system settings parameters.

CHAPTER 3: OPERATING THE DEVICE

In this chapter you will find instructions on how to operate the HMI device.

3.1 Operating System

Your HMI supports Linux Ubuntu 16.04 operating system. This section describes how to get started with Ubuntu 16.04 and basic settings.

For more advanced Ubuntu settings, please click here to download SDK from Winmate Download Center.
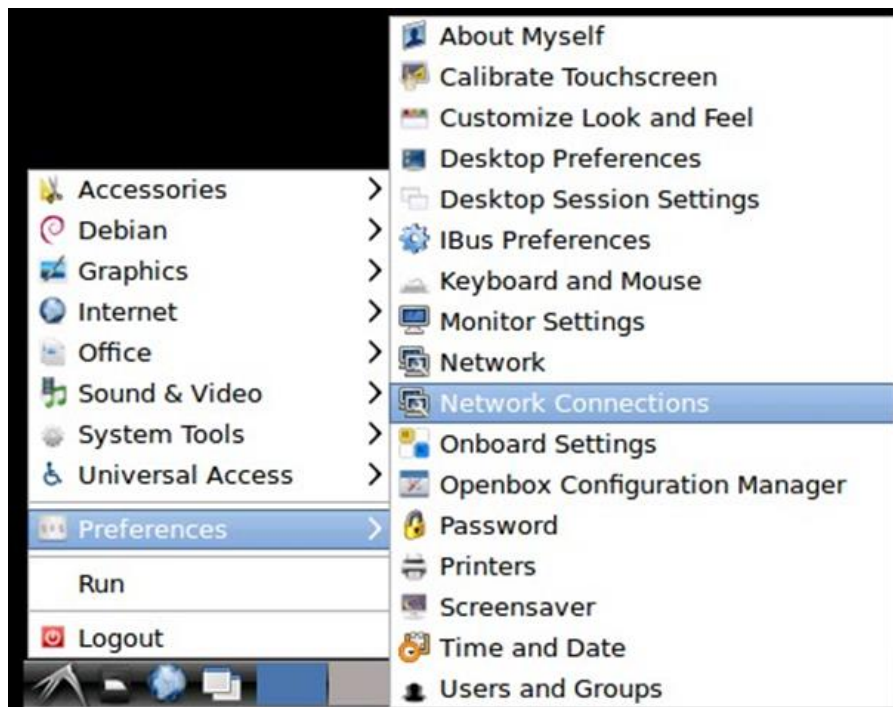
E-series HMI supports Ubuntu 16.04 OS.

IMPORTANT:
The device is shipped with the OS System according to your order.
Contact us if you have any questions regarding OS settings.

3.2 System Settings

3.2.1 Start Menu
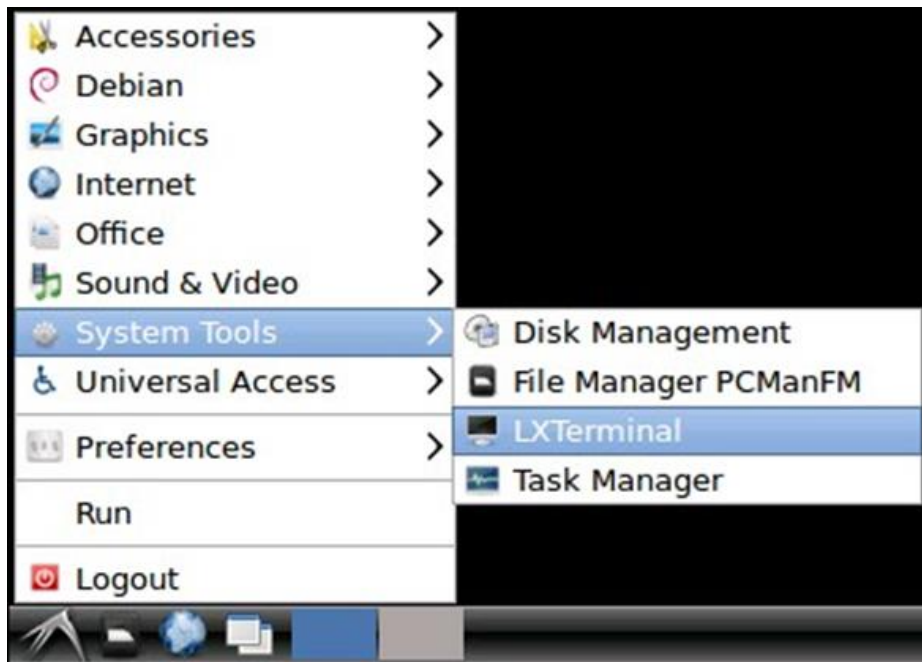
To open the start menu:

1. Click the lower left **Start button** on the desktop to expand Start Menu.
2. Click **Preferences** and select required program.

3.2.2 Linux Terminal

To open Linux terminal:

1. Click on the **Start button** at the bottom left side of the desktop, in drop-down menu choose **System Tools** > **LXTerminal**.
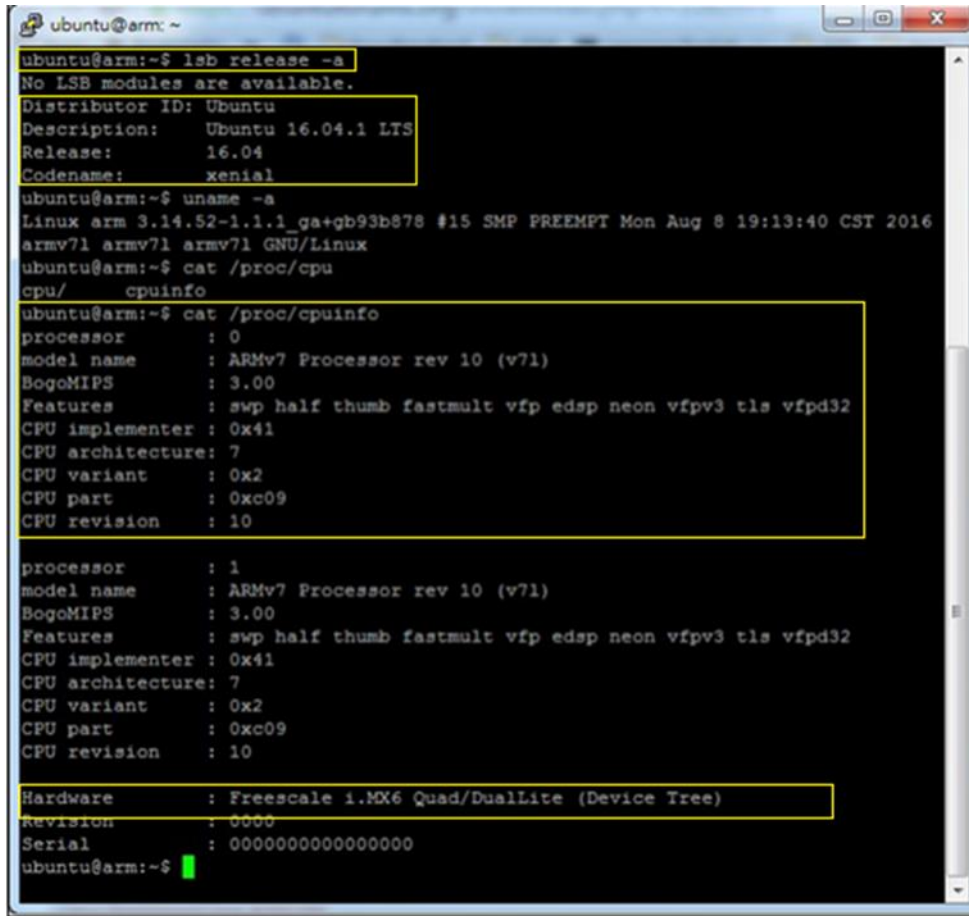

2. You are in Linux Ubuntu terminal.

3.2.3 System Information

To check system information:

1. Open **Linux Terminal**, enter command code to check OS and CPU information.

To find System Information command code, please refer to Appendix B of this manual.

3.2.4 Brightness Adjustment

1. Open **Linux Terminal**, enter command code to change brightness settings.
2. **brightness.png** -> Use "**echo**" and "**cat**" command to control the backlight of the LCD panel. The range is 0 (lowest brightness) to 7 (highest brightness).

To find Brightness adjustment command code, please refer to Appendix B of this manual.

3.2.5 Ethernet Settings

To configure Ethernet Settings, follow the instruction below:

1. Connect Ethernet Cable to the HMI device.
2. Click on the **Ethernet connection** icon located at the bottom right side of the desktop.

Icon	Description
	Ethernet is not connected to the HMI device.
	Ethernet is connected to the HMI device.

3. In the drop-down menu select "**Edit Connections**".

4. In the drop-down Ethernet menu double-tap "**Wired connection 1**" to enter the menu.

5. In General menu select "**Automatically connect to this network when it is available**" and "**All users may connect to this network**".
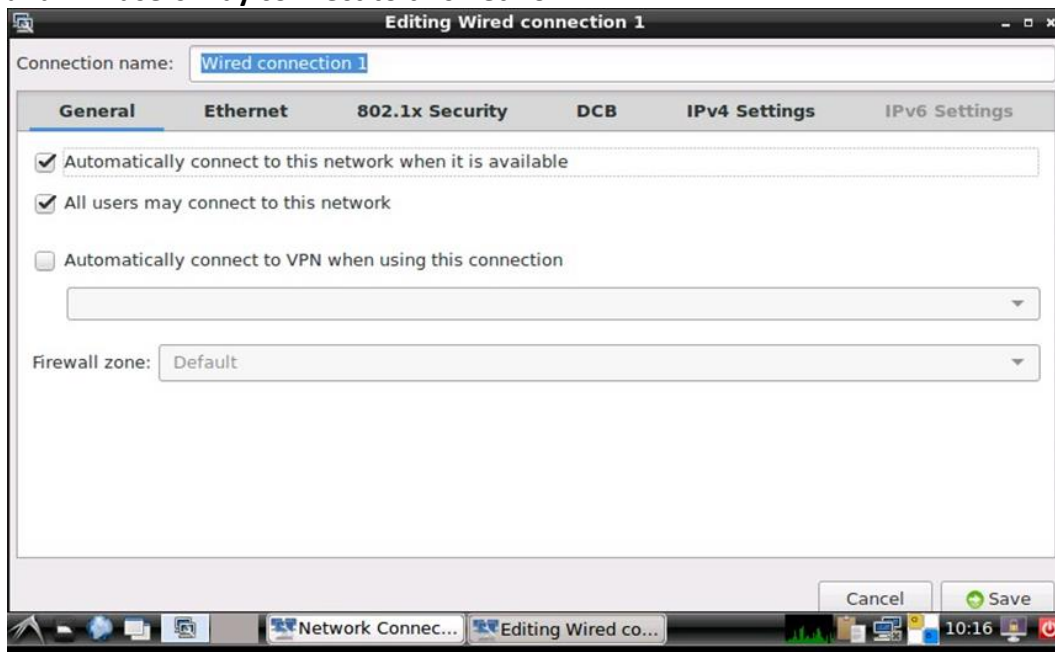
6. Go to **Ethernet menu**, confirm that **MTU** is set as **automatic** and **Wake on LAN** is chalk marked as **Default**.
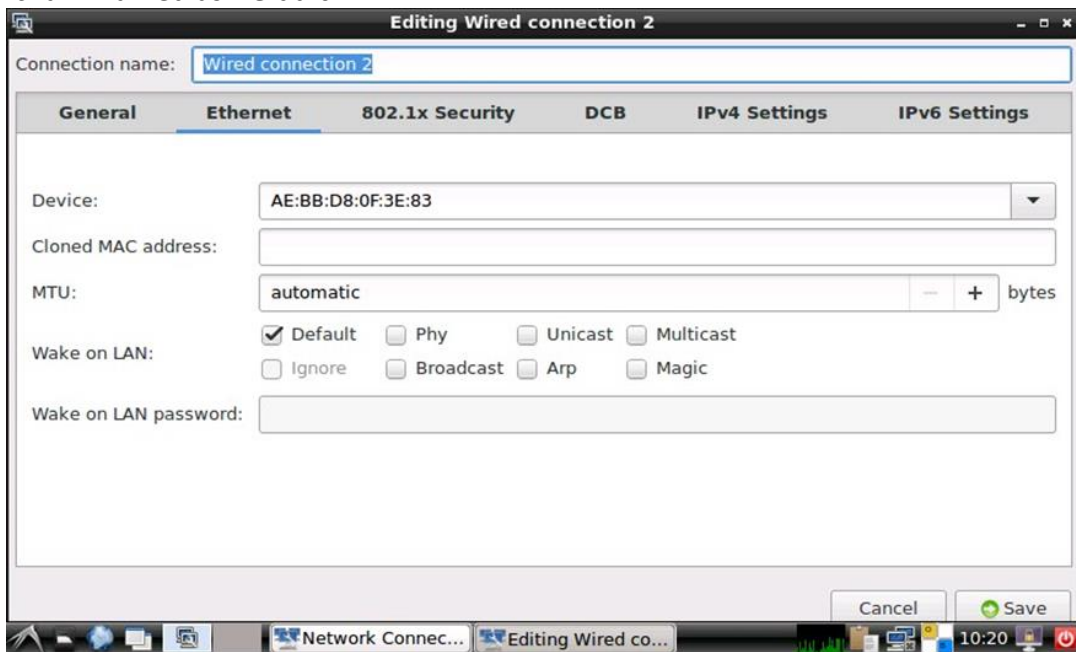
7. Go to **IPv4 Settings** menu, tap on **Method**. If you want to use DHCP, in the **Method** drop-down menu select **Automatic (DHCP).**
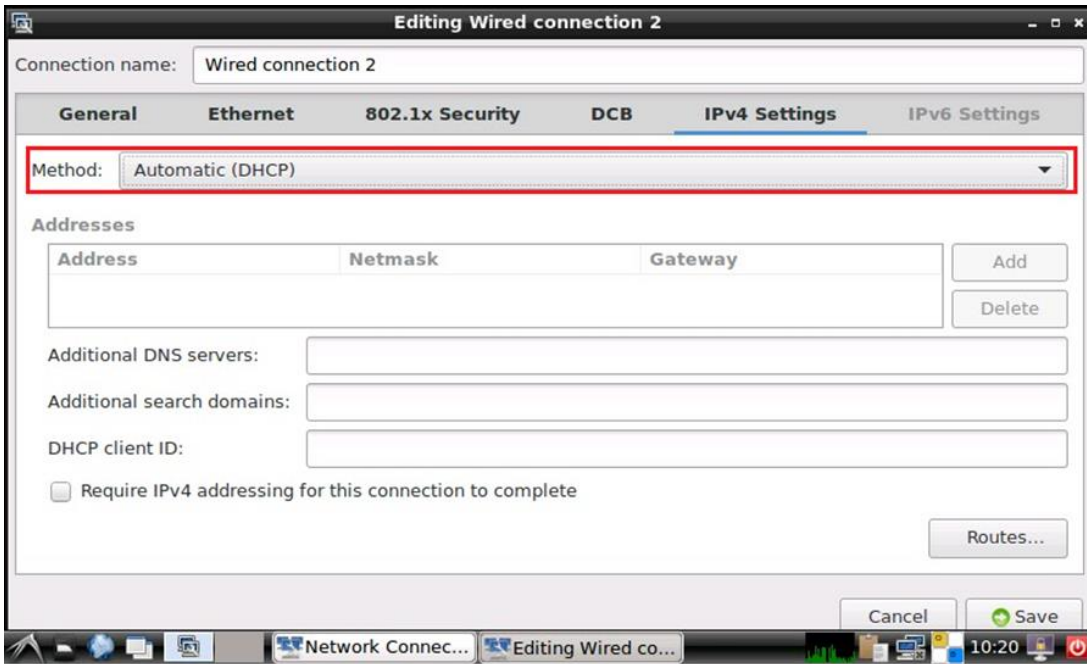
8. If you want to use **Static IP**, in the **Method** drop-down menu select **Manual**. Then configure your Static IP settings.
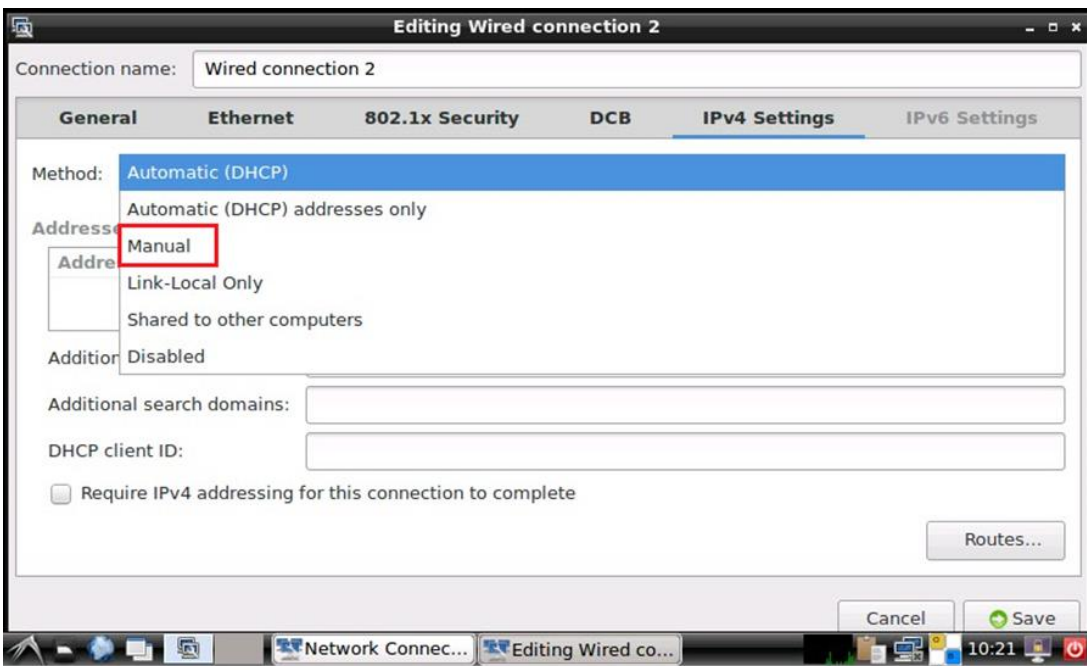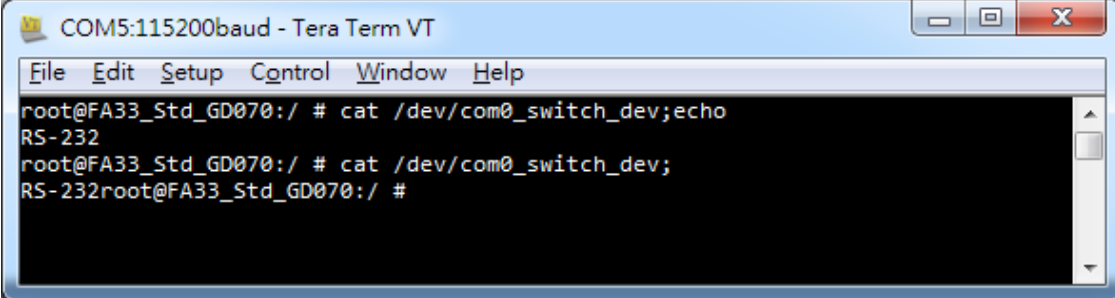
9. Tap **Save button** [⊙ Save] to save settings and exit the menu.

3.2.6 Changing Serial Port Settings

Serial port can be configured for RS-232, RS-422 or RS-485. Please click here to download Winmate® SDK for Ubuntu 16.04.

Get Mode

Use the Linux command cat to read the value in console.

*There is no "new line" character after the string "RS-232", so we append "**;echo**" to show you the real string.*
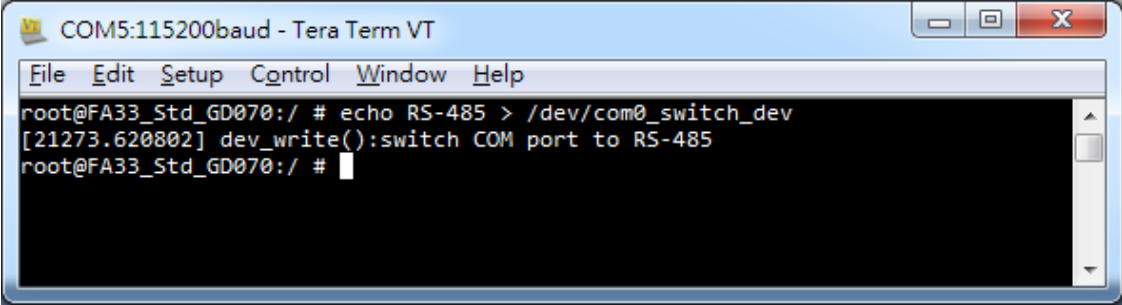
Set Mode
*Use the Linux command **echo** and **>** to write/read the value in console.*
For example:
echo RS-232 > /dev/com0_switch_dev
echo RS-422 > /dev/com0_switch_dev
echo RS-485 > /dev/com0_switch_dev

RS-232/422/485 Switch
To configure serial port settings follow the instructions below:
*1.   Open **Linux Terminal**, enter command code to change serial port settings.*
To find Serial Port command code, please refer to Appendix B of this manual.

3.3 Exit the System

Click the lower right Logout button ⏻ on the desktop to logout Linux session.

For a more detailed Ubuntu 16.04 user guide, follow the download path below:
http://files.ubuntu-manual.org/manuals/getting-started-with-ubuntu/16.04/en_US/screen/Getting%20Started%20with%20Ubuntu%2016.04.pdf

SOFTWARE INSTALLATION

This chapter contains software installation and update guides.

4

CHAPTER 4: SOFTWARE INSTALLATION

This chapter contains software installation and updates guide. All the programming guides can be found in the driver CD included in the package.

MOUNTING

This chapter provides step-by-step mounting guide for all available mounting options.

5

CHAPTER 5: MOUNTING

This chapter provides mounting guide for all available mounting options. Pay attention to cautions and warning to avoid any damages.

5.1 Cable Mounting Considerations

For a nice look and safe installation, make sure cables are neatly hidden behind the HMI device. Refer to Chapter 2, section 2.1 for the cable installation instruction.

CAUTION/ ATTENTION
Observe all local installation requirements for connection cable type and protection level.
Suivre tous les règlements locaux d'installations, de câblage et niveaux de protection.

CAUTION/ ATTENTION
Turn off the device and disconnect other peripherals before installation.
Éteindre l'appareil et débrancher tous les périphériques avant l'installation.

ALTERNATING CURRENT / MISE À LE TERRE!
To prevent electrical shock, the Safety Ground location on the rear must be bonded to the local earth ground through a minimum 12 AWG wire as short as possible
Pour éviter les chocs électriques, l'emplacement de la prise terre à l'arrière doit être lié à terre locale, à travers un 12 AWG minimum et aussi court que possible.

5.2 Safety Precautions

Observe the following common safety precautions before installing any electronic device:

• Use separate, non-intersecting paths to route power and networking wires. If power wiring and device wiring paths must be crossed make sure the wires are perpendicular at the intersection point.

• Keep the wires separated according to the interface. Wires that share similar electrical characteristics must be bundled together.

• Do not bundle input wiring with output wiring. Keep them separate.

When necessary, it is strongly advised that you label wiring to all devices in the system.

5.3 Mounting Guide

E-series HMI devices come with different mounting options suitable for most of the industrial and commercial applications. The main mounting approach is rear mount - very user-friendly in terms of installation. Refer to sub-sections below for more details.

CAUTION/ ATTENTION

Follow mounting instructions and use recommended mounting hardware to avoid the risk of injury.

Suivez les instructions de montage et d'utilisation recommandé le matériel de montage pour éviter le risque de blessure.

5.3.1 VESA Mount

VESA Mount is a widely used mounting solution suitable for all kinds of industrial applications. **Notice that VESA Mount solution applies only to 7" E-Series HMI.**

Size	Dimensions	Screw Hole Diameter
7"	75 x 75 mm	VESA M4 x 3 mm
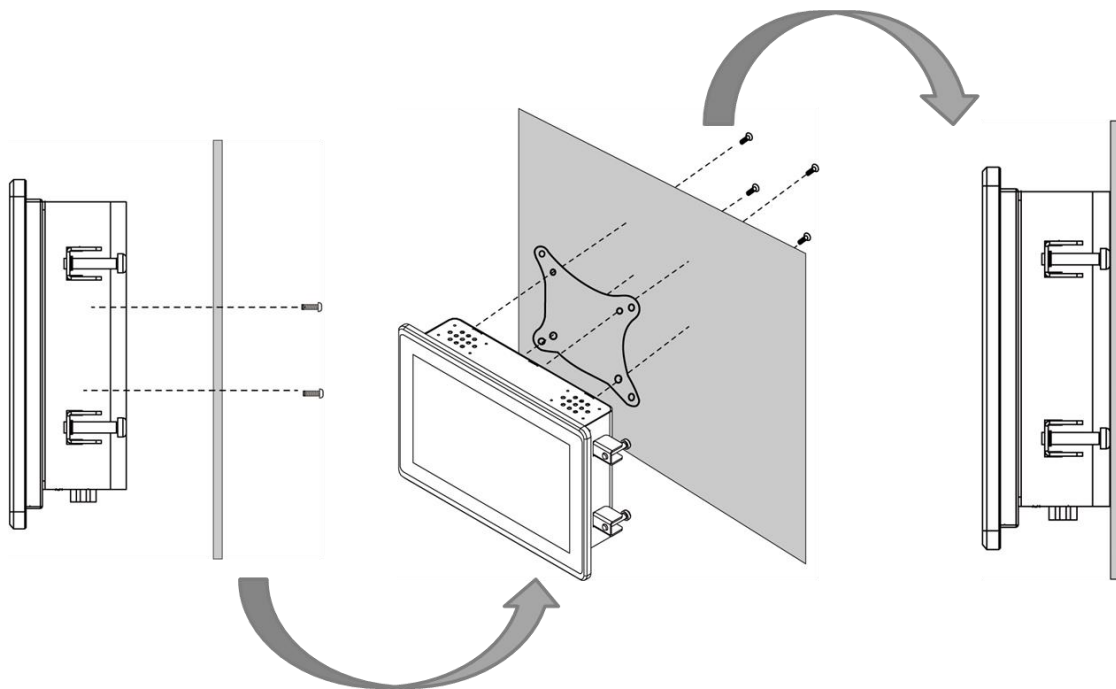
with customer's bracket
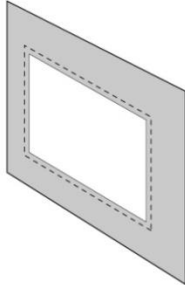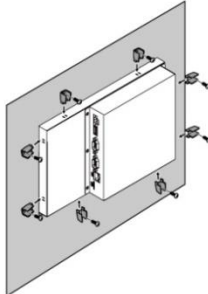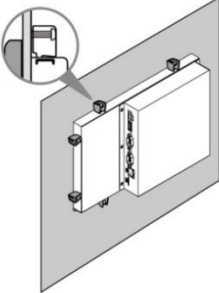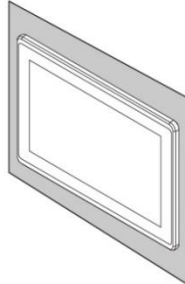
Mounting Steps:
1. Screw VESA bracket to the fixture (ex. wall) with four M4 x 3 mm VESA screws.
2. Place the device on VESA bracket.

5.3.2 Panel Mount

Panel Mount solution is suitable for many applications where HMI should be embedded in the machine. With this mounting solution flat surface leave no bezel in the front. In addition to elegant design, rear mount solution is making the HMI unit easy to clean and maintain. The HMI device is secured to the fixture from the rear by using the mounting brackets included in the package.

Size	4.3"	7"	10.1"	15"	15.6"
Cutout dimension (W x D in mm)	109.6 x 71.2	174.08 x 116.9	244 x 159	390.4 x 227.3	390.4 x 227.3
Mounting Clips and Screws	4 pcs	4 pcs	8 pcs	10 pcs	10 pcs

Mounting Steps:

1 — Prepare a cutout on a fixture according to the cutout dimensions.

2 — Select the mounting holes according to the wall thickness of the fixture and secure the mounting clips onto four sides of the HMI device.

3 — Secure the HMI to the fixture by screws.

4 — Connect power and other peripherals to the HMI unit.

TECHNICAL SUPPORT

This chapter includes the directory for technical support.

6

CHAPTER 6: TECHNICAL SUPPORT

This chapter includes the directory for technical support. Free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. If any problem occurs fill in problem report form enclosed and immediately contact us.

6.1 Introduction

Winmate provides the following SDK for E-Series HMI with Freescale® Cortex® A9 i.MX6 Dual Core processor:

Item	File Type	Description
1	SDK	Linux SDK

To find the Drivers and SDK, please refer to the Driver CD that comes in the package or contact us. Also, you can download drivers from Winmate Download Center.

6.2 Problem Report Form

E-Series HMI (Elegant Design)

Customer name:	
Company:	
Tel.:	Fax:
E-mail:	Date:

Product Serial Number: _____

Problem Description: Please describe the problem as clearly as possible. Detailed description of the occurred problem will allow us to find the best solution to solve the problem as soon as possible.

_____

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PRODUCT SPECIFICATIONS

This section includes product specifications.

Appendix

APPENDIX A: PRODUCT SPECIFICATIONS

Hardware Specifications

		Model Name			
	W04FA3S-EHT1	W07FA3S-EHT1	W10FA3S-EHH2	R15FA3S-EHC3	W15FA3S-EHA2
Display					
Size/ Type	4.3" TFT (Wide)	7" TFT (Wide)	10.1" TFT (Wide)	15"	15.6" TFT (Wide)
Resolution	480 x 272	1024x600	1280 x 800	1024 x 768	1366 x 768
Brightness	400 nits	320 nits	350 nits	300 nits	400 nits
Contrast Ratio	1000:1 (typ.)	500 : 1 (typ.)	800:1 (typ.)	700:1 (typ.)	500 : 1 (typ.
Viewing Angle	-75~50 (H); -75~75(V)	-70~70(H);-50~60(V)	-85~85(H); 85~85(V)	-80~80(H); 80~80(V)	-70~70(H);-50~60(V)
Max Colors	16.7M (8bit)	16.7M (8bit)	16.7M (8bit)	16.7M (8bit)	16.7M (8bit)
Touch	Projected Capacitive Multi-Touch (P-CAP)				
Mechanical Specifications					
Dimensions, mm (W x H x D)	121.5 x 82.05 x 42.2	184.94x 127.7 x 44.9	267.42 x 182.14 x 57.6	276.7 x 352.5 x 56.3	421 x 260.6 x 65.5
Mounting	Panel Mount (4 x Mounting clips)	Panel Mount (4 x Mounting clips)	Panel Mount (8 x Mounting clips)	Panel Mount (10 x Mounting clips)	Panel Mount (10 x Mounting clips
Cooling	Fanless design	Fanless design	Fanless design	Fanless design	Fanless design
System Specifications					
Processor	Freescale® Cortex® A9 i.MX6 Dual Core 1 GHz				
System Memory	1GB LPDDR3				
Storage	Onboard 16GB eMMC /Micro SD card				
Input / Output					
Power	DC Power jack	Terminal block 2-pin	Terminal block 2-pin	Terminal block 2-pin	Terminal block 2-pin
USB Ports	1 x USB 2.0	1 x USB 2.0	1 x USB 2.0	1 x USB 2.0	1 x USB 2.0
USB OTG	1 x USB OTG	1 x USB OTG	1 x USB OTG	1 x USB OTG	1 x USB OTG
COM Port	1 x RS485	1 x RS232/422/485	1 x RS232/422/485	1 x RS232/422/485	1 x RS232/422/485
CAN BUS	-	1 x CANBUS	1 x CANBUS	1 x CANBUS	1 x CANBUS
Ethernet	1 x RJ45, 10/100/1000 LAN (Optional PoE function)	1 x RJ45, 10/100/1000 LAN (Optional PoE function)	1 x RJ45, 10/100/1000 LAN (Optional PoE function)	1 x RJ45, 10/100/1000 LAN (Optional PoE function)	1 x RJ45, 10/100/1000 LAN (Optional PoE function)
SD Slot	MicroSD Card	1 x Micro SD Card Slot	1 x Micro SD Card Slot	1 x Micro SD Card Slot	1 x Micro SD Card Slot
Console	-	1 x Mini USB Console (for Linux)	1 x Mini USB Console (for Linux)	1 x Mini USB Console (for Linux)	1 x Mini USB Console (for Linux)

| HMDI	-	1 x Micro HDMI	1 x Micro HDMI	-	1 x Micro HDMI
Power Specifications					
Power Input	12-24V DC	9-24V DC	12V DC	12V DC	12V DC
Power Over Ethernet	N/A	Supports PoE (Optional), Power Device (PD) follows IEEE 802.3at (25W) *Recommended to use without other power-consuming devices*			
Environment Considerations					
Operating Temp.	-10°C to +50°C				
Operating Humidity	10 ~ 90% (non-condensing)				
Operating System					
OS (Optional)	Ubuntu 16.04 (Optional)				

Software Support- SDK

Software Development Tools
Linux Programming Guide

UBUNTU COMMAND CODE

This section includes Ubuntu command code.
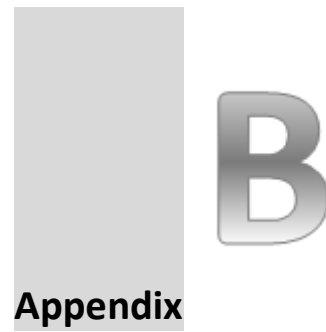
Appendix

APPENDIX B: UBUNTU COMMAND CODE

This section includes Ubuntu command code.

Brightness

The source code is located in **/sys/class/backlight/backlight.25/brightness**
We use "sudo sh -c "echo 3 > /sys/class/backlight/backlight.25/brightness"" to set the brightness.
The range is between 0 to 7.
Use the command "cat /sys/class/backlight/backlight.25/brightness" to get the brightness information.

System information

Execute uname -a
Linux arm 3.14.52-1.1.1_ga+gb93b878 #15 SMP PREEMPT Mon Aug 8 19:13:40 CST 2016 armv7l armv7l armv7l GNU/Linux
Execute lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description: Ubuntu 16.04 LTS
Release:16.04
Codename: xenial

Serial Port

a. Open COM Port

```c
// ************************************************************************
// Parameter:
// static char *portname = "/dev/ttyUSB0";
// static int COMPort_fd;
// Baud rate: 115200
// bits per second: 8
// parity: none
// stop bits: 1
//
// ************************************************************************
static void cmd_open(void)
{
    COMPort_fd = open (portname, O_RDWR | O_NOCTTY | O_SYNC);
    if (COMPort_fd  < 0)
    {
            printf("error %d opening %s: %s\n", errno, portname, strerror (errno));
            return;
    }
    else
    {
            printf("Open sccuess\n");
    }

    set_interface_attribs (COMPort_fd, B115200, 0);  // set baudrate 8n1 (no parity)
    set_blocking (COMPort_fd, 0);                     // set no blocking
    printf("COM initial ok\n");
}
```

b. Close COM Port

```c
//************************************************************************

// Close COM port node

//************************************************************************

static void cmd_close(void)

{

            if(close(COMPort_fd) == 0)

                    printf("COM close\n");

    }
```

c. Read/ Write Command

```c
// *************************************************************************

// Parameter:

// write_data        static char write_data[] = "Hello World!!";

//

// *************************************************************************

static void cmd_write(void)

{

    write(COMPort_fd, &write_data[0], sizeof(write_data));  // send  character greeting


    usleep((sizeof(write_data) + 25) * 100);



    char buf[200];

    int n = read(COMPort_fd, buf, sizeof(buf));              // read up to 100 characters if ready to
  read


    printf("Read Data = %s\n", buf);


}
```

NOTES