AirHMI 4.3" ELEMENTARY SERIES

AIR480X272S43_E

Overview

AirHMI is a Human Machine Interface （HMI） solution combining an onboard processor and memory touch display with AirHMI Editor software for HMI GUI project development. Using the AirHMI Editor software, you can quickly develop the HMI GUI by drag-and-drop components (button, label, image etc.) and C based instructions for coding how components interact at the display side. AirHMI HMI display connects to peripheral MCU via TTL Serial (5V, TX, RX ,GND) to provide event notifications that MCU can act on, the MCU can easily update progress and status back to AirHMI display utilizing instructions.

The Elementary Series supports TTL Serial and advanced software features and functions.

Package Include

*AirHMI AIR480X272S43_E HMI Display
*2mm x 4P power and TTL UART cable
*Power supply board

AirHMI Models

AirHMI Type	Elementary Series
AirHMI Models	AIR480X272S43_E (4.3 inch resistive touchscreen without enclosure)

Specifications

	Data	Description
Color	65K 65536 colors	16 bit 565, 5R-6G-5B
Layout size	120mm(L)×74mm(W)×4(H)	AIR480X272S43_E
LCD Size	105.42mm(L)×67.07mm(W)×3mm(H)	
Active Area (A.A.)	95.04mm(L)×53.86mm(W)	
Resolution	480×272 pixel	Also can be set as 272×480
Touch type	Resistive	
Touches	> 1 million	
Backlight	LED	
Backlight lifetime (Average)	>30,000 Hours	
Brightness	500nit	

Electronic Characteristics

	Test Conditions	Min	Typical	Max	Unit
Operating Voltage		4,45	5	6,5	V
Operating Current	VCC=+5V, Brightness is 100%	–	200	–	mA
Power supply recommend	5V, 1.0A, DC				

Working Environment & Reliability Parameter

	Test Conditions	Min	Typical	Max	Unit
Working Temperature	5V, Humidity 60%	-20	25	70	℃
Storage Temperature		-30	25	80	℃
Working Humidity	25°C	10%	60%	90%	RH

Interfaces Performance

	Test Conditions	Min	Typical	Max	Unit
Serial Port Baudrate	Standard	600	9600	115200	bps
Output High Voltage (TXD)	IOH=1mA	3.0	5.0	Vin	V
Output Low Voltage(TXD)	IOL=-1mA		0.1	0.2	V
Input High Voltage(RXD)		3.0	5.0	Vin	V
Input Low Voltage(RXD)		-0.7	0.0	1.3	V
Serial Port Mode	5.0V TTL (3.3V optional)				
Serial Port	4Pin_2.00mm				
USB interface	NO				
SD card socket	Yes (FAT32 format), support maximum 32G Micro SD Card				
	* presence of *.tft file on microSD: socket is exclusive to upgrade AirHMI firmware/HMI design				

Memory Features

Memory Type	Test Conditions	Size	Unit
FLASH Memory		16	MB
RAM Memory		32	MB

AirHMI 4.3" ADVANCED SERIES

AIR480X272S43_A

Overview

AirHMI is a Human Machine Interface （HMI） solution combining an onboard processor and memory touch display with AirHMI Editor software for HMI GUI project development. Using the AirHMI Editor software, you can quickly develop the HMI GUI by drag-and-drop components (button, label, image etc.) and C based instructions for coding how components interact at the display side. AirHMI HMI display connects to peripheral MCU via TTL Serial (5V, TX, RX ,GND) to provide event notifications that MCU can act on, the MCU can easily update progress and status back to AirHMI display utilizing instructions.

The Advanced series are more powerful compared to the Elementary series. The Advanced series support: built-in RTC, 7 digital GPIO (2 PWM optional), ADC, larger Flash capacity.

Package include:

*AirHMI AIR480X272S43_A HMI Display
*2mm x 4P power and TTL UART cable
*Power supply board

AirHMI Models

AirHMI Type	Advanced Series
AirHMI Models	AIR480X272S43_A (4.3 inch resistive touchscreen without enclosure)

Specifications

	Data	Description
Color	65K 65536 colors	16 bit 565, 5R-6G-5B
Layout size	120mm(L)×74mm(W)×4(H)	AIR480X272S43_A
LCD Size	105.42mm(L)×67.07mm(W)×3mm(H)	
Active Area (A.A.)	95.04mm(L)×53.86mm(W)	
Resolution	480×272 pixel	Also can be set as 272×480
Touch type	Resistive	
Touches	> 1 million	
Backlight	LED	
Backlight lifetime (Average)	>30,000 Hours	
Brightness	500nit	

Electronic Characteristics

	Test Conditions	Min	Typical	Max	Unit
Operating Voltage		4,65	5	6,5	V
Operating Current	VCC=+5V, Brightness is 100%	–	210	–	mA
Power supply recommend	5V, 1.0A, DC				

Working Environment & Reliability Parameter

	Test Conditions	Min	Typical	Max	Unit
Working Temperature	5V, Humidity 60%	-20	25	70	°C
Storage Temperature		-30	25	80	°C
Working Humidity	25°C	10%	60%	90%	RH

Interfaces Performance

	Test Conditions	Min	Typical	Max	Unit
Serial Port Baudrate	Standard	600	9600	115200	bps
Output High Voltage (TXD)	IOH=1mA	3.0	5.0	Vin	V
Output Low Voltage(TXD)	IOL=-1mA		0.1	0.2	V
Input High Voltage(RXD)		3.0	5.0	Vin	V
Input Low Voltage(RXD)		-0.7	0.0	1.3	V
Serial Port Mode	5.0V TTL (3.3V optional)				
Serial Port	4Pin_2.00mm				
USB interface	NO				
SD card socket	Yes (FAT32 format), support maximum 32G Micro SD Card				
	* presence of *.tft file on microSD: socket is exclusive to upgrade AirHMI firmware/HMI design				
Extended IO	7 Digital extended GPIO (2 optional PWM)				
	IO1-IO7 support input, output and component binding event				
	* IO pin / ports are not exclusive, limit current draw to 1mA recommended				
	IO6-IO7 support PWM				
ADC	ADC1 internal GPIO connector				
Output Voltage	5.0V				
RTC	built-in RTC support (Battery type: CR2032)				

Memory Features

Memory Type	Test Conditions	Size	Unit
FLASH Memory		32	MB
RAM Memory		32	MB

Audio Features

Speaker	Parameter
Buzzer	

AirHMI 4.3" INDUSTRY SERIES

AIR480X272S43_I

Overview

AirHMI is a Human Machine Interface （HMI） solution combining an onboard processor and memory touch display with AirHMI Editor software for HMI GUI project development. Using the AirHMI Editor software, you can quickly develop the HMI GUI by drag-and-drop components (button, label, image etc.) and C based instructions for coding how components interact at the display side. AirHMI HMI display connects to peripheral MCU via TTL Serial (5V, TX, RX ,GND) to provide event notifications that MCU can act on, the MCU can easily update progress and status back to AirHMI display utilizing instructions.

The most powerful product line of the AirHMI series is the Industry series. What's more and new? The audio, video enrich user's project HMI interaction. The Industry Series supports built-in RTC, 7 digital GPIO (2 PWM optional), 3 ADC, RS485, I2C, SPI, buzzer, larger Flash capacity and advanced software features and functions.

Package include:

*AirHMI AIR480X272S43_I HMI Display
*2mm x 4P power and TTL UART cable
*Power supply board

AirHMI Models

AirHMI Type	Industry Series
AirHMI Models	AIR480X272S43_I (4.3 inch resistive touchscreen without enclosure)

Specifications

	Data	Description
Color	65K 65536 colors	16 bit 565, 5R-6G-5B
Layout size	120mm(L)×74mm(W)×4(H)	AIR480X272S43_I
LCD Size	105.42mm(L)×67.07mm(W)×3mm(H)	
Active Area (A.A.)	95.04mm(L)×53.86mm(W)	
Resolution	480×272 pixel	Also can be set as 272×480
Touch type	Resistive	
Touches	> 1 million	
Backlight	LED	
Backlight lifetime (Average)	>30,000 Hours	
Brightness	500nit	

Electronic Characteristics

	Test Conditions	Min	Typical	Max	Unit
Operating Voltage		4,65	5	6,5	V
Operating Current	VCC=+5V, Brightness is 100%	–	230	–	mA
Power supply recommend	5V, 1.0A, DC				

Working Environment & Reliability Parameter

	Test Conditions	Min	Typical	Max	Unit
Working Temperature	5V, Humidity 60%	-20	25	70	°C
Storage Temperature		-30	25	80	°C
Working Humidity	25°C	10%	60%	90%	RH

Interfaces Performance

	Test Conditions	Min	Typical	Max	Unit
Serial Port Baudrate	Standard	600	9600	115200	bps
Output High Voltage (TXD)	IOH=1mA	3.0	5.0	Vin	V
Output Low Voltage(TXD)	IOL=-1mA		0.1	0.2	V
Input High Voltage(RXD)		3.0	5.0	Vin	V
Input Low Voltage(RXD)		-0.7	0.0	1.3	V
Serial Port Mode	5.0V TTL (3.3V optional)				
Serial Port	4Pin_2.00mm				
USB interface	NO				
SD card socket	Yes (FAT32 format), support maximum 32G Micro SD Card				
	* presence of *.tft file on microSD: socket is exclusive to upgrade AirHMI firmware/HMI design				
	* Industry Series only: Video and audio for microSD card runtime usage				
Extended IO	7 Digital extended GPIO (2 optional PWM)				
	IO1-IO7 support input, output and component binding event				
	* IO pin / ports are not exclusive, limit current draw to 1mA recommended				
	IO6-IO7 support PWM				
ADC	ADC1 internal GPIO1 connector				
Output Voltage	5.0V				
RS485	Connector Type: 2.00mm pitch 2-pin housing				
ADC	ADC2 and ADC3 on internal GPIO2 connector				
I2C	I2C on internal GPIO2 connector				
SPI	SPI on internal GPIO2 connector				
RTC	built-in RTC support (Battery type: CR2032)				

Memory Features

Memory Type	Test Conditions	Size	Unit
FLASH Memory		32	MB
RAM Memory		32	MB

Audio Features

Speaker	Parameter	Min	Typical	Max	Unit
Power	–	-	1	-	W
Audio Connector Type	2.00mm pitch 2-pin housing				
Buzzer					