
4.3" GEMmodule™

MK-480272C

Data Sheet

Introduction:

The MK-480272C is a fully integrated 4.3" WQVGA production color display module to support a variety of embedded control interface applications. Featuring the Amulet GEM Graphical OS Chip™ for color displays, the module supports GIF, JPEG and PNG graphic formats in 24-bit color, plus 8-bit alpha blending (transparency channel) found in high-end consumer electronic products.

Features:

- 480x272 TFT LCD - 16:9 (wide aspect ratio) display
- White LED backlight
- Integrated resistive touch panel
- Amulet Graphical OS Chip
- 24 Pin Interconnector
- Royalty-FREE Graphical Operating System
- On-Board memory - 32megabit Serial Flash for storing GUI pages
- Touch Panel Controller - Built into Graphical OS Chip™
- Color Supported - Up to 24bit + 8bit Alpha
- Graphics Supported - GIF, JPEG, PNG
- Backlight can be controlled via the touch panel or HTML command
- Supports Unicode - Foreign language character sets
- Font Converter - Built-in

General Specification

ITEM	STANDARD VALUE	UNIT
Pixels (Resolution)	480 x 272	dots
Outline dimension	105.5(H) x 67.2 (V) x4.0D	mm
Active area	95.04(H) x 53.856(V)	mm
Dot Pitch	0.198 x 0.198	mm
Luminance	350 Typ.	Cd/m ²
Operation Temp.	70 - 20	C
View Direction	6 o'clock	
Display Mode	TN / Transmissive / Normally White	
Backlight	10 White LED	
Backlight Control	PWM	
Data Flash	32 Megabit	
Interface	USB / RS232 / UART	

Electrical Characteristic

Recommended Operating Conditions

5V	5V Recommended
5V Current	300mA Min

DC Characteristics

V core Supply Current	22mA @1.2V
V input Low Level	-0.3 to 0.8V
V input High Level	2V to (V _{cc} + 0.3V)
Pull Up Resistors	70K to 175KOhms
IO Output Current	8mA
Static Current Excluding Power on Reset V core = 1.2V	600uA
Static Current Logic cells consumption, including Power on Reset and all input drivers V core = 1.2V	30uA

Pin Descriptions

Pin Type
I = Input
O = Output
P = Power Supply

Pin #	Signal	Type	Description
1	5V	P	5V @ 300mA
2	5V	P	5V @ 300mA
3	GND	P	Ground
4	GND	P	Ground
5	SCL	O	Serial Clock
6	SDA	O	Serial Data
7	COMMU RXD	I	CommU RXD UART
8	COMMU TXD	O	CommU TXD UART
9	PWM 1	O	Programmable Clock 1
10	PWM 2	O	Programmable Clock 2
11	Prog M	I	Program Mode - Float = Prog / GND = Run Note:1
12	PWM 0	O	Programmable Clock 0
13	RS232 TXD	O	TXD from RS232 Transceiver
14	T_CAL	I	Touch Panel Cal. - Float = Cal / GND = Normal Note:1
15	PROGU RXD	I	PROGU RXD UART
16	PROGU TXD	O	PROGU TXD UART
17	SPI C3	O	SPI Chip Select 3
18	RS232 RXD	I	RXD from RS232 Transceiver
19	SPI C2	O	SPI Chip Select 2
20			
21	MISO	O	SPI DATA In
22	SCLK	O	SPI Clock
23	RESET	O	System Reset by driving pin low
24	MOSI	O	SPI DATA Out

Note:1 Internally pulled up. Only pull to ground

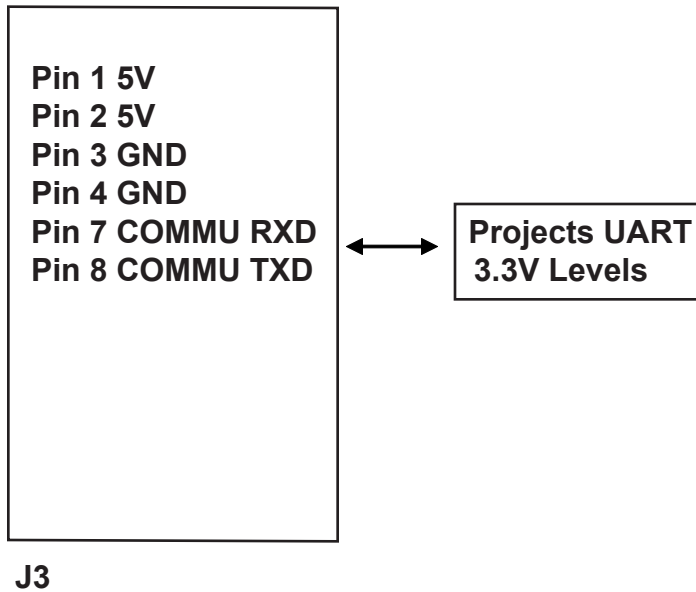
Table 1. Header J3 24pin, 2mm, Hirose DF-11-24DP-2DSA

Mating Connectors

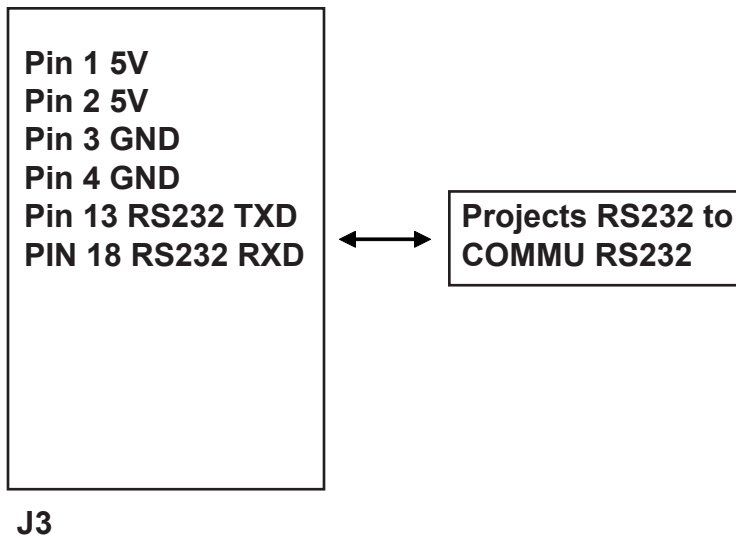
Hirose DF11-24DS-2R26 Straight
DF11-24DS-2C Right Angle
DF11-24DS-2DSA Board
JST PHDR-24VS

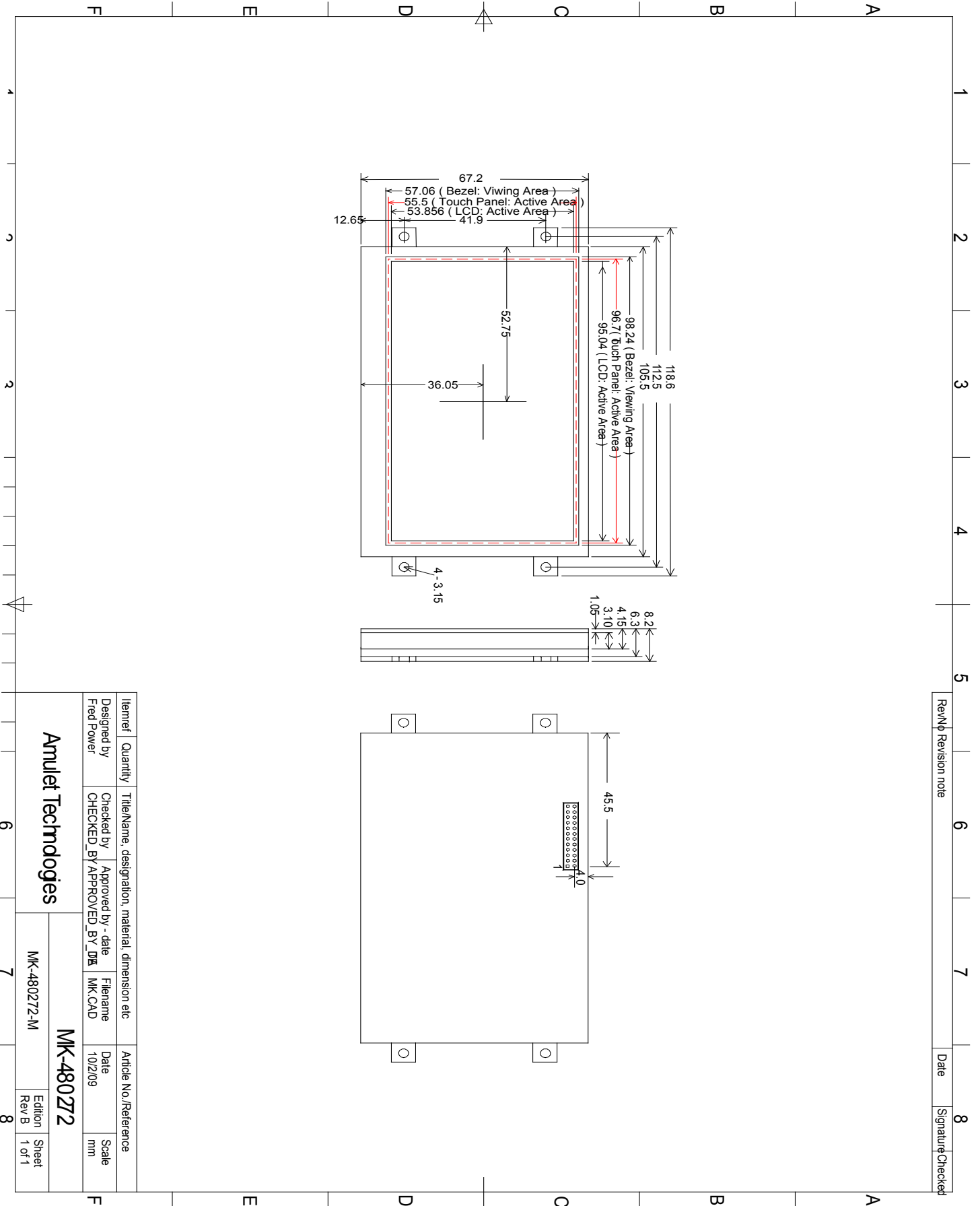
J3 Wiring

Connecting Project via UART



Connecting Project via RS232





Rev/No	Revision note	Date	Signature	Checked
6				

Itemref	Quantity	Title/Name, designation, material, dimension etc	Article No./Reference
Designed by Fred Power		Checked by CHECKED_BY	Approved by - date APPROVED_BY
		Filename MK.CAD	Date 10/2/09

Amulet Technologies		MK-480272
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