

Display for Power Units:

Displays are intended to imaging of important variables of the power unit (motor and controller) and the battery. Displays are available in these versions:

Display Diagonal	Screen Resolution	Available Communication type	Requested Feeding (display + beep)	Acoustic Beeps
2,4"	320 x 240	CAN / RS232 TTL / RS 485	5V / 250+400 mA	yes
3,5"	480 x 320	CAN / RS232 TTL / RS 485	5V / 300+400 mA	yes
4,3"	480 x 272	CAN / RS232 TTL / RS 485	5V / 350+400 mA	yes
7,0"	800 x 480	CAN / RS232 TTL / RS 485	5V / 700+400 mA	yes

Possible mechanical versions:

frame only / display + box / display + box with throttle / display + box with throttle and safety switch

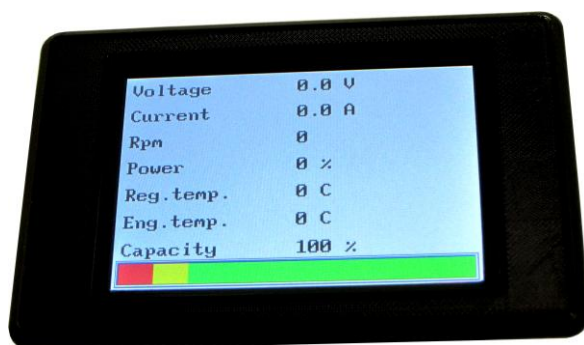
Visible variables:

- Battery Voltage
- Battery Current
- Battery Capacity (Remain Charge, fuel meter)
- Battery temperature
- Motor Rpm
- Motor temperature
- Controller temperature
- Output Power
- Status messages / Error messages / Warnings (with added Beep)

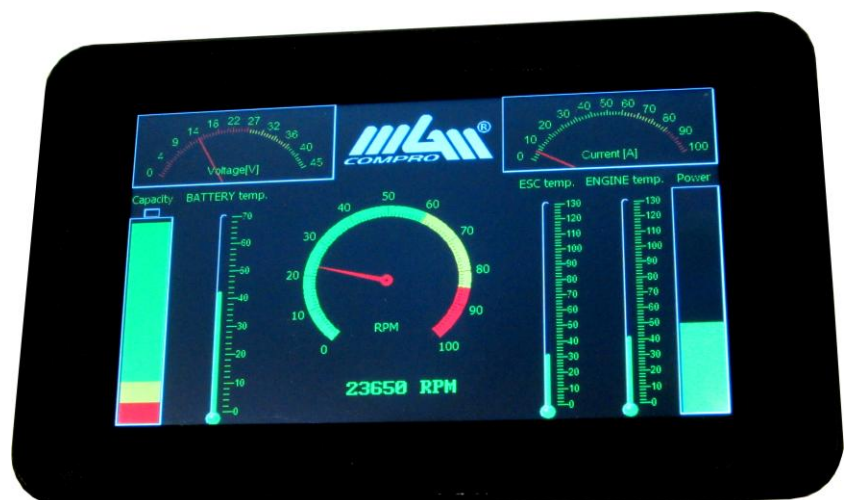
Possible is adding other variables by customer request.

Display examples:

Frame only:

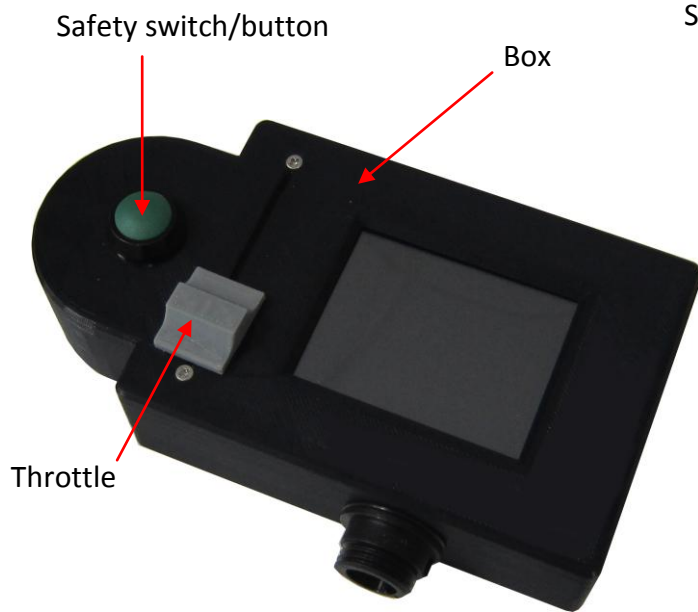


Text + Bargraph



Graphics

Display + box with throttle and safety switch:



Display Controlling:

Text + bargraph version:

Tap to the screen to switch to other parameters. When Error message / Warnings coming (overheating, low battery, etc.), the acoustic signal (beep) notifies to this situation. Corresponding message is shows and beep is activated.

Beep is deactivating by tap to the screen.

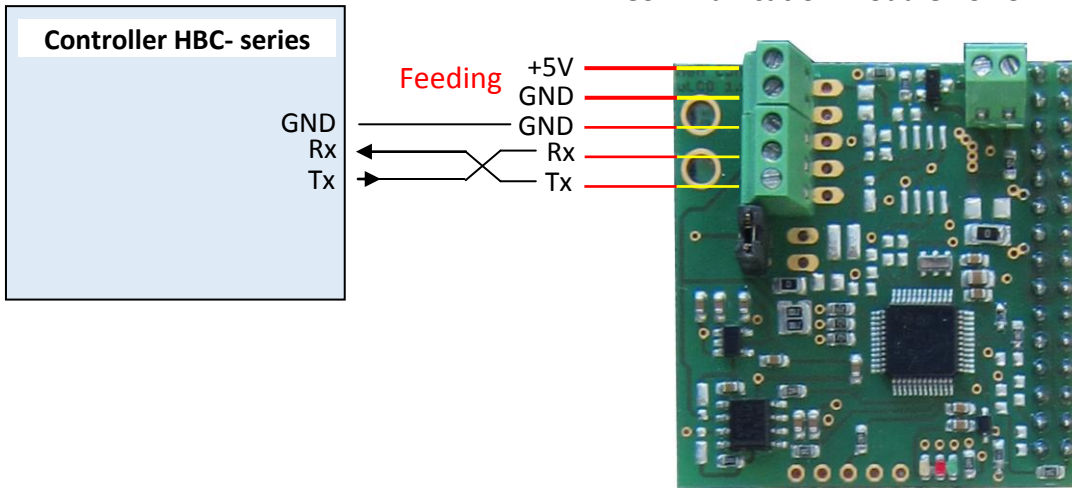
Graphics version:

When Error message / Warnings coming (overheating, low battery, etc.), the acoustic signal (beep) notifies to this situation. Corresponding message is shows and beep is activated.

Beep is deactivating by tap to the screen.

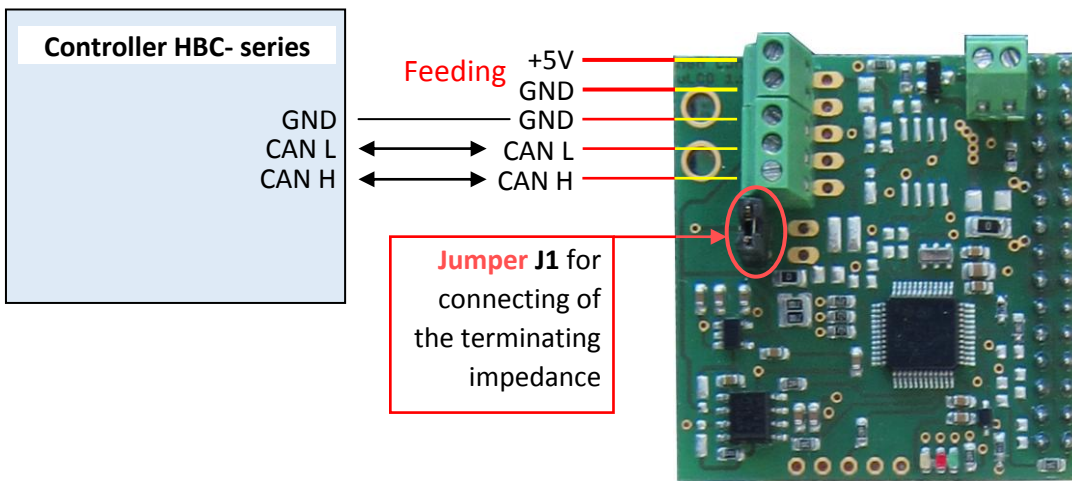
Display connecting via RS 232 TTL:

Communication module RS 232 TTL (inside display)



Display connecting via CAN bus:

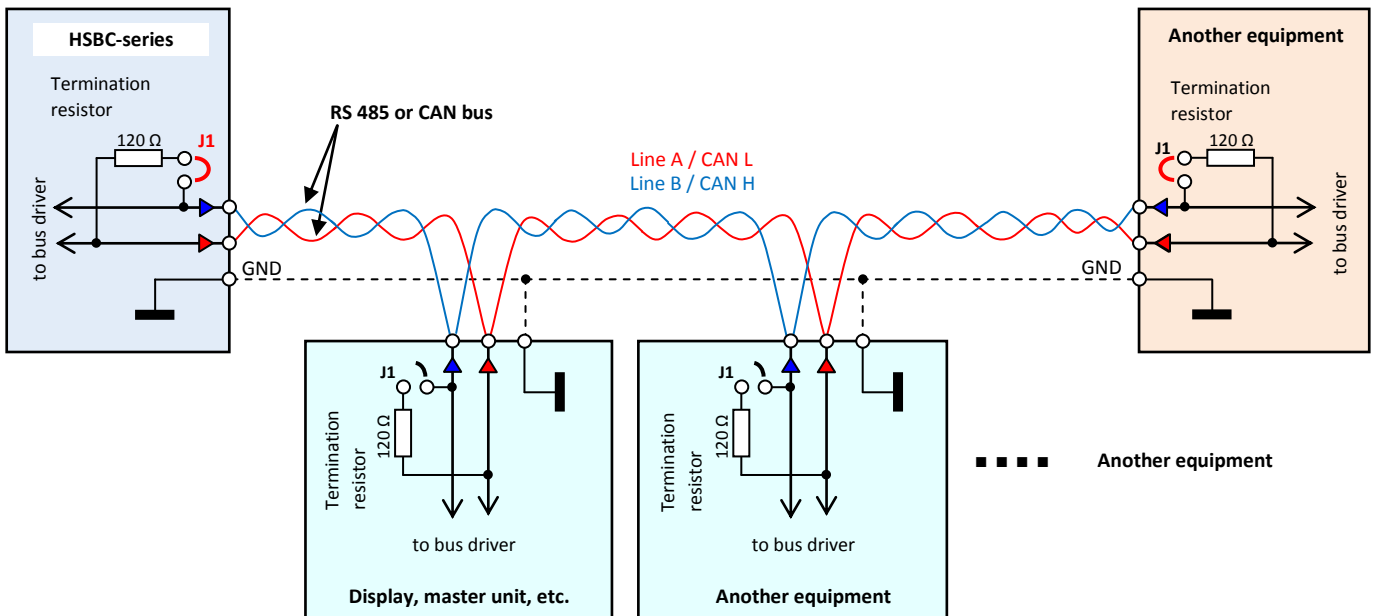
Communication module CAN bus (inside display)



Note: when display is on the physical end of the CAN bus, necessary is connect **Jumper J1**. In other case remove this Jumper.

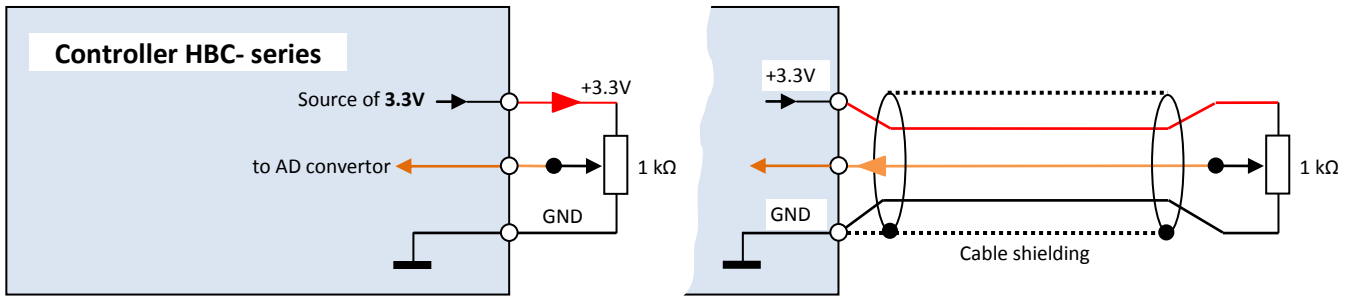
Both the physical end of the bus (both, RS 485 and the CAN) must be terminated with nominal terminating impedance (resistor 120Ω).

It means that topologically the first and last device connected to the bus must have this resistor. The controller is obtained by connecting the jumper **J1**. Other devices on the bus (excluding terminal equipment) should not contain the terminating impedance. Thus, if the regulator is not on one of the end positions, jumper **J1** must be disconnected.

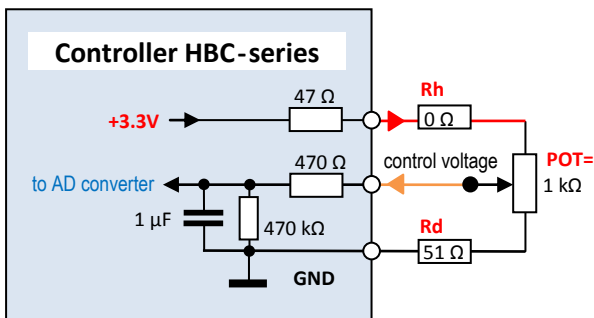


Connecting throttle and Safety switch/button:

In case, potentiometer is connect by longer cable (>20 cm), we recommend use shielding cable. Shielding connects to input GND point of the controller:



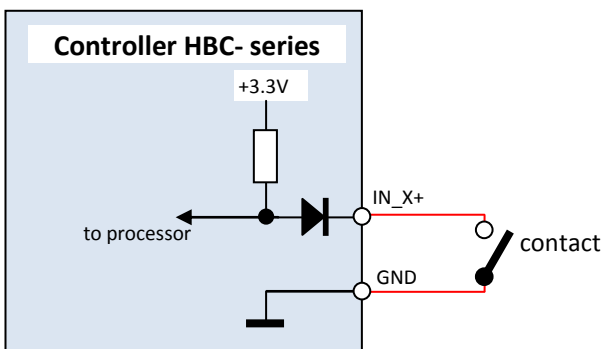
When is used potentiometer with resistance different from 1kΩ:



Resistor **Rh** and **Rd** value for potentiometers:

POT=1K:	Rh=0 Ω (without resist.)	Rd=51 Ω
POT=5K:	Rh=180 Ω	Rd=249 Ω
POT=10K:	Rh=422 Ω	Rd=510 Ω

Controller input for Safety switch/Button:



Display Units Technical Data and Dimensions (without Box):

Size 2,4"

Dimensions	75 x 45 x 16 mm
Display format	240 x 320 pixel
Active area	36,7 x 48,9 mm
Display Technology	LCD-TFT
Luminous Intensity	200 cd/m ²
Interface	RS 232 TTL, RS 485, CAN
Remarks	65K Colors
Backlite Technology	LEDs
Operation Temperature	-10 +60°C
Working Voltage	5V ± 0,25V
Current consumption	0,25A
Note	4WR Touch panel

Size 4,3"

Dimensions	106 x 67 x 16 mm
Display format	480 x 272 pixel
Active area	95 x 53,9 mm
Display Technology	LCD-TFT
Luminous Intensity	250 cd/m ²
Interface	RS 232 TTL, RS 485, CAN
Remarks	65K Colors
Backlite Technology	LEDs
Operation Temperature	-10 +60°C
Working Voltage	5V ± 0,25V
Current consumption	0,35A
Note	4WR Touch panel

Size 3,5"

Dimensions	57 x 98 x 16 mm
Display format	480 x 320 pixel
Active area	49,7 x 77 mm
Display Technology	LCD-TFT
Luminous Intensity	220 cd/m ²
Interface	RS 232 TTL, RS 485, CAN
Remarks	65K Colors
Backlite Technology	LEDs
Operation Temperature	-10 +60°C
Working Voltage	5V ± 0,25V
Current consumption	0,3A
Note	4WR Touch panel

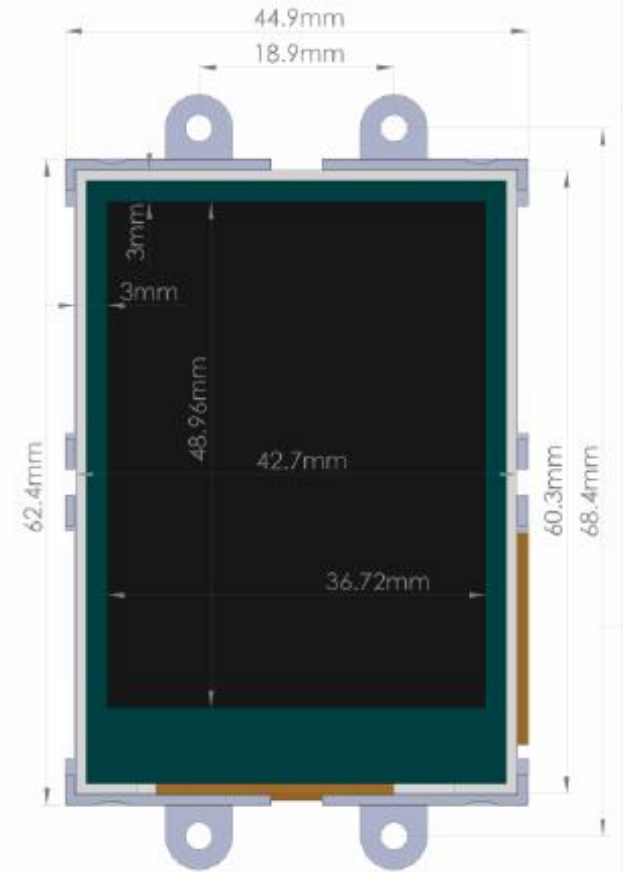
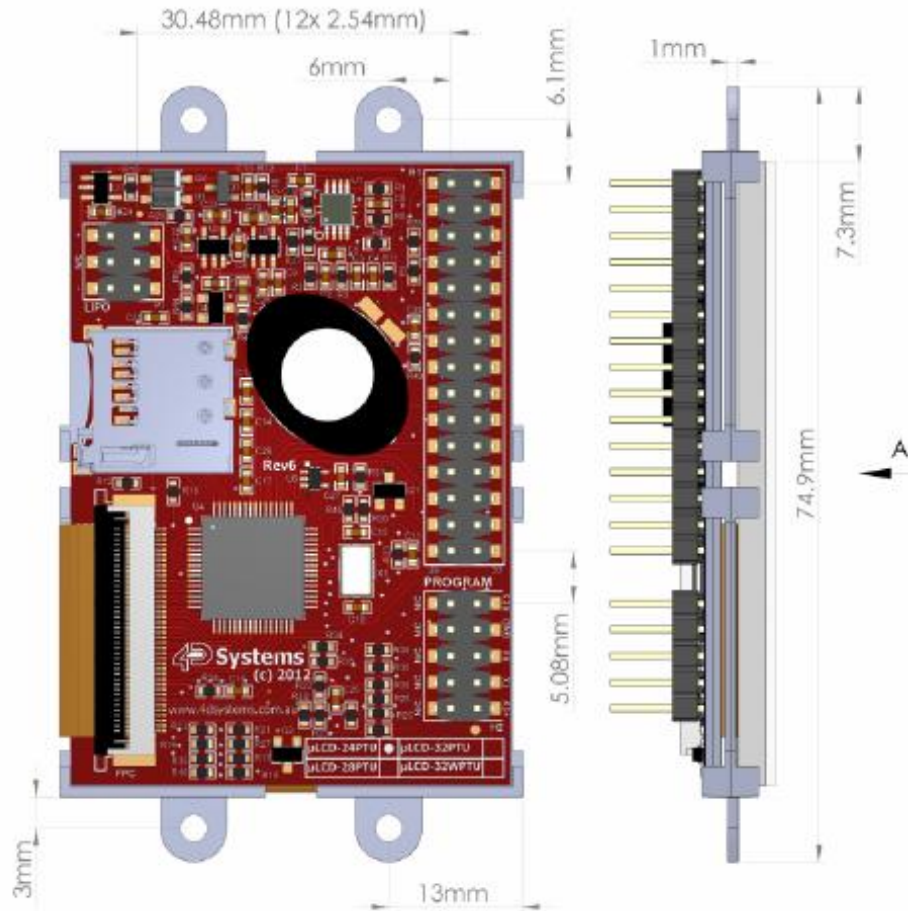
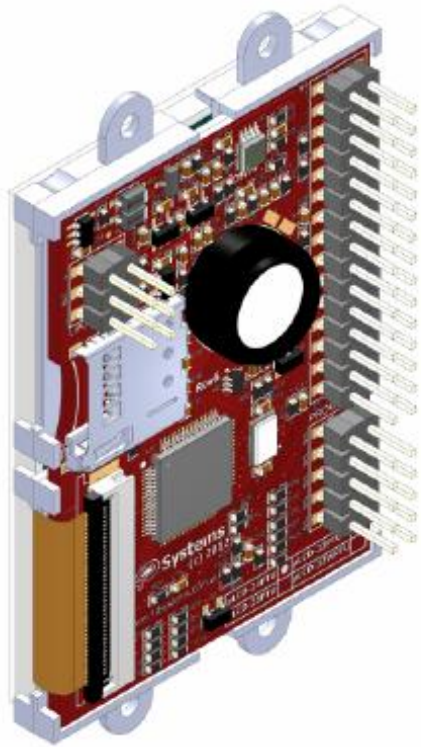
Size 7,0"

Dimensions	180 x 100 x 16 mm
Display format	800 x 480 pixel
Active area	154 x 85,9 mm
Display Technology	LCD-TFT
Luminous Intensity	300 cd/m ²
Interface	RS 232 TTL, RS 485, CAN
Remarks	65K Colors
Backlite Technology	LEDs
Operation Temperature	-10 +60°C
Working Voltage	5V ± 0,25V
Current consumption	0,7A
Note	4WR Touch panel

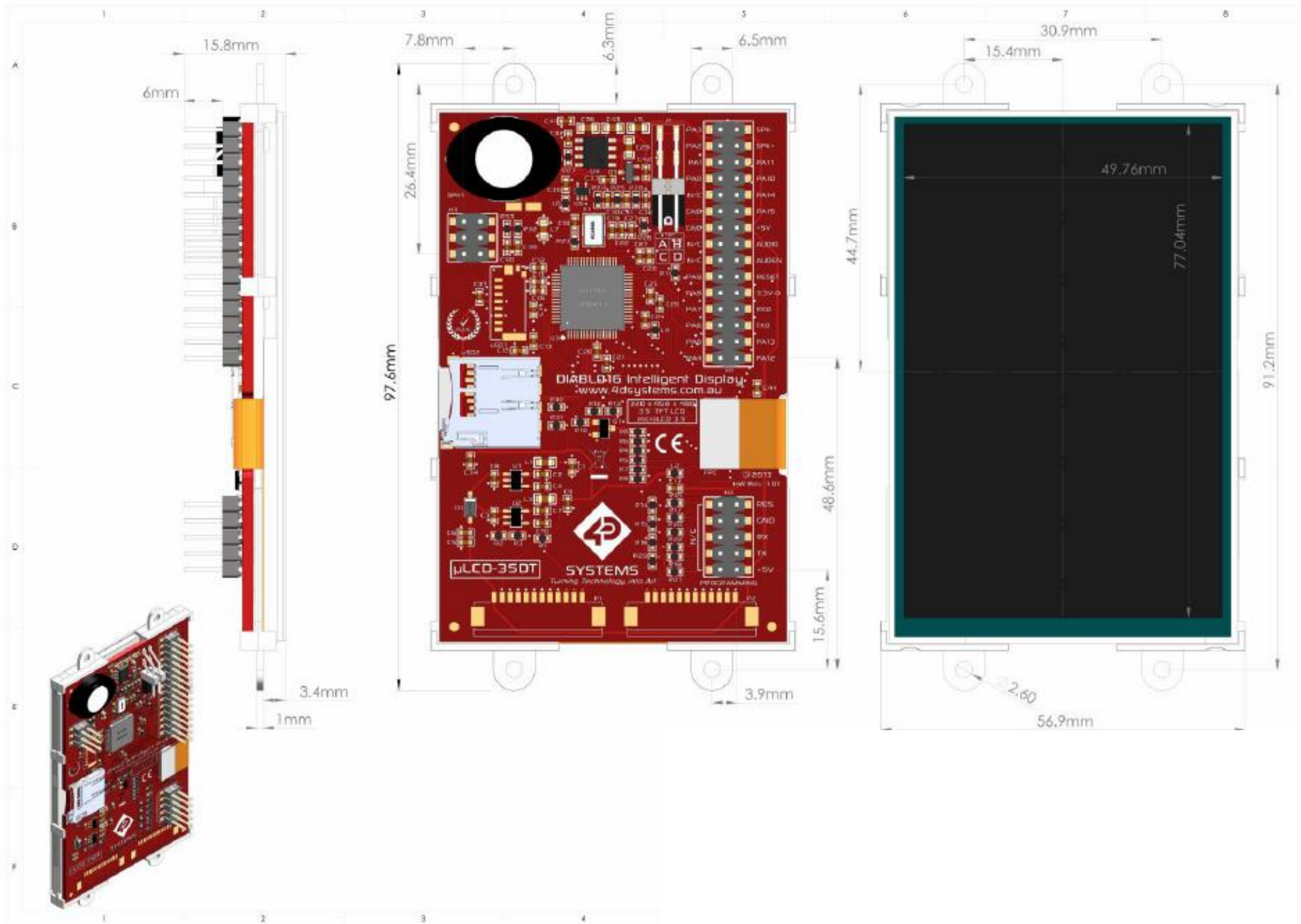
Note: Communication module increase height of the display module cca +10mm

2,4"

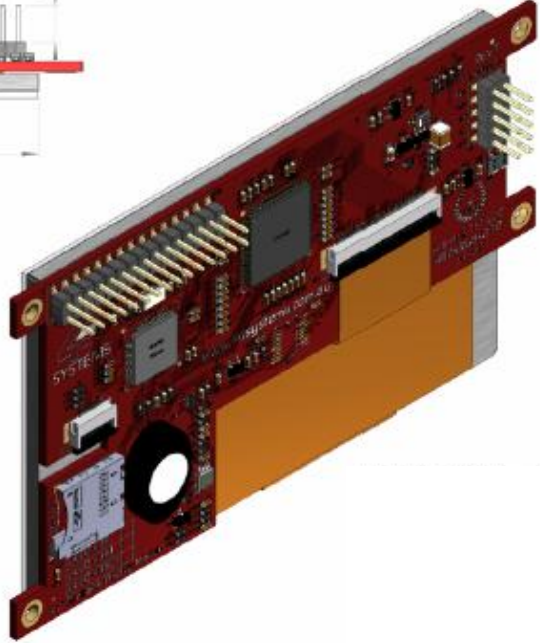
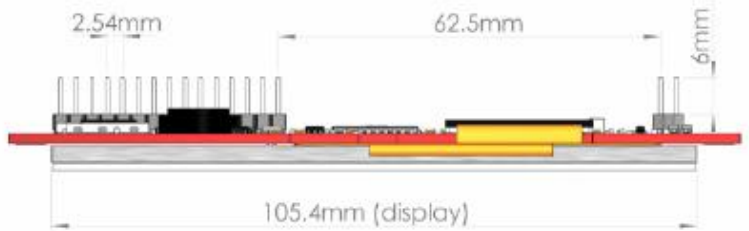
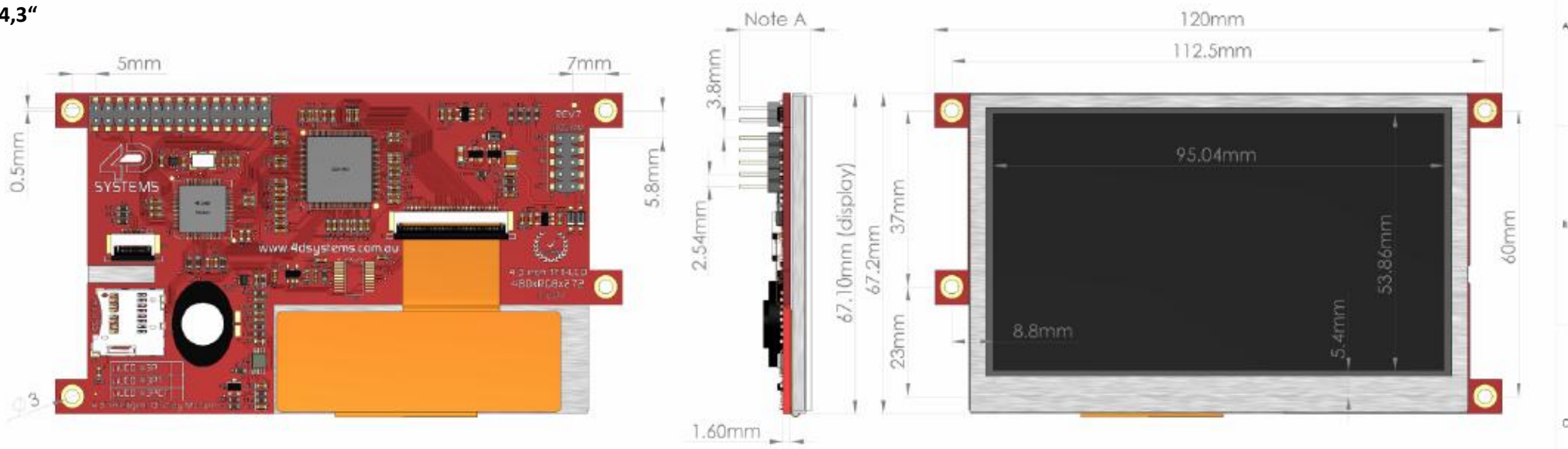
- Display full colour images, animations, icons and



3,5"



4,3"



7.0"

