

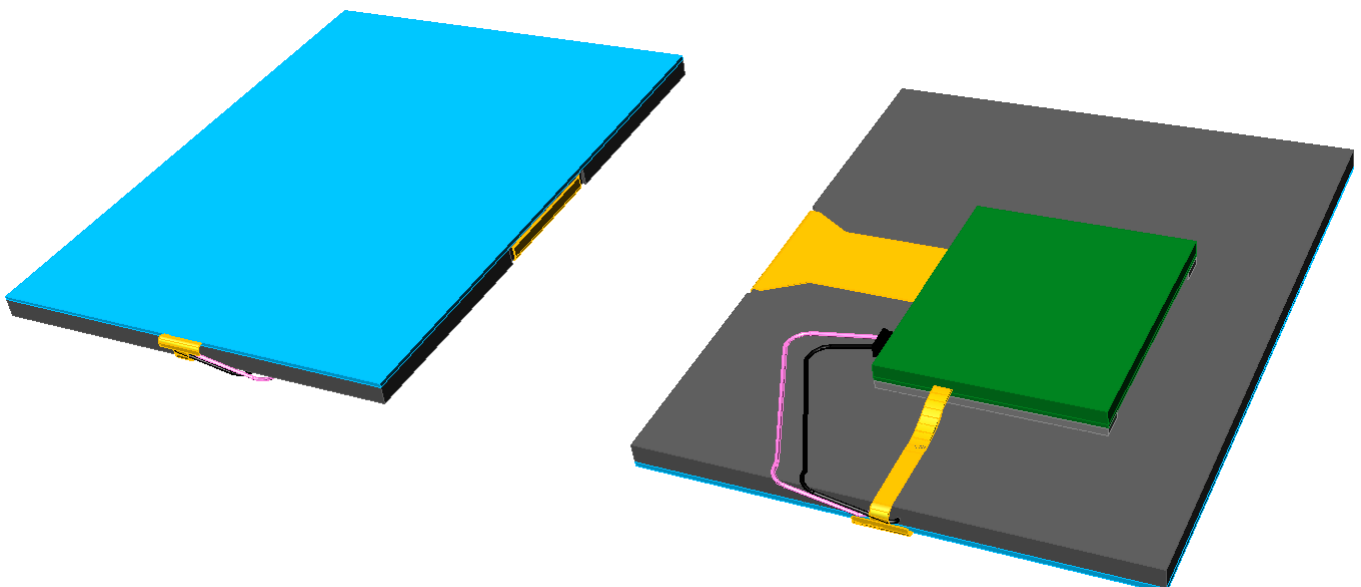
# DISPLAY MODULE LCM3\_AM80-TA-TLS-1

## 1. Features

- Landscape SVGA display
- LED backlight (temperature controlled LED current limit to increase lifetime)
- Resistive touch glass
- High performance  $\mu$ C:
  - ARM7 core with 72MHz
  - on chip LCD controller
  - 64kByte RAM
- 8MByte SD-RAM
- 8MByte additional flash memory (e.g. for pictures and fonts)
- 4kByte EEPROM for configuration data
- Piezo loudspeaker
- Temperatur sensor
- Single supply voltage 5V
- UART interface for communication 3.3V level (5V tolerant), autobauding
- Over 300 commands to design graphical user interface for various applications

## 2. Description

The display module allows to easily furnish existing devices or those being developed with an ergonomical graphical user interface. The display of this module is selected especially with respect to price sensitive applications. The module can be controlled by any hardware using a serial interface, even small 8-bit microcontrollers. Directly programming of the module is not required.



### 3. Specification

Item	Specification	Unit	Comment
Display diagonal	202,5 (8)	mm (Inch)	
Display resolution	800 x 600	Pixel	
Outline dimensions: - Width - Height - Depth	183 141 14,7	mm mm mm	Display including PCB
Weight	366	g	Display including PCB
Number of colors	65536	-	
Brightness	200	cd/m <sup>2</sup>	
Operating temperature	-20 to +60	°C	
Software	Simplify Technologies GUI-Interpreter	-	
Startup time	500	ms	(from "power on"/"reset high" to "ready to operate")

### 4. Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit	Comment
Supply voltage	V <sub>cc</sub>	-	7	V	
Operating temperature	T <sub>op</sub>	-20	70	°C	
Storage temperature	T <sub>store</sub>	-30	80	°C	
Humidity	H	20	90	%RH	No condensation
Reset input	V <sub>res</sub>	-0,5	6	V	
UART input - if V <sub>cc</sub> is not applied - if V <sub>cc</sub> is applied	V <sub>rx</sub>	-0,5	0,5 6	V	

### 5. Operation Conditions

Item	Symbol	Min.	Typical	Max.	Unit	Comment
Operating temperature	T <sub>op</sub>	-20	25	60	°C	
Supply voltage	V <sub>cc</sub>	4,75	5	6	V	
Power consumption	P	0,65 <sup>1</sup>	2,65 <sup>2</sup>	3,5	W	<sup>1</sup> : backlight switched off <sup>2</sup> : backlight 100%
Current consumption	I <sub>cc</sub>	130 <sup>1</sup>	530 <sup>2</sup>	700	mA	at 5V supply voltage <sup>1</sup> : backlight switched off <sup>2</sup> : backlight 100%
Humidity	H	20	-	80	%RH	No condensation
Transmission speed	S	9,6	-	115,2	kBits/s	Supported baud rates: 9600, 19200, 38400, 57600, 115200

## 6. Electrical Characteristics

Item	Symbol	Min.	Typical	Max.	Unit	Comment
UART output (high level)	$V_{tx,high}$	2,8	3,3	3,5	V	Output current 4mA
UART output (low level)	$V_{tx,low}$	-	-	0,4	V	Output current 4mA
UART input (high level)	$V_{rx,high}$	2,2	-	5,5*	V	*: only if $V_{cc}$ is applied
UART input (low level)	$V_{rx,low}$	-	0	0,6	V	
Reset input (high level)	$V_{res,high}$	2	3,3	5,5	V	
Reset input (low level)	$V_{res,low}$	-	0	0,6	V	

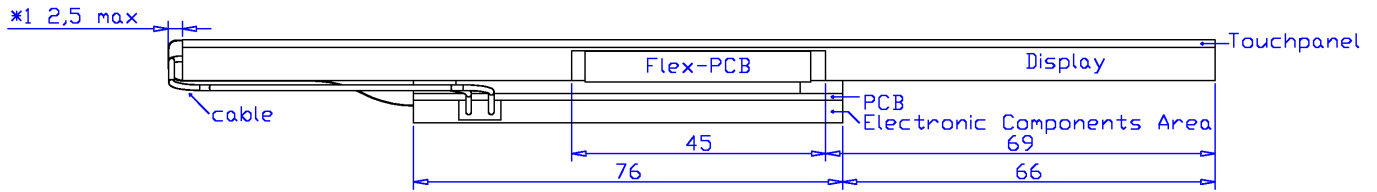
## 7. Connectors

"Power+Control" connector:

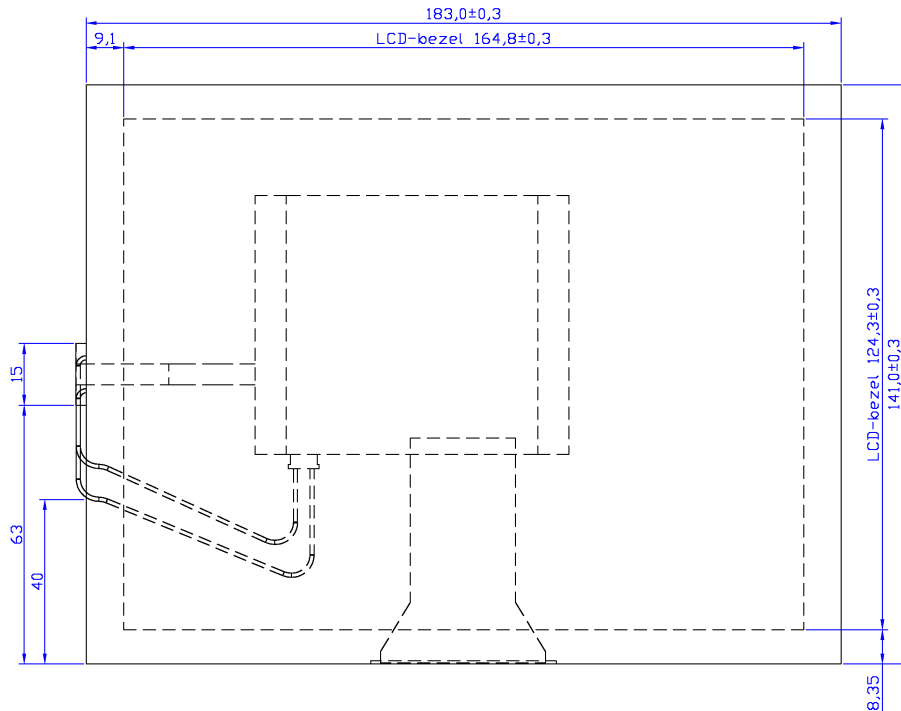
Pin	Signal	Description
1	Reserved	Do not connect
2	TX	UART output
3	GND	Ground
4	RX	UART input
5	Reserved	Do not connect
6	Reset	Reset: input active Low
7	Reserved	Do not connect
8	$V_{cc}$	Supply voltage

## 8. Mechanical Drawing

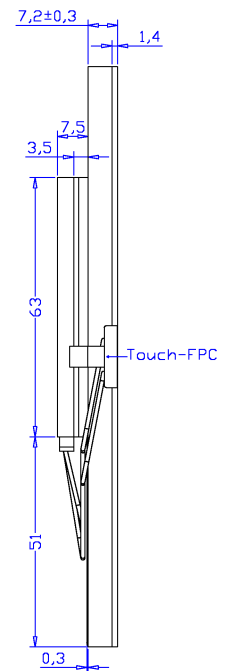
Frontview:



Topview:



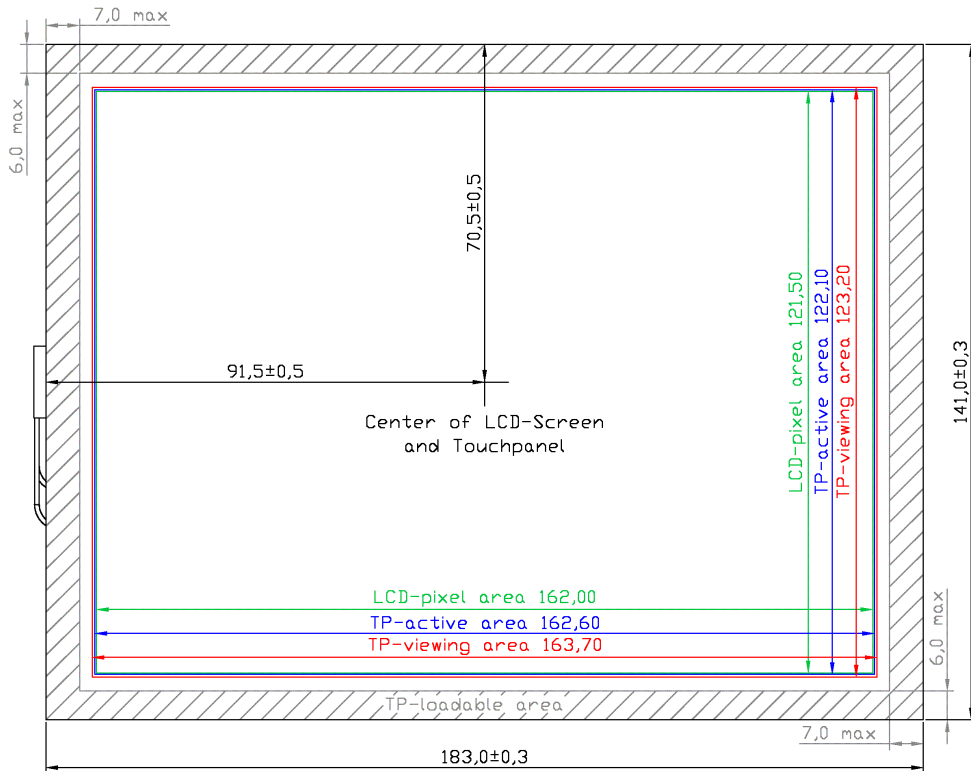
Sideview (left):



Notes:

- FPC means "Flexible Polyamide Cable"
- PCB means "Printed Circuit Board"
- "Electronics Components Area" is a reserved area for electronic components, placed on the PCB. Keep distance to conductive parts, like metal housing, to prevent short circuit.
- \*1: Required freespace in customer housing to prevent strong bending of Touch-FPC.

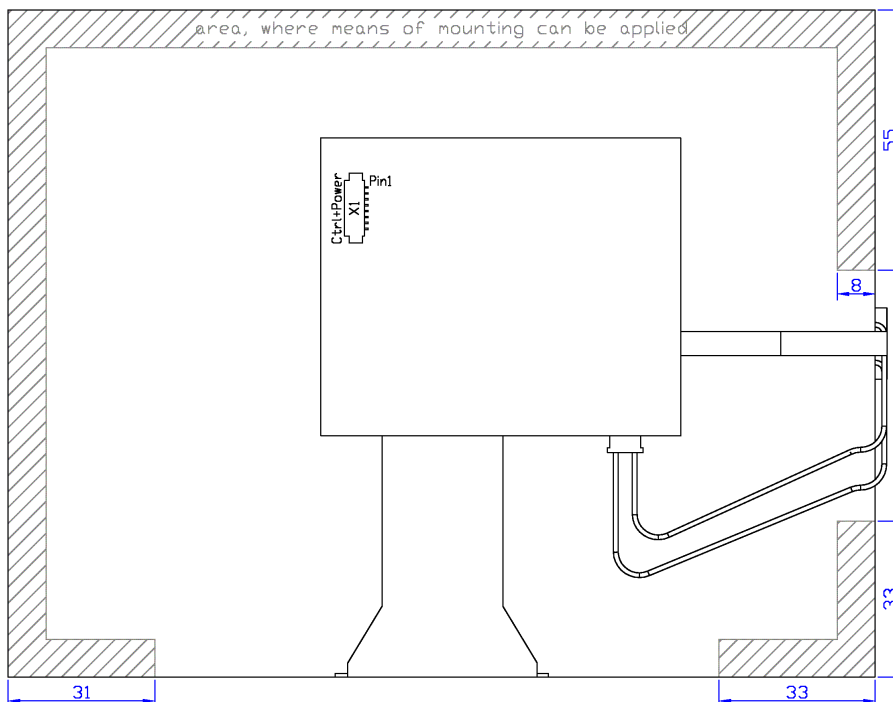
**LCD-screen and touchpanel areas (top view):**



**Notes:**

- For detailed mounting instructions refer to the "Mounting Touch Displays" application note.
- If not otherwise noted, LCD- and TP-dimensions are symmetrical to the "Center of LCD".

**Connector positions and mounting area (rear view):**



## 9. Application Details

Application Schematic (tbd)

## 10. Handling and Operation Precautions

The protective foil on the display does only cover the viewing area of the display. Don't remove the foil with the help of a sharp tool to avoid scratches on the touch glass surface.

## 11. Ordering Information

One packing unit consists of 24 display modules.

## 12. Important Notice

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