

CUSTOMER SPECIFICATION

EP150AD60-1-5W-U-DM *BK00318*

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	Date:	Sign:
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Customer approval:		

RECORD OF REVISION

Revision :	Date :	Descriptions :
1.0	02.09.2010	First Draft

Note: Specifications are subject to change without prior notice

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1 GENERAL

This specification is applied to the 15 inch easyPanel.

The module consists a LCD and touch panel in a metal housing with integrated converter, touch-controller and driving board.

The components are tested and tuned to work together perfectly.

The easyPanel is using an active matrix AUO G150XG01V2

- In case of defect fuse, do not replace it by yourself.
- Do not open the housing of the easyPanel.
- The easy panel has be to supplied by a limited power source (EN 60950-1.2.5) .

This unit is intended for system integration by technical professionals. Mounting and handling needs technical knowledge.

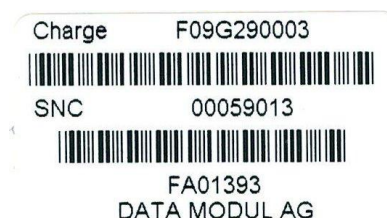
The unit is tested and specified for landscape use.

1.1 Product Name and Number

Article number: BK00318
Model name: EP150AD60-1-5W-U-DM

1.2 Label and Serial Number

Example:



Charge F09G290003

(X) internal (S,F,R)

09 – 2009

A – January (A = Jan, B=Feb, etc.)

29 – Day of end test

9999 – 4-digit consecutive numbering

SNC 00059013 (serial number)

8-digit consecutive numbering

2 CHARACTERISTICS

Items	Unit	Remarks
Screen Diagonal	15 inch	For detailed information about the TFT LCD screen please ask for the corresponding specification.
Active Area (mm) Display	304.128 (H) x 228.096 (V)	
Active Area (mm) Touch	303.50 (H) x 227.50 (V)	
Pixels (H x V)	1024 x 768	
Display Mode	TN, Normally White	
White Luminance (cd/m ²)	280 (typ.)	
Contrast Ratio	700 (typ.)	
Backlight lifetime (hrs)	50.000 hrs (typ.)	
Colors	16.2 M	
Typ. Response Time (ms)	8 ms on/off	
Viewing Angle (°) for CR>=10	60	Up
	80	Down
	80	Left
	80	Right
Outline Dimensions (mm)	382 (H) x 258 (V) x 47,3 (D)	Tolerances: see chapter 6
Weight (kg)		
Operating Temp. (Ambient) (°C)	0...+50	
Storage Temp. Range (°C)	-10...+60	
Surface Treatment	Hard-coating (3H), Non-Glare treatment	
Customer Interface	RGB, DVI	
Nominal Supply Voltage (V)	12 VDC	Tolerance: ± 5% Power supply must be stabilized and filtered. Use a power limited source
Input Current max. (A)		
Power Consumption max. (W)	10 W	
Touch	5 wire resistive	
Touchpanel Interface	USB	
Approvals	none	

3 INTERFACES

3.1 Connector and Pinning

3.1.1 Analog RGB, Connector: D-Sub Jack, 15pin D-Sub

Pin No.	Symbol	Function	Remark
1	Red1	Red analog input	
2	Green1	Green analog input	
3	Blue1	Blue analog input	
4	NC	Not connected	
5	VGA_CAB	Cable detect	
6	GND	Ground	
7	GND	Ground	
8	GND	Ground	
9	VGA_5V	DDC_Voltage	
10	GND	Ground	
11	GNC	Not connected	
12	DSDA	Serial Data Line for DDC	
13	HSYNC	Horizontal Sync	
14	VSYNC	Vertical Sync	
15	DSCL	Serial clock input	

3.1.2 DVI Connector: DVI-D24P

Pin No.	Symbol	Function	Remark
1	TMDS DATA2-	TMDS DATA2 Differential negative signal	
2	TMDS DATA2+	TMDS DATA2 Differential positive signal	
3	TMDS DATA2 Shield	Shield for TMDS channel 2	
4	NC	Not connected	
5	NC	Not connected	
6	DDC Clock	Clock DDC Interface	
7	DDC Data	Data DDC Interface	
8	Analog Vertical Sync		
9	TMDS DATA 1-	TMDS DATA1 Differential negative signal	
10	TMDS DATA1+	TMDS DATA1 Differential positive signal	
11	TMDS DATA1 Shield	Shield for TMDS channel 1	
12	NC	Not connected	
13	NC	Not connected	
14	+5V Power	+5V for EDID (un-powered Monitor)	
15	GND (for 5V)	Ground for +5V Power pin, Sync return	
16	HPD	Monitor presence identification	
17	TMDS DATA0-	TMDS DATA0 Differential negative signal	
18	TMDS DATA0+	TMDS DATA0 Differential positive signal	
19	TMDS DATA0 Shield	Shield for TMDS channel 0	
20	NC	Not connected	
21	NC	Not connected	
22	TMDS CLOCK Shield	Shield for TMDS Clock differential pair	
23	TMDS CLOCK+	TMDS DATA0 Differential positive signal	
24	TMDS CLOCK-	TMDS DATA0 Differential negative signal	

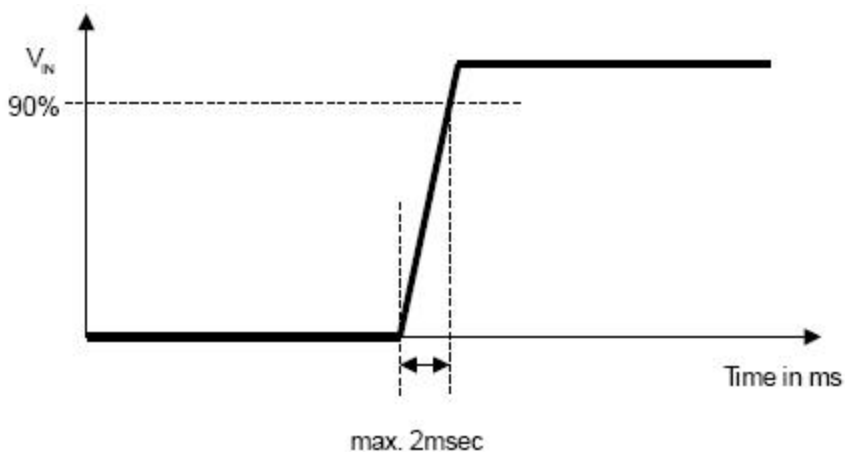
3.1.3 12V DC power supply Connector:

Connector: J1 – 2.5mm DC12V Jack

Pin No.	Signal	Description
1	+12V DC	Centre pin (+12V)
2	GND	Ground

3.1.3.1 Power supply

The input power must be stabilized and filtered if not provided from the Power Adaptor.
The input power must be applied immediately. A ramp up of the input power can lead to irregular conditions and might damage card and /or other components such as display or inverter.



3.1.4 Touchpanelconnector

Connector: USB Connector

Pin No.	Symbol	Description
1	VCC	
2	- Data	
3	+ Data	
4	GND	

4 GRAPHIC MODE TABLE

4.1 *Graphic Mode Support*

The easy panel can support many monitor modes within the following input constraints:

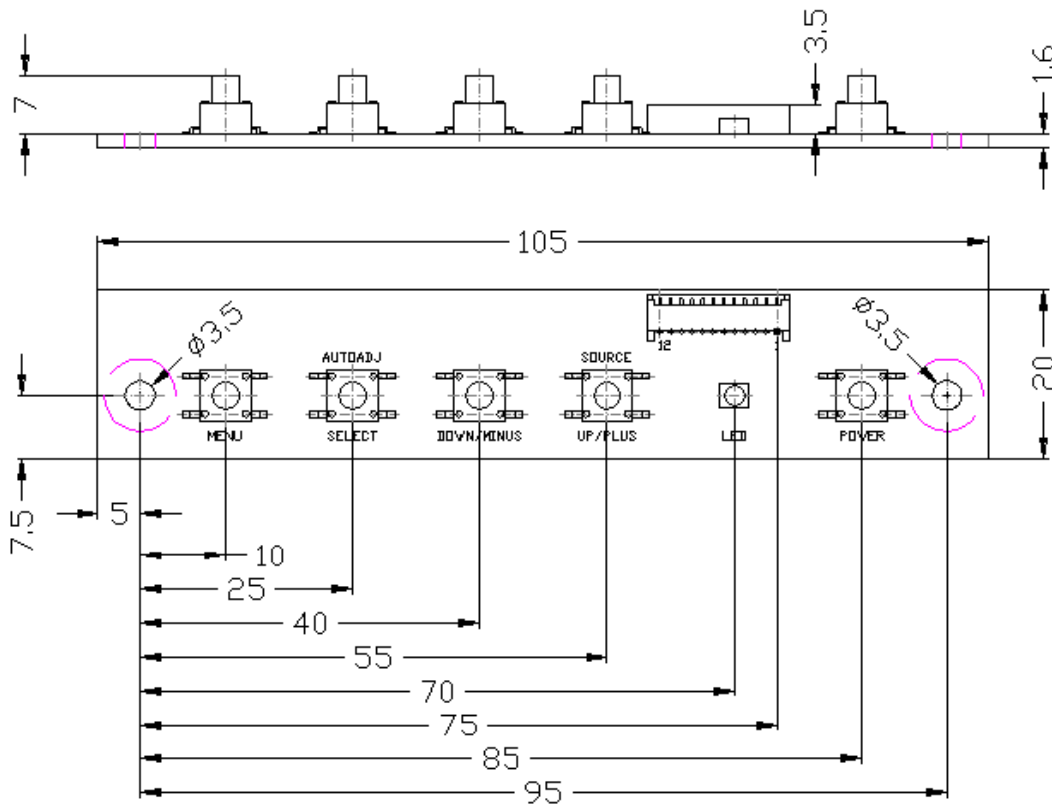
- Signal sample frequency with the input <135MHz (SXGA@75Hz)
- Horizontal sync frequency between 30KHz and 80KHz

The modes are detected with the presentation of the input and previous alignments for setup are automatically recalled. The emulation of a true multisync monitor is implemented. All values are depending on the connected TFT display.

4.3 Graphic options

Special customer timings can be implemented within display timing ranges on request.

5 OSD BOARD AND STRUCTURE OF OSD



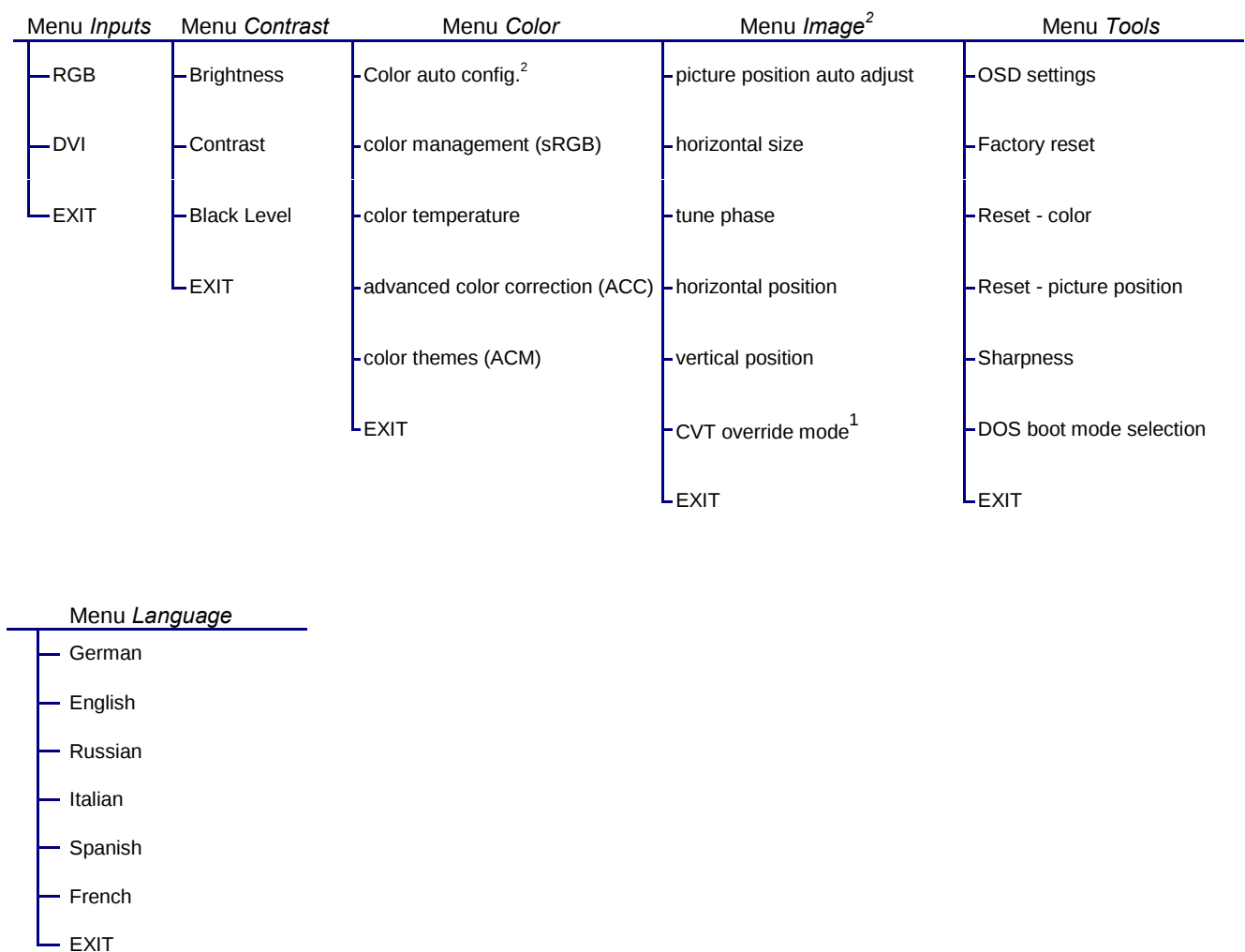
5.1 OSD Board operation & buttons

Item	Description	Hotkey
Menu	Enter OSD main menu Leave sub menu Leave OSD main menu	
Select	Enter submenu Select "feature"	autoadjust
Down	Navigate down in menu Decrease value	brightness
Up	Navigate up in menu Increase value	source
Power	Turn power on/off	
2 color LED	Red/Green	

5.2 OSD Status (external OSD)

condition	Description
Amber flashing	Stand by
Green flashing	Searching display mode (source)
Green permanent	Ok
LED off	Power off (press power button 2 sec)

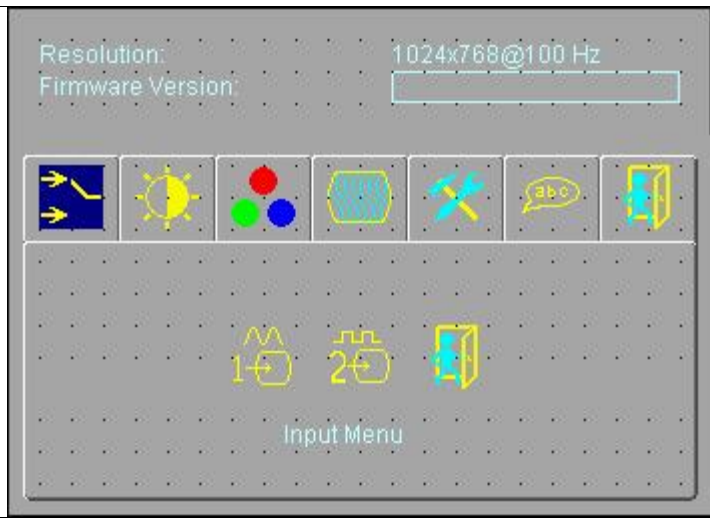
5.3 OSD Structure



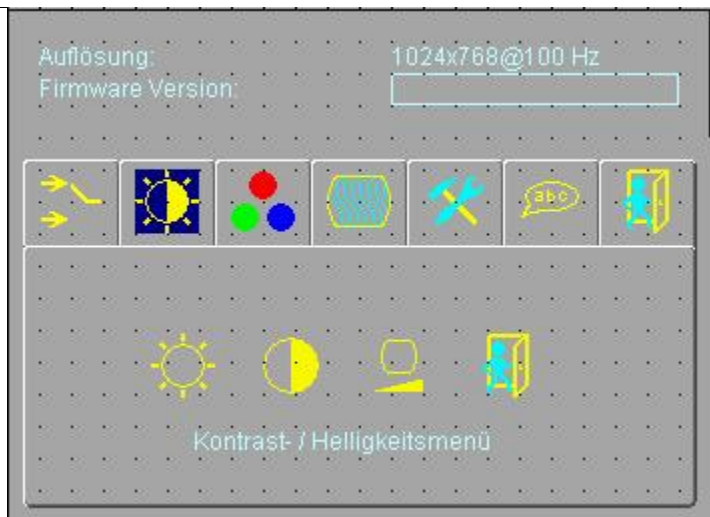
¹CVT override mode – only applicable to 1680 x 1050 resolution – if you encounter a problem with the correct display mode try this setting. CVT overrides the standard mode table.

² Not active for DVI input

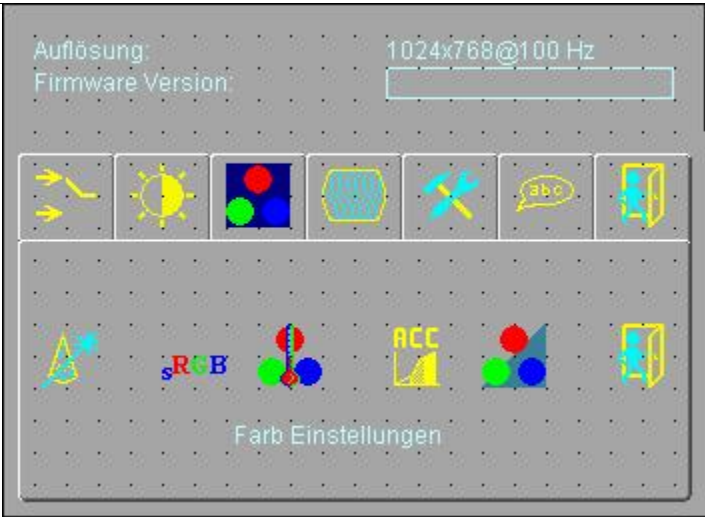
5.3.1 Menu INPUTS

	Input Menu	RGB
	Input Menu	DVI
	Input Menu	EXIT

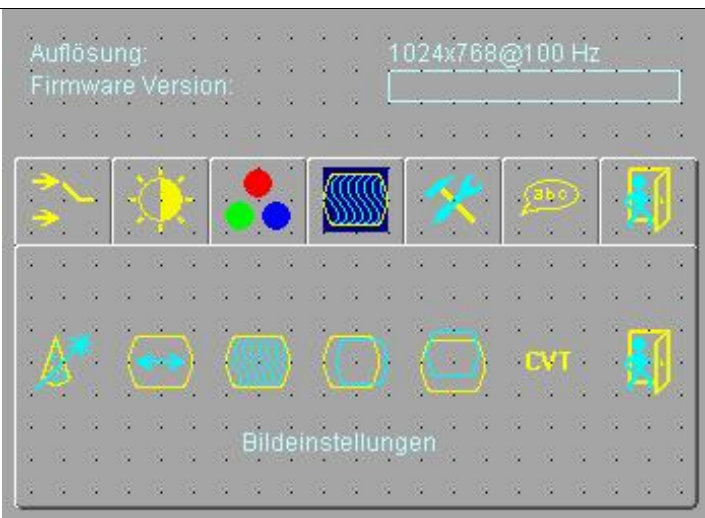
5.3.2 Menu Contrast/Brightness

	Contrast Menu	Submenu Brightness – adjust brightness
	Contrast Menu	Submenu Contrast – adjust contrast
	Contrast Menu	Submenu Black Level – set blacklevel
	Contrast Menu	EXIT

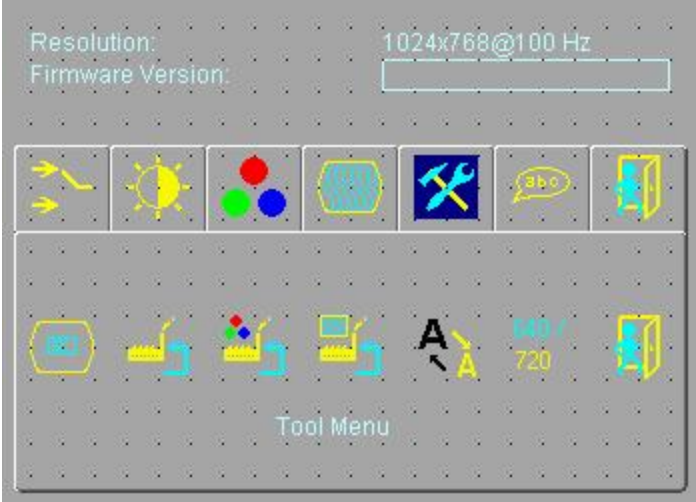
5.3.3 Menu Color

	Color Menu	color auto adjust
		Color management
		Color temperature
		Advanced color correction
		Color themes
		EXIT

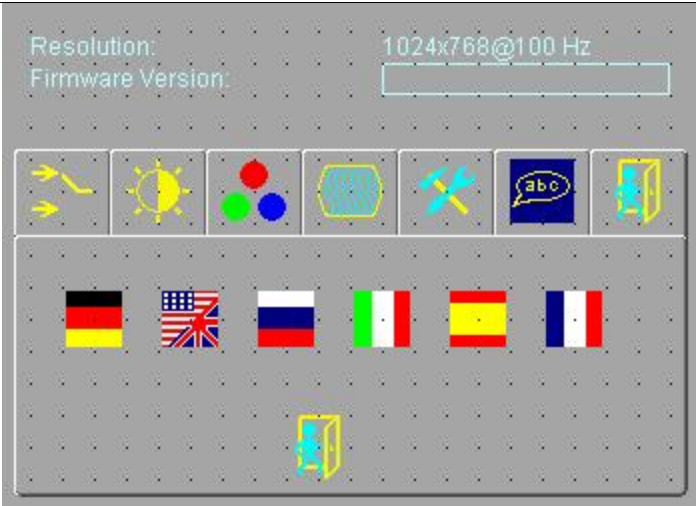
5.3.4 Menu Image

	Image Menu	Picture position auto adjust
		Horizontal size
		Tune phase
		Horizontal position
		Vertical position
		CVT override mode
		EXIT

5.3.5 Menu Tools

	Menu Tools	OSD Position
		Factory reset
		Factory reset color only
		Factory reset picture position only
		Sharpness
		DOS boot mode selection
		EXIT

5.3.6 Menu Language

	Language Menu	German
		English
		Russian
		Italian
		Spanish
		French
		EXIT

6 Standard Accessories

6.1 Power Supply

Limited power adapter (EN 60950-1.2.5) 12V DC / 50 VA with power cord (1,8m / 6 ft)

6.2 Touch interface cable

1,8m (6 ft) USB connection cable

6.3 Signal Cable

1,8 m (6ft) 15P HDSUB Male to 15P HDSUB Male

7 General Precautions

7.1 Handling

- Do not twist nor bend the display
- Use all mounting holes
- Do not scratch or push the panel surface as the polarizer might be damaged
- Wipe off water or other liquids immediately from the panels surface
- Protect the unit from static
- Do not open the unit

7.2 Cleaning

- The desirable cleaners are water with a mild soap, IPA(Isopropyl Alcohol) or Hexane, Do not use Ketone type Materials (like Acetone), Ethyl alcohol, Toluene, Ethyl acid or Methyl chloride. It might damage the polarizer due to chemical reaction. Do not apply any liquid directly to the display surface but use a soft tissue instead.
- If the liquid crystal material leaks from the panel, it should be kept away from the eyes or mouth. In case of contact with hands, legs or clothes, it must be washed away thoroughly with soap

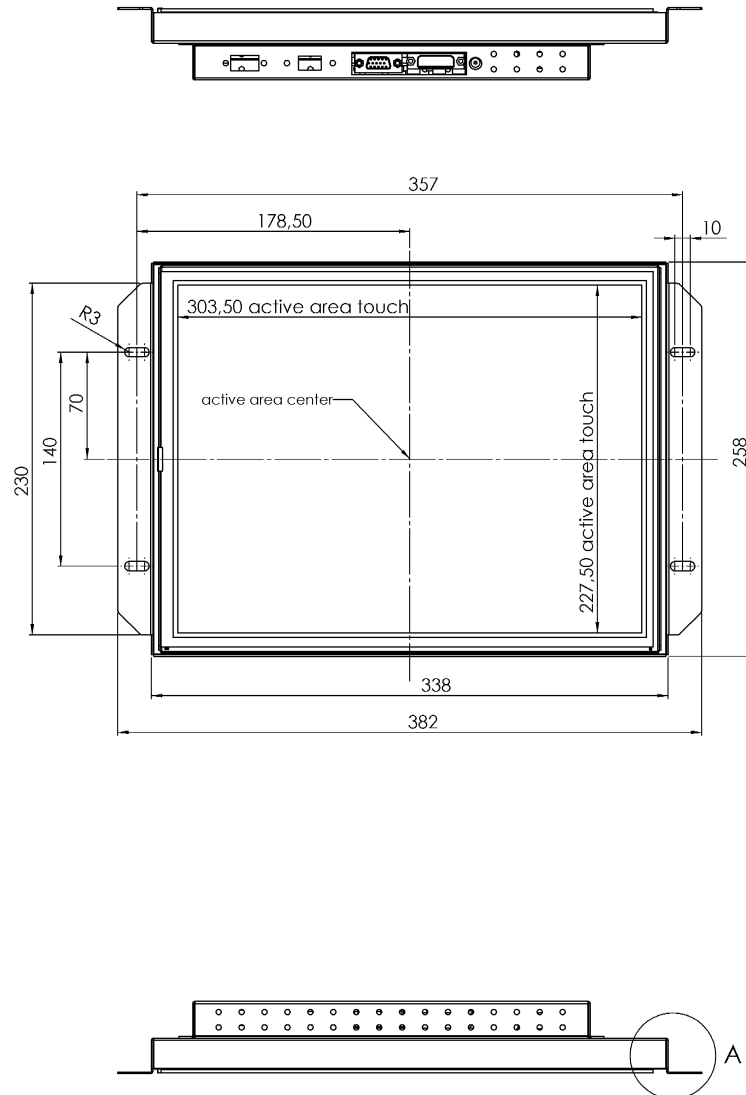
7.3 Storage

- Do not leave the module in high temperature, and high humidity for a long time.
- It is highly recommended to store the module in controlled temperature from 0°C to 35°C and relative Humidity of less than 70%.
- Do not store the TFT-LCD module in direct sunlight. the module shall be stored in a dark place. Protect the display from sunlight or fluorescent light during the storage period.

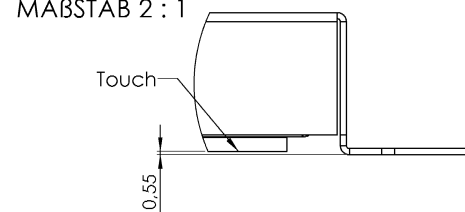
8 MECHANICAL DRAWING

The drawing is available in electronic form upon request.

General tolerance
 0 - 3mm +/- 0,1mm
 3 - 60mm +/- 0,3mm
 60 - 350mm +/- 0,5mm



DETAIL A
 MABSTAB 2 : 1



Easy-Panel 15" (LED) with touch
 BK 00318