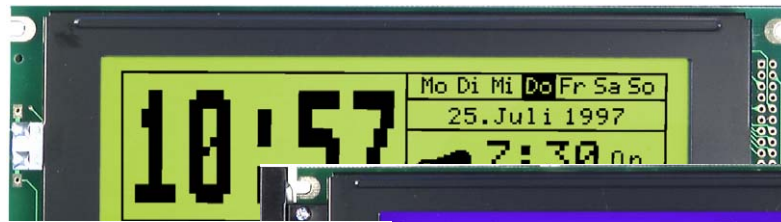


LCD-GRAPHIC MODULE

240x64 WITH CONTROLLER T6963

Touch Panel
optional

yellow-green:
EA W240-6K2LED



FSTN:
EA W240W-6K2LW



negative blue:
EA W240-6K2HC and
EA W240-6K2HLW

FEATURES

- * HIGH CONTRAST SUPERTWIST LC-DISPLAY
- * EVEN WITH TOUCH PANEL AVAILABLE
- * CONTROLLER T6963C OR COMPATIBLE INTEGRATED
- * READY MADE FOR 8-BIT DATA BUS
- * BUILT IN CHARACTER SET
- * TEXT AND GRAPHIC CAN BE DISPLAYED SIMULTANOUSLY
- * SELF DEFINABLE CHARACTER SET
- * POWER SUPPLY +5V, typ. 50mA (W./O. BACKLIGHT)
- * OPERATING TEMPERATURE -20..+70°C / CFL-TYPE: 0 ... +50°C

ACCESSORIES

- * FRONTAL BEZEL **EA 017-10UKE**
- * HIGH-LEVEL-GRAPHICCONTR. WITH RS-232 AND BUILT IN INTELLIGENCE: **EA IC6963-PGH**

ORDERING INFORMATION

LCD-GRAPHIC MODULE 240x64 DOTS, LED BACKLIGHT Y/G
NEGATIVE BLUE WITH CFL-BACKLIGHT
NEGATIVE BLUE WITH LED-BACKLIGHT

WITH TOUCH PANEL AND LED BACKLIGHT Y/G
WITH TOUCH PANEL, NEGATIVE BLUE, CFL-BEL.
WITH TOUCH PANEL, NEGATIVE BLUE, LED-BEL.

3-PIN SOCKET FOR CFL- / LED-WHITE

READY MADE CONTROL UNIT WITH RS-232 AND GRAPHIC FUNCTIONS: **EA KIT240-6**

EA W240-6K2LED
EA W240-6K2HC
EA W240-6K2HLW

EA W240-6K2LEDTP
EA W240-6K2HCTP
EA W240-6K2HLWTP

EA G-3KRAG

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LC-DISPLAYSERIES EA W240-6K2

This graphics display series features a resolution of 240x64 dots. All displays are with STN supertwist technology. 3 different backlights are available:

- **EA W240-6K2LED** comes with a yellow/green LED backlight. Display looks yellow/green with black characters. Backlight requires typ. 500mA at 4.1V. The limit the current an additional series resistor is required (e.g. for 5V: $R = (5V-4.1V) / 0.5A = 1.8\Omega$). It can be placed as R17 and R18 direct on display pcb. If J16 is shorted, backlight can be powered via pin 3 (VDD) and 20 (cathode LED). Life time if backlight is 100,000 hours.
- **EA W240-6K2HC** comes with CFL backlight. Display is blue with white characters (negative image). Driving the CFL backlight requires a CFL inverter like **EA CXA-E005W**. Life time of backlight depends on application with 10,000 up to 30,000 h. Current consumption is typ. 200mA@5V.
- **EA W240-6K2HLW** comes with white LED backlight. Display is blue with white characters (negative image). This kind of backlight requires max. 120mA (+25°C) at 3.0~3.6V. For operation a current source or external resistor is required. For temperatures above 25°C please consider a derating.

CONTROLLER T6963 C BUILT-IN

All modules do have a built in controller T 6963C (or compatible). It is made für direct connection to 8-Bit data bus. It features a comfortable command set. For examplpe there's a complete character set built in that can be enlarged with some new characters or even completely exchanged by a new character set. There are attributes for the character like "invers", "blink" or "invisible".

Graphic mode provides up to 4 pages in display memory (8kB). Text and graphic layers can be mixed with "and-", "or-", "exor-" function.

TOUCH PANEL

Technische Daten				
Spezifikation	min	typ	max	Einheit
On-Widerstand	300		10.000	Ω
Spannung	0,5		5	V
Schaltstrom	10u		10m	A
Betätigungskraft	150		200	g
Kontaktprellen		10		ms
Temperaturber.	-30		+75	°C
Lebensdauer	1000000			Schaltspiele

300 Ω and 10k Ω pressure and field count. Please note that there is a parasitic capacity of around 100pF between all lines and columns. Maximum driving voltage is 5V.

CONTRAST ADJUSTMENT

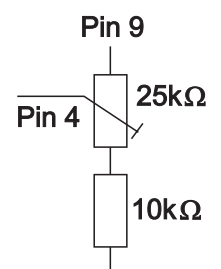
All modules do have a built in automatic contrast adjustment with temperature compensation. So there's only the need to adjust the contrast while production. Contrast will be held in optimum over the whole range of operating temperature.

PINOUT

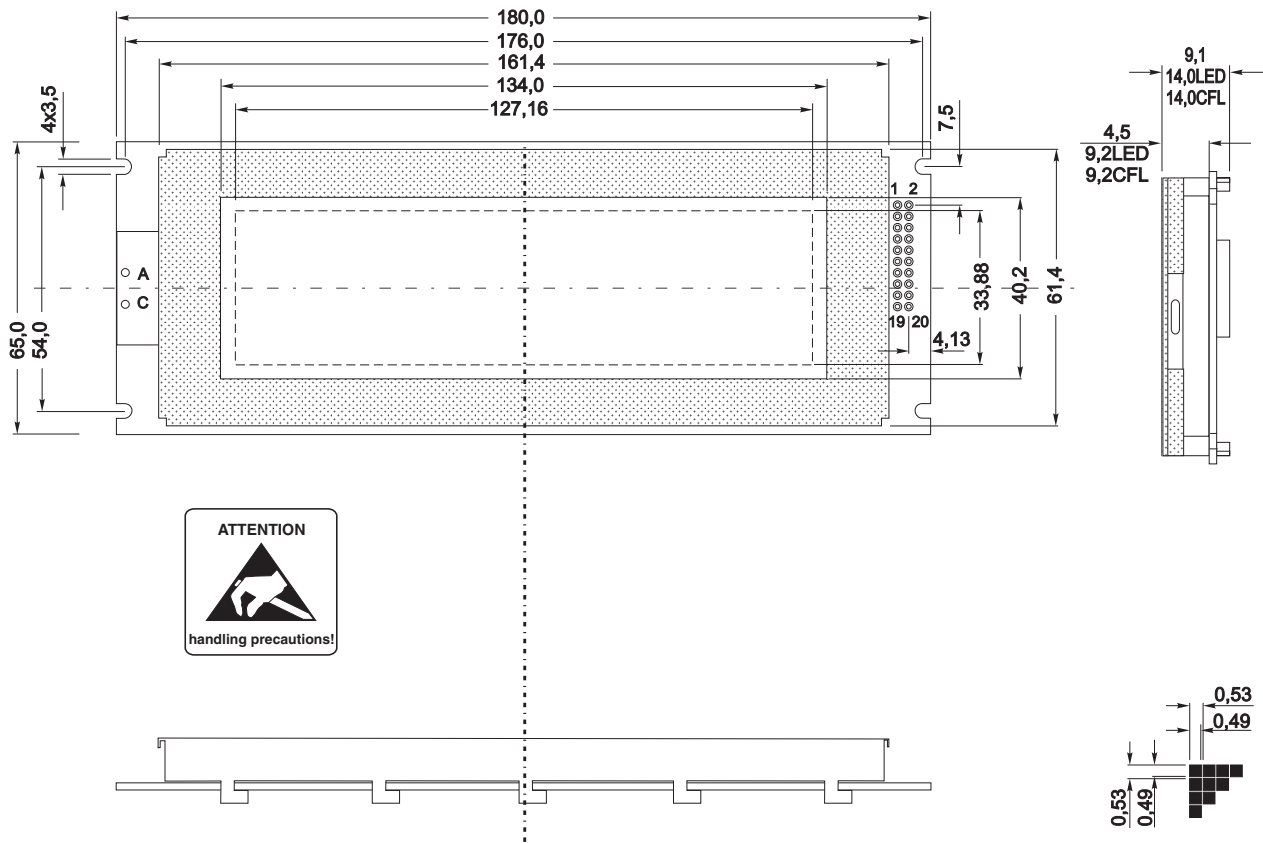
Pin	Symbol	Function
1	FG	Frame Ground
2	GND	Ground Potential for logic (0V)
3	VDD	Power supply for logic (+5V)
4	VEE	Operating voltage for LC driving (input)
5	WR	L: Data Write
6	RD	L: Data Read
7	CE	Enable signal (falling edge)
8	C/D	L: Data input H: Command input
9	VO	Output voltage for LC driving (ca. -9V)
10	RST	L: Reset
11..18	DB0..7	Data Bus Line
19	FS	Font Select L: 8x8 Font H: 6x8 Font
20	NC	not connected

All display modules are available with buitl in touch panel, too. This is a resistive matrix touch. Using thia touch can be done by finger or pen. Surface is anti-glare and hard coated. Function is like standard matrix keyboard with 12x4 keys. Touch one of these 48 areas makes a contact between a line and a column. The example below shows a touch on filed 30 which makes a contact for pin 3 and 11. Contact resistance is

Zuordnung Feld-Nr zu Pin												
Pin	16	15	14	13	12	11	10	9	8	7	6	5
1	1	2	3	4	5	6	7	8	9	10	11	12
2	13	14	15	16	17	18	19	20	21	22	23	24
3	25	26	27	28	29	30	31	32	33	34	35	36
4	37	38	39	40	41	42	43	44	45	46	47	48

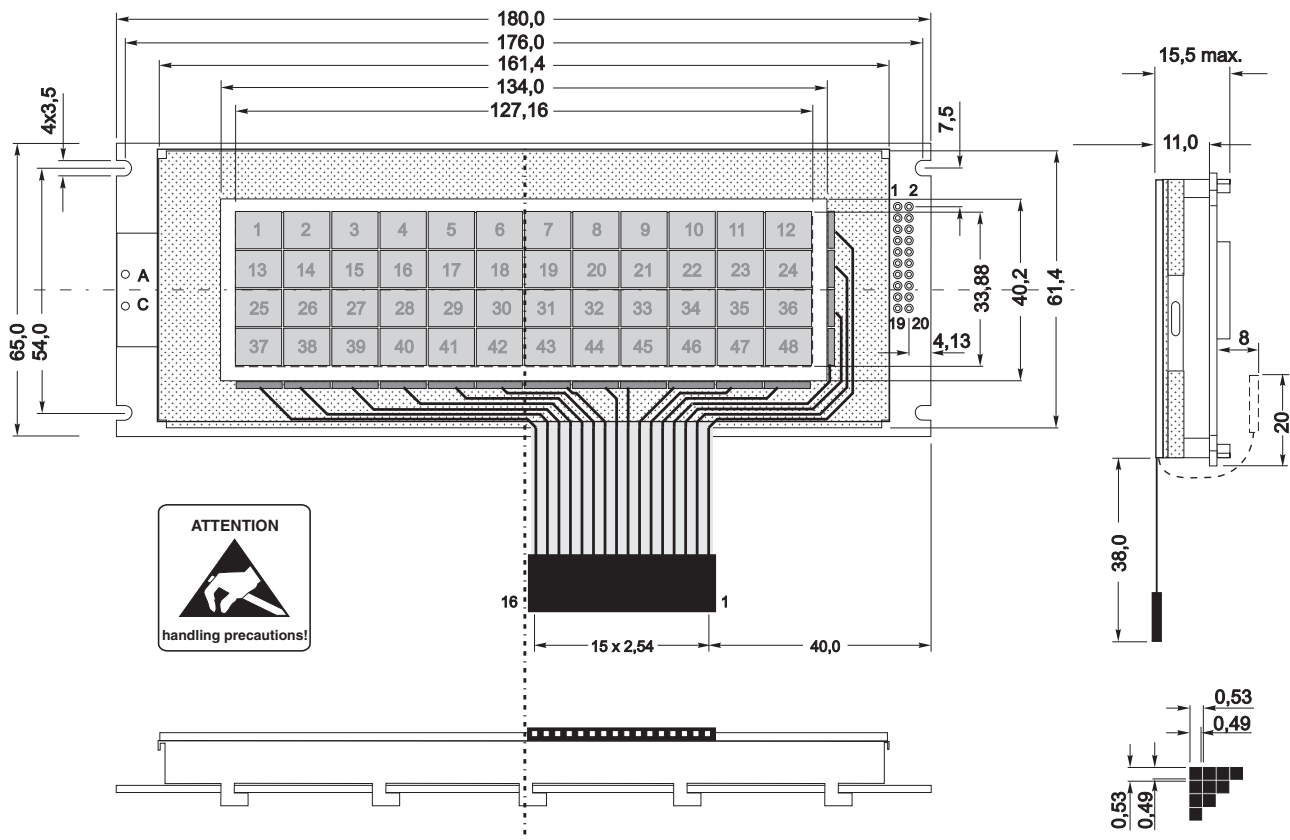


EA W240-6K2LED

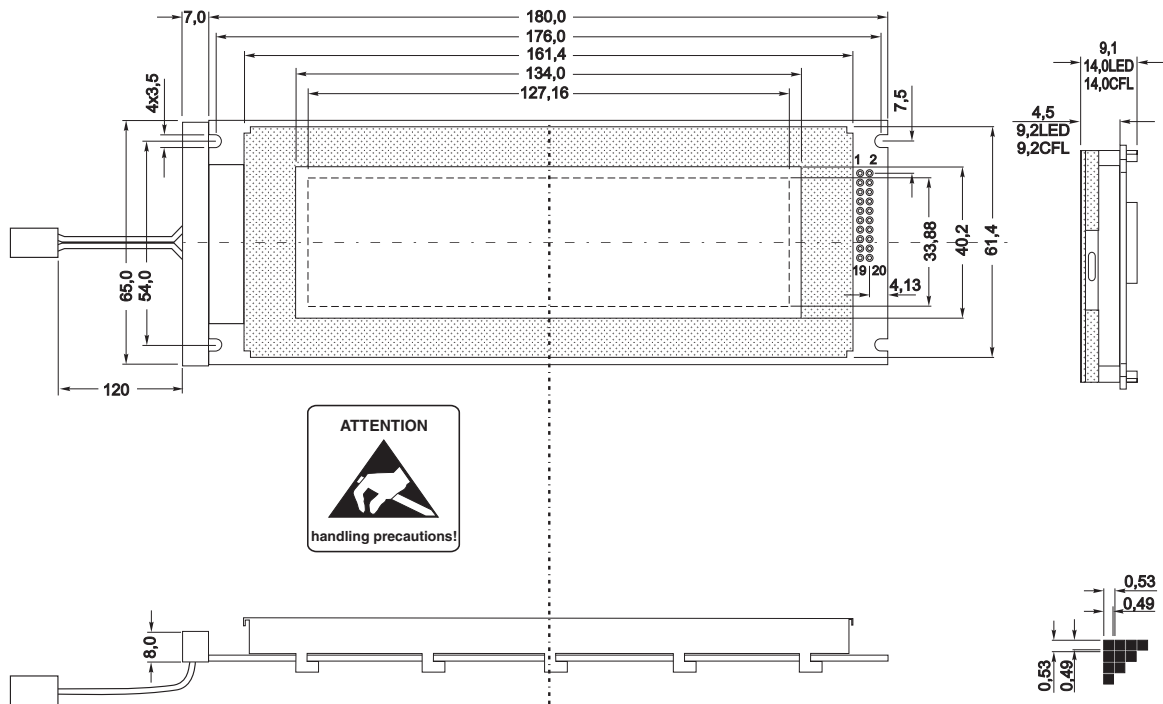


all dimensions are in mm

EA W240-6K2LEDTP with Touch Panel



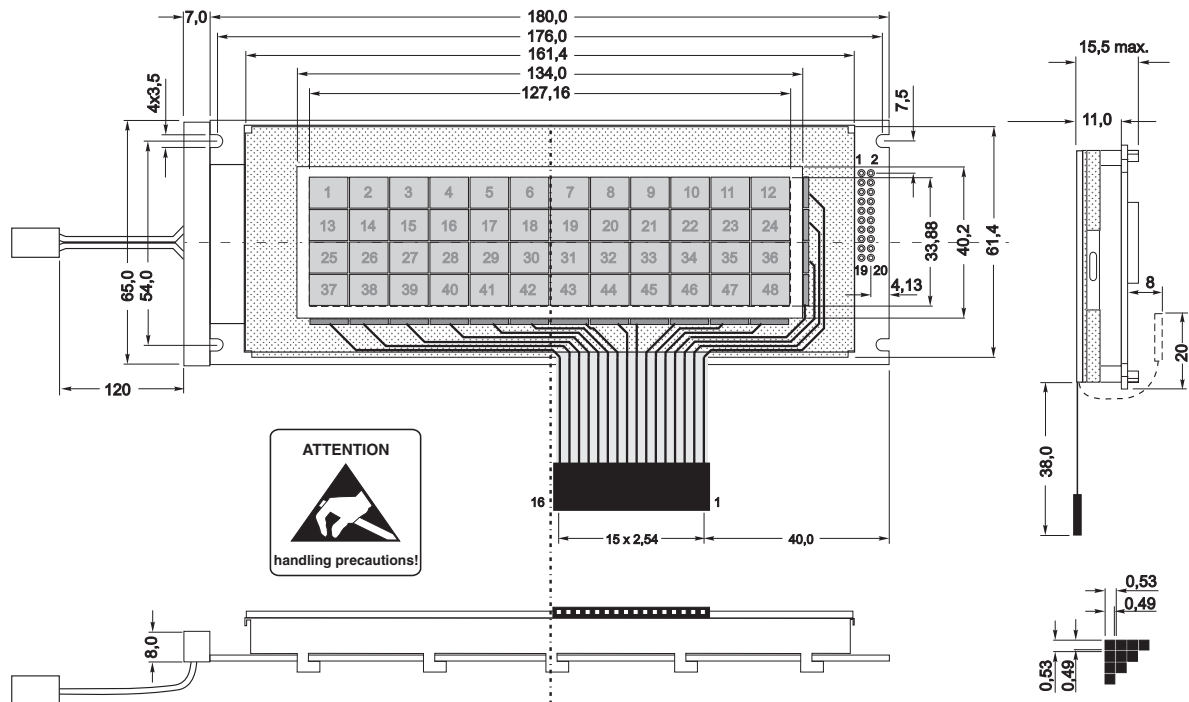
EA W240-6K2HC / -6K2HLW



red: Anode / white: Cathode

all dimensions are in mm

EA W240-6K2HCTP / -6K2HLWTP with Touch Panel



red: Anode / white: Cathode

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