

Specification

(Spezifikation)

15" Industrial – LCD - Flat Panel Display

(15,0" Industrie – LCD – Flachbildschirm)



LI 1510AU Rev. AA

Customer:	Qualification / Release confirm:	Sign:	Date:
ID #			

Content

(Inhaltsverzeichnis)

1. Revision History	2
2. General Discription	3
3. Model versions / Modellversionen	3
4. Technical Data (Technische Daten)	4
5. Signals	5
5.1 VGA Signal Input	5
5.2 DVI Signal Input.....	5
5.3 Video Signal Input.....	5
5.4 Touch Screen RS232C serial Interface (optional).....	5
6. Dimensions / Abmessungen	6
6.1 LI 1510AU-CXXV	6
6.2 LI 1510AU-FXXV	7
6.3 LI 1510AU-8XXV	8
7. Manufacturer declaration of compliance with standards and regulations	9

1. Revision History

(Änderungshinweis)

Revision	Date	Page	Discription	Seriennummer
Rev. AA	22.08.2006	All	New Release / Erstausgabe	0001
Rev. AA	16.10.2006	4	correcting No.of colors / Farbtiefe Panel berichtigt	
Rev. AA	18.10.2006	7, 8	add VESA mountings / VESA Befestigungen hinzu	

2. General Discription

The LI 1510AU is a 15,0" High Brightness Color TFT LCD-Monitor for Industrial environments with a resolution of 1024 x 768 pixels in up to 16,2 M colors.

The built in Analog to Digital converter allows the LI 1510AU to be used with VGA compatible graphic boards just like a standard CRT monitor. The display settings can be controlled via On Screen Display.

Flat housing and low power consumption allow many new applications which would not be possible with a standard CRT monitor. The display is protected either by a special protection glass or by a touch screen glass. Options like Touch screen offer maximum flexibility for all kinds of applications.

3. Model versions / Modellversionen

For all Industrial LCD-monitors of the LI 1510AU series, following Naming System is applicable.
Für alle Industriemonitore der Serie LI 1510AU gilt das nachfolgende Bezeichnungssystem:

Model / Modell: LI 1510AU -

- Display type / *Display typ*
- Display size / *Diagonale* 15 => 15,0 " / 38,1cm

Version / Ausführung:

- C Open Frame -Version (without front bezel)
- F Standard front bezel
- 8 19"-Front-Bezel (8 HE,)

- N No Display protection
- S Protective Glass
- K analog-capacitive Touch-Screen
- R analog-resistive Touch-Screen

- A AC-Input

- V VGA input (HD-Sub 15) & DVI D Single Link
- Y VGA input (HD-Sub 15) & DVI D Single Link, & SVHS,FBAS Video

Following versions are available (please call for other configurations):

Folgende Ausführungen sind lieferbar (weitere auf Anfrage):

Version	Description
LI 1510AU-CNAV	Open Frame Version, unprotected, AC-Input, VGA & DVI (as Y version with Video in)
LI 1510AU-CSAV	Open Frame Version, protective glass, AC-Input, VGA & DVI (as Y version with Video in)
LI 1510AU-CKAV	Open Frame Version, cap. Touch, AC-Input, VGA & DVI (as Y version with Video in)
LI 1510AU-CRAV	Open Frame Version, res. Touch, AC-Input, VGA & DVI (as Y version with Video in)
LI 1510AU-FSAV	Standard Front Bezel, protective glass, AC-Input, VGA & DVI (as Y version with Video in)
LI 1510AU-FKAV	Standard Front Bezel, kap. Touch Screen, AC-Input, VGA & DVI (as Y version with Video in)
LI 1510AU-FRAV	Standard Front Bezel, res. Touch Screen, AC-Input, VGA & DVI (as Y version with Video in)
LI 1510AU-8SAV	19 inch Bezel, protective glass, AC-Input, VGA & DVI (as Y version with Video in)
LI 1510AU-8KAV	19 inch Bezel, kap. Touch Screen, AC-Input, VGA & DVI (as Y version with Video in)
LI 1510AU-8RAV	19 inch Bezel, res. Touch Screen, AC-Input, VGA & DVI (as Y version with Video in)

4. Technical Data* (*Technische Daten**)

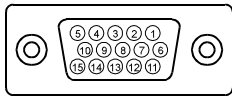
Modul Typ. / <i>Modul Art</i>	AU Optronics Color Active Dot Matrix TFT Module	
Display Size / <i>Displaygröße</i>	15" / 38,1 cm	
Active Area <i>Bildgröße</i>	Horizontal	304,1 mm
	Vertikal	228,1 mm
Resolution / <i>Auflösung</i>	1024 x 768	
Input RGB Signal <i>Eingangssignal</i>	RGB - Video: Analog 0,7 V _{SS} Separate Sync. / Composite Sync. / Sync. on green Digital DVI-D single link TMDS	
Input Video	SVHS / FBAS, PAL, NTSC, SECAM	
Contrast Ratio / <i>Kontrastverhältnis</i>	500 : 1 typ.	
Backlight <i>Hintergrundbeleuchtung</i>	4 CCFLs 4 Kaltkathodenlampen,	
Brightness / <i>Helligkeit</i>	LCD-Module: 550cd/m ² (typ. without Touch / <i>typ. ohne Touch</i>)	
Response Time / <i>Ansprechzeit</i>	16 ms typ.	
Viewing Angle <i>Betrachtungswinkel</i>	Horizontal	+ 70° / - 70° typ.
	Vertical	+ 70° / - 50° typ.
Color Pixel Arrangement <i>Farb Pixel Anordnung</i>	RGB vertical stripes	
Pixel Pitch / <i>Pixel Größe</i>	0,297 (0,099 x 3) x 0,297 mm	
Number of Colors / <i>Farbtiefe</i>	16,2 Mio.	(6 bits + FRC per RGB sub pixel)
Power Supply / <i>Netzteil</i>	100 – 240 V AC Input - Voltage 50 / 60 Hz	
Consumption / <i>Stromverbrauch</i>	max. 35 W	
Chassis Dimensions <i>Chassis-Abmessungen</i>	393 x 306,5 x 66 mm	(W x H x D without front bezel) (B x H x T ohne Frontplatte)
Weight / <i>Gewicht</i>	approx. 5,5 kg with front bezel / <i>ca. 5,5 kg mit Frontplatte</i>	
Vibration tested / <i>getestet</i>	MIL-STD-810E Method 514.4 Category I (1 Grms, 10-500Hz) each Direction / <i>je Richtung X, Y, Z</i>	
Shock tested / <i>Schock getestet</i> each Direction	MIL-STD-810E Method 516.4 (40 Grms) <i>je Richtung X, Y, Z</i>	
Temperature range <i>Temperaturbereich</i>	Operating / <i>Betrieb</i>	0° - + 40° C
	Storage / <i>Lagerung</i>	- 10° - + 60° C
Humidity / <i>Luftfeuchtigkeit</i>	20 - 85 % non condensing / <i>nicht kondensierend</i> (≤ 40°C)	

* After 30 minutes warm-up time / *nach 30 Minuten Aufwärmzeit*

5. Signals

5.1 VGA Signal Input

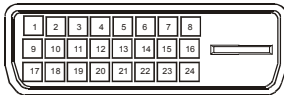
VGA Standard D-SUB 15-pol. HD (female / Buchse)



Pin - #	Signal (Analog)	Pin - #	Signal (Analog)
1	Red	9	–
2	Green	10	Digital Ground
3	Blue	11	–
4	–	12	DDC serial Data
5	Digital Ground	13	Horizontal-Sync.
6	Red-Ground	14	Vertical-Sync.
7	Green-Ground	15	DDC serial Clock
8	Blue-Ground		

5.2 DVI Signal Input

24 Pin DVI connector, single Link TDMS



5.3 Video Signal Input

FBAS

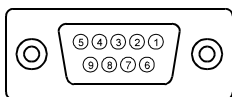


SVHS



5.4 Touch Screen RS232C serial Interface (optional)

Standard D-SUB 9-pol. (female / Buchse)



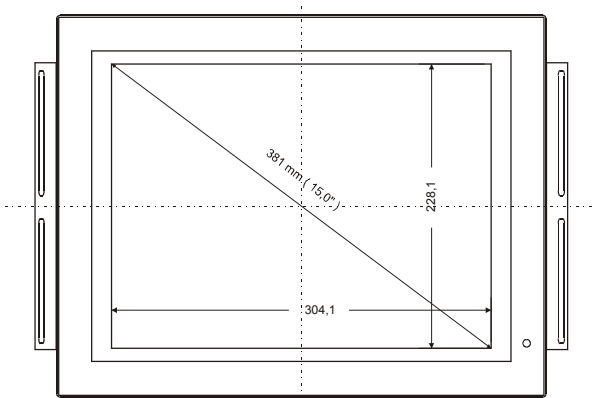
Pin - #	Signal	Pin - #	Signal
1	–	6	–
2	RxD	7	–
3	TxD	8	–
4	–	9	–
5	Ground		

Use 1:1 cable to connect to the PC

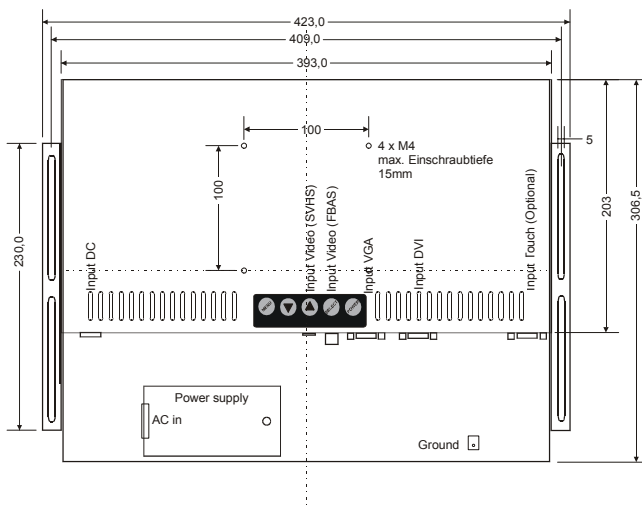
6. Dimensions / Abmessungen

6.1 LI 1510AU-CXXV

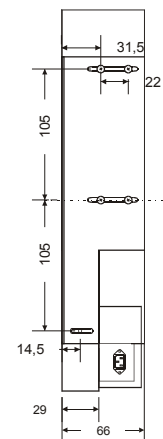
Frontview / Vorderansicht



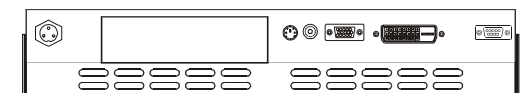
Rearview / Rückansicht



Sideview / Seitenansicht



Bottomview / Unteransicht

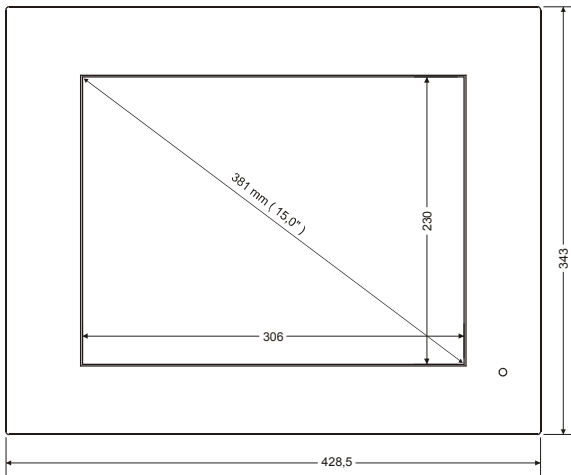


Dimensions in mm
Abmessungen in mm

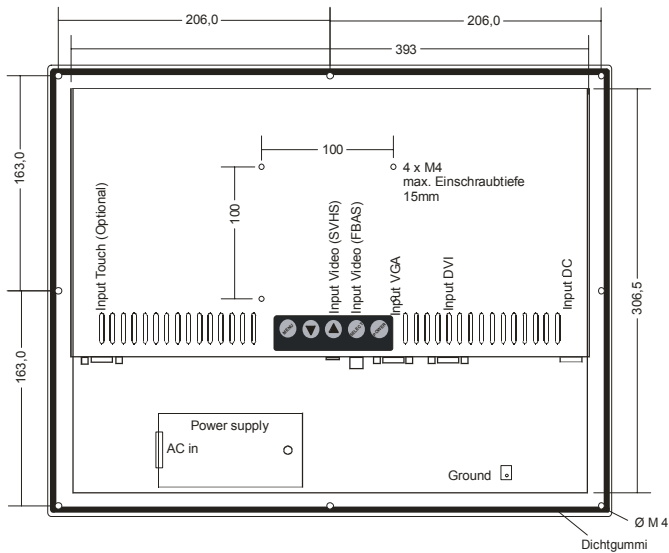
Tolerance/ Toleranz
Nach DIN 2768 mittel

6.2 LI 1510AU-FXXV

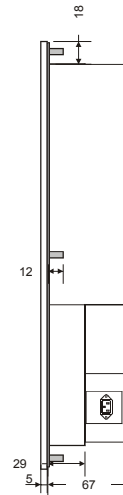
Frontview / Vorderansicht



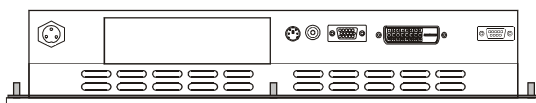
Rearview / Rückansicht



Sideview / Seitenansicht



Bottomview / Unteransicht

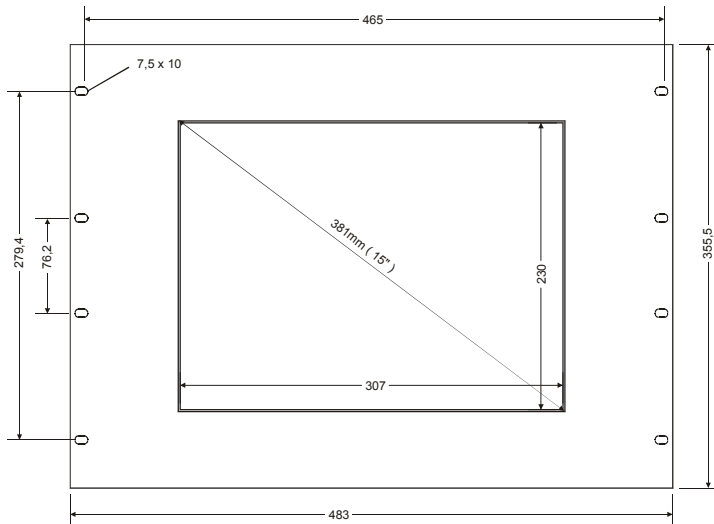


Dimensions in mm
Abmessungen in mm

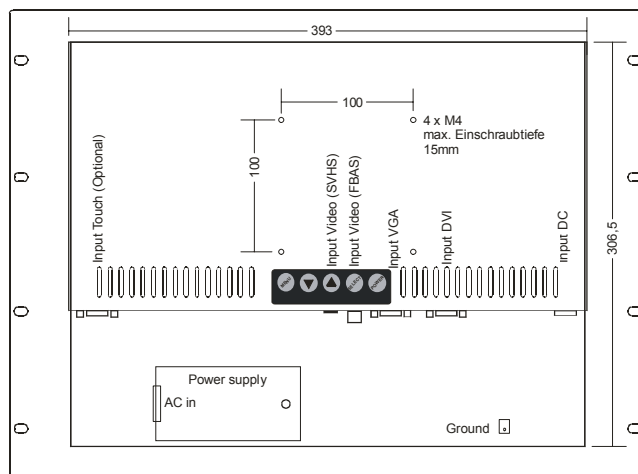
Tolerance/ Toleranz
Nach DIN 2768 mittel

6.3 LI 1510AU-8XXV

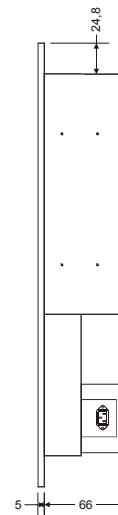
Frontview / Vorderansicht



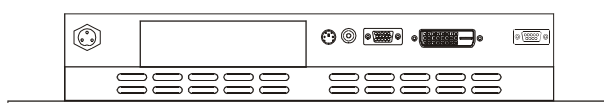
Rearview / Rückansicht



Sideview / Seitenansicht



Bottomview / Unteransicht



Dimensions in mm
Abmessungen in mm

Tolerance/ Toleranz
Nach DIN 2768 mittel

7. Manufacturer declaration of compliance with standards and regulations

Herstellereklärung zur Einhaltung von Normen und Richtlinien

Certificate that the industrial monitors **LI 1510AU** is developed, manufactured and tested according to the following guidelines, which are fixed by the council of the European Community:

*Bescheinigung, daß die Industriemonitore **LI 1510AU** den folgenden Richtlinien und Normen, die vom Rat der Europäischen Gemeinschaft festgelegt wurden, entwickelt, gefertigt und getestet wurden:*

89/336/EWG Electromagnetic Compatibility / Elektromagnetische Verträglichkeit

EN 61000-6-3 EMC - Emission (Residential areas)

EMV - Störaussendung (Wohnbereich)

- EN 55022 B Interference Voltage / *Störspannung* (150kHz - 30Mhz)
Interference Radiation / *Störfeldstärke* (30MHz - 1Ghz)

EN 61000-6-2 EMC - Immunity (Industrial areas)

EMV-Störfestigkeit (Industriebereich)

- EN 61000-4-2 ESD / *elektrostatische Entladungen*
- EN 61000-4-3 em-Field / *HF-Feld* [80 - 1000Mhz], [900MHz]
- EN 61000-4-4 Burst / *schnelle Transienten*
- EN 61000-4-5 Surge / *energiereiche Transienten*
- EN 61000-4-6 conducted RF-Field / *leitungsgebundenes HF-Feld*
- EN 61000-4-11 Power variations / *Netzschwankung*

EMC-Tests have been carried out using standard cables with cable lengths of up to 2,5 meters. If longer cables are used, additional tests might be necessary to prove compliance with the EMC-directive.

EMV-Tests wurden mit Standardkabeln mit Leitungslängen bis 2,5 Meter durchgeführt. Werden längere Kabel verwendet, dann sind eventuell weitergehende Tests erforderlich um die Konformität mit der EMV-Richtlinie nachweisen zu können.

73/23/EWG (Low voltage directive / Niederspannungsrichtlinie)

EN 60950-1:2001 Electrical safety / *Elektrische Sicherheit*

93/68/EWG (CE marking / CE-Kennzeichnung)

