FUTUREDESIGN
CONTROLS

FDC 450_730_1050_1550
4.3", 7", 10", 15"
HMI Hardware Manual

TABLE OF CONTENTS

GRAPHIC SYMBOLS

INFORMATION, Helps users with more details about the topic and failure to follow may lead to unpredictable results.

WARNING, Failure to follow may lead to minor injury or damage / malfunctioning of equipment

DANGER, Failure to follow may lead to injury or fatal accident to operating personal or damage/malfunctioning of equipment

CAUTION, Failure to follow may lead to malfunctioning of equipment, damage or repair

Protective Earth

DC Supply

PREFACE

Original equipment manufacturer reserves the right to change information available in this document without notice. Manufacturer is not liable for any damages incurred to equipment/personal during installation or use of equipment as explained in this document. User must acquire sufficient knowledge & skills prior to use the equipment in the application and follow all the local standards & regulations to meet safety requirements

WinCE ® is registered trade mark of Microsoft Corporation

Symbol Factory ® is registered trade mark of Software tool box

1. General

1.1 Instructions

Read Installation and Operation manuals carefully before installation, repairs, or commissioning of the equipment

Follow all local standards/regulations for using electrical power supply, connection to the equipment, grounding, shielding during installation and commissioning.

Obtain sufficient skills and training before using the equipment.

If any damages are observed in transportation, inform (to) the supplier with supporting information including product details and photographs.

General Precautions

Use Restriction

These products are not authorized for use in life supporting systems, aircraft navigation control systems, military systems and any other application where performance failure could be life threatening or otherwise catastrophic.

Disassembling or Modification

Do not disassemble or modify LCD module. It may damage sensitive parts inside LCD module and may cause scratches of dust on display. Manufacturer does not warrant the module if customers disassemble or modify LCD module.

Breakage of LCD display

If LCD display is broken and liquid crystal spills out, do not ingest or inhale liquid crystal and do not allow skin to come in contact with the liquid crystal.

If liquid crystal comes in contact mouth or eyes, rinse out with water immediately.

If liquid crystal comes in contact with skin or clothes, wash it off immediately with alcohol and rinse thoroughly with water.

Use caution when handling and broken pieces of glass as it may cause injury.

Absolute ratings

⚠ Do not exceed the absolute maximum rating values such as supply voltage, environment temperature etc; otherwise the LCD module may be damaged.

Please do not leave the LCD module in an environment of high humidity and high temperature for long periods of time.

It is recommended to employ protection circuit for power supply.

Operation

◇ Do not touch, push or rub the LCD display surface with anything harder than HB pencil lead.

Use fingertips of soft gloves when handling the LCD module in order to keep clean display quality.

When LCD display surface is dusty, wipe gently with an absorbent cotton cloth or other soft material.

Wipe off saliva or water drops as soon as possible. If saliva or water drops remain in contact with the polarizer for an extended period of time, it may cause deformation or color fading.

When cleaning off adhesives, please use absorbent cotton cloth wetted with a little petroleum benzene or other adequate solvent.

Static Electricity

⚠ Protection film must remove very slowly from the surface of the LCD module to prevent electrostatic discharge. Persons that handle the LCD display should be grounded through adequate methods.

Strong light exposure

◇ The LCD display shall be not exposed to strong light such as direct sunlight. LCD display characteristics may be changed.

Disposal

⚠ When disposing of the LCD module, obey the local environmental regulations.

1.2 Standards, Certificates and Approvals

The table below shows the approvals that may be available.

Description	Details
UL approval	UL 508 and CSA C22.2 No.142
Low Voltage Directive	2006/95/EC
EMC Directive	2004/108/EC
Requirements for Emission	EN 61000-6-4 :2007
Requirements for Interference Immunity	EN 61000-6-2 :2005
Tick mark for Australia	AS/NZS CISPR 11:2004
FCC	FCC Part 15, Subpart B, Class A

1.3 Base Standards for EMC & Safety

Description	Details
Electrostatic discharge	IEC 61000-4-2: 2008
Radiated radio-frequency electromagnetic fields	IEC 61000-4-3: 2006 + A1:2007 + A2:2010
Electrical fast transient/burst	IEC 61000-4-4: 2004 + A1: 2010
Surge	IEC 61000-4-5: 2005
Conducted disturbances induced by radio-frequency fields	IEC 61000-4-6: 2008
Power frequency magnetic field	IEC 61000-4-8: 2009
Voltage dips, short interruptions and voltage variations	IEC 61000-4-11: 2004
Emission from Electromagnetic fields	CISPR 11:2009 + A1:2010 Class A
Harmonics Current	IEC61000-3-2:2005 + A1:2008 + A2:2009
Voltage Fluctuation and Flicks	IEC61000-3-3:2008
Requirements for Safety	EN61010-1:2001

1.4 Protective class

Description	Details
Standard enclosures	IP 65 (Front), IP20 housing and terminals
Stainless steel front – Option	IP 66K (Front), IP20 housing and terminals

1.5 Transport & Storage conditions

The following specifications apply

Description	Details
Drop with packing conforming to IEC 60068-2-31	10 drops from 60cm on 1 corner, 3 edges, 6 surfaces
Drop without packing	Nil
Temperature	-20 ^{0}C to + 60 ^{0}C
Relative Humidity	10% to 90%, no condensation
Altitude	2000 meters maximum
Sinusoidal vibration conforming to IEC 60068-2-6	5 to 16.8 Hz: 3.5 mm amplitude 16.8 to 150 Hz: 2g 1oct/min. 40 sweeps
Shock conforming to IEC 60068-2-29	3 shocks per direction 11ms 15g

Best conditions for storage of LCD display modules

1. Room ambient temperature 15 ^{0} to 35 ^{0}C and 65% RH or less.
2. Do not store in environments containing organic solvent or corrosive gas.
3. Store HMI in anti-electrostatic container or bag.

1.6 Operating conditions

Description	Details
Temperature	0 ^{0}C to + 50 ^{0}C
Relative Humidity	10% to 90%, no condensation
Altitude	2000 meters maximum
Pollution	Degree 2
Sinusoidal vibration conforming to IEC 60068-2-6	10 to 25.7 Hz: 0.75mm amplitude 25.7 to 150Hz: 1g 1oct/min. 10 sweeps
Shock conforming to IEC 60068-2-29	3 shocks per direction 11ms 10g

In the case of temperatures below 0 ^{O}C, the response time of the LCD becomes slower and color of the display will be darker than normal. Do not operate HMI in ambient temperature less than 0 ^{O}C.

1.7 LCD specifications

Description	Details
Touch operations	1,000,000 times using R 0.8 Polyacetal stylus with force 250g
Vibration test	10-55 Hz, Stroke: 1.5mm, 2 hrs. for each direction of X, Y, Z
Shock test	100 G, 6 ms, +/- X, +/- Y, +/- Z, 3 times for each direction
Package vibration test	0.015G*G/Hz from 5-200 Hz, -6bB /Octave from 200-500 Hz, 2 hrs for each direction of X, Y, Z
Package drop test	10 drops from 60 cm on 1 corner, 3 edges, 6 surfaces

Typical View Angle

Model	FDC450 4.3"	FDC730 7"	FDC1050 10"	FDC1550 15"
Vertical (Up/Down)	$50^{o}/70^{o}$	$50^{o}/70^{o}$	$60^{o}/70^{o}$	$80^{o}/80^{o}$
Horizontal (Left/Right)	$70^{o}/70^{o}$	$70^{o}/70^{o}$	$75^{o}/75^{o}$	$85^{o}/85^{o}$

1.8 Package check list

Description	Details
HMI device	
Power supply Connector	
Mounting kit	

2. Products Overview

Four HMI models FDC450 - 4.3", FDC730 - 7", FDC1050 - 10" & FDC1550 -15" are available.
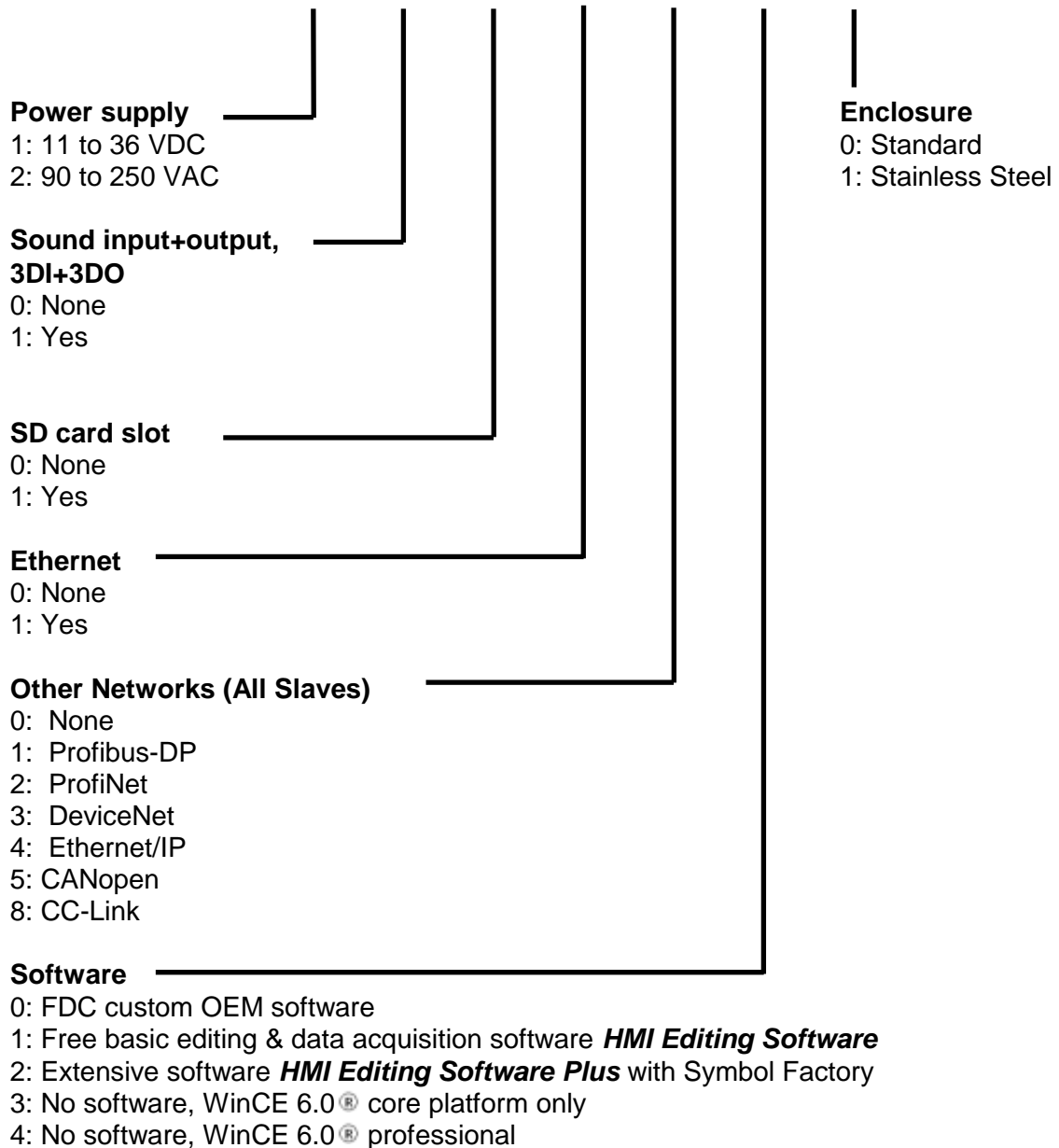
2.1.1 Technical Specifications

Model	FDC450 4.3"	FDC730 7"	FDC1050 10"	FDC1550 15"
Size	4.3"	7"	10"	15"
Resolution (W X H in pixels)	480 x 272	800 x 480	1024 x 768	1024 x 768
Display type	TFT, wide touch screen	TFT, wide touch screen	TFT touch screen	TFT touch screen
Colors	65,536	65,536	65,536	65,536
Touch screen type	Resistive analog	Resistive analog	Resistive analog	Resistive analog
Active display area (W X H mm)	95 X 54	152 X 91	203 X 152	304 X 228
Display position	Both horizontal & vertical	Both horizontal & vertical	Both horizontal & vertical	Both horizontal & vertical
MTBF back light at 25^{0}C	30,000 hrs	50,000 hrs	50,000 hrs	50,000 hrs
Backlight	LED	LED	LED	CCFL
Brightness adjustment	Yes	Yes	Yes	Yes
Screen saver	Yes	Yes	Yes	Yes
Language fonts	Yes	Yes	Yes	Yes
Main Hardware				
Processor, CPU speed	ARM Cortex-A8, 667Mhz	ARM Cortex-A8, 1GHz	ARM Cortex-A8, 1GHZ	ARM Cortex-A8, 1GHz
Flash Memory (ROM)	128 MB	128 MB	128 MB	128 MB
SDRAM (RAM)	256 MB	256 MB	256 MB	256 MB
Operating system	WinCE 6.0	WinCE 6.0	WinCE 6.0	WinCE 6.0
Real Time Clock	Yes	Yes	Yes	Yes
Buzzer	Yes	Yes	Yes	Yes
Sound output	N.A	Option	Option	Option
SD card slot	Option	Yes	Yes	Yes
Communication ports/Interfaces				
RS232C, DB9 male	1	1	1	1
RS232C/ RS422/ RS485, DB25 female	1	1	1	1
Ethernet 10/100 Mbps, RJ45	Option	1	2	2
USB host	1	1	1	1

Model	FDC450 4.3"	FDC730 7"	FDC1050 10"	FDC1550 15"
Other networks (Slave)				
PROFIBUS-DP, PROFINET IO	Option	Option	Option	Option
DeviceNet, EtherNet/IP	Option	Option	Option	Option
CANopen	Option	Option	Option	Option
General specifications				
Rated voltage	24 VDC	24 VDC, 110/220 VAC	24 VDC, 110/220VAC	24 VDC, 110/220VAC
Power supply	11-36 VDC	11-36 VDC, 90-250 VAC	11-36 VDC, 90-250 VAC	11-36 VDC, 90-250 VAC
Rated current	0.91A (DC)	1.18 A(DC), 0.29A(AC)	1.36A (DC), 0.33A(AC)	2.46A(DC), 0.6A(AC)
Power Consumption (without sound output)	10 W	13W	15W	27W
Power on LED indicator	Yes	Yes	Yes	Yes
Outer dimensions (W X H X D mm)	140 X 116 X 57	212 X 156 X 57	325 X 263 X 56	400 X 310 X 56
Mounting depth (mm)	51	51	50	50
Panel cut (W X H mm)	123^{+1} X 99^{+1}	197^{+1} X 141^{+1}	310^{+1} X 248^{+1}	367^{+1} X 289^{+1}
Protection	IP65 front, IP20 rear	IP65 front, IP20 rear	IP65 front, IP20 rear	IP65 front, IP20 rear
Front bezel, housing	Plastic, plastic	Aluminum, plastic	Aluminum, metal	Aluminum, metal
Stainless steel front bezel (Option)	N.A	Option, IP66K	Option, IP66K	Option, IP66K
Installation	Panel mount	Panel mount	Panel mount	Panel mount
Net Weight (Kg)	0.5	1.4	3.6	5.1

3. Ordering Code

3.1 HMI ordering code

4.3" FDC450	**1**	**0**	☐	☐	☐	☐	**0**
7" FDC730	☐	☐	**1**	**1**	☐	☐	☐
10" FDC1050	☐	☐	**1**	**1**	☐	☐	☐
15" FDC1550	☐	☐	**1**	**1**	☐	☐	☐

Power supply
1: 11 to 36 VDC
2: 90 to 250 VAC

**Sound input+output,
3DI+3DO**
0: None
1: Yes

SD card slot
0: None
1: Yes

Ethernet
0: None
1: Yes

Other Networks (All Slaves)
0: None
1: Profibus-DP
2: ProfiNet
3: DeviceNet
4: Ethernet/IP
5: CANopen
8: CC-Link

Software
0: FDC custom OEM software
1: Free basic editing & data acquisition software *HMI Editing Software*
2: Extensive software *HMI Editing Software Plus* with Symbol Factory
3: No software, WinCE 6.0® core platform only
4: No software, WinCE 6.0® professional

Enclosure
0: Standard
1: Stainless Steel

3.2 HMI Spares part list

3.2.1 FDC450 - 4.3"

Part Number	Part number
Main Board	HMA045
IO Board	HIO045
LCD Display Module	321MODU-LM0451-A0
Power Fuse 4 Amp (DC power)	10350-15402-01-00
DC power plug	10343-11027-00-00

3.2.2 FDC730 - 7"

Part Number	Part number
Main Board	HMA075
IO Board	HIO075
Sound Board	323PACK-SB0751-AO
90-250VAC power board	HPM751
11-36VDC power board	HPM752
LCD Display Module	323MODU-LM0751-A0
Power Fuse 4 Amp (DC power)	10350-15402-01-00
Resistor 2.4/1w (AC power)	10301-42409-55-00
DC power plug	10343-1103A-00-00
AC power plug	10343-1103A-01-00
DI/DO plug	10343-1208B-00-00

3.2.3 FDC1050 - 10"

Part Number	Part number
Main Board	HMA105
Display Board	HDP105
Connection Board	HCB105
Sound Board	324PACK-SB1051-AO
90-250VAC power board	HPM751
11-36VDC power board	HPM752
LCD Display Module	324MODU-LM1051-A0
Power Fuse 4 Amp (DC power)	10350-15402-01-00
Resistor 2.4/1w (AC power)	10301-42409-55-00
DC power plug	10343-1103A-00-00
AC power plug	10343-1103A-01-00
DI/DO plug	10343-1208B-00-00

3.2.4 FDC1550 - 15"

Part Number	Part number
Main Board	HMA155
Backlight Board	HBL155
Sound Board	325PACK-SB1551-AO
90-250VAC power board	HPM751
11-36VDC power board	HPM754
LCD Display Module	325MODU-LM1551-A0
Power Fuse 6.3 Amp (AC power)	10350-15632-01-00
Resistor 2.4/1w (AC power)	10301-42409-55-00
DC power plug	10343-1103A-00-00
AC power plug	10343-1103A-01-00
DI/DO plug	10343-1208B-00-00

It is possible to change power supply from AC to DC and vice versa (Except HMI 450 - 4.3") by replacing power supply board. After replacing power board, the label for marking power input range located on the enclosure has to be changed.

3.3 Network option module part numbers

Option card	Part number
Profibus DP	Hnet-1
ProfiNet	Hnet-2
DeviceNet	Hnet-3
Ethernet/IP	Hnet-4
CANopen	Hnet-5
CC-Link	Hnet-8

Table: Part number for network option modules.

3.4 Accessories part numbers

Part Number	Description
WPG045	Gasket for FDC430-4.3" (For dust and Moisture protection)
WPG073	Gasket for FDC730-7" (For dust and Moisture protection)
WPG105	Gasket for FDC1050-10" (For dust and Moisture protection)
WPG155	Gasket for FDC1550-15" (For dust and Moisture protection)
HMB045	HMI Mounting Brackets (Metal Enclosures)
HMB073	HMI Mounting Brackets (Plastic Enclosures)

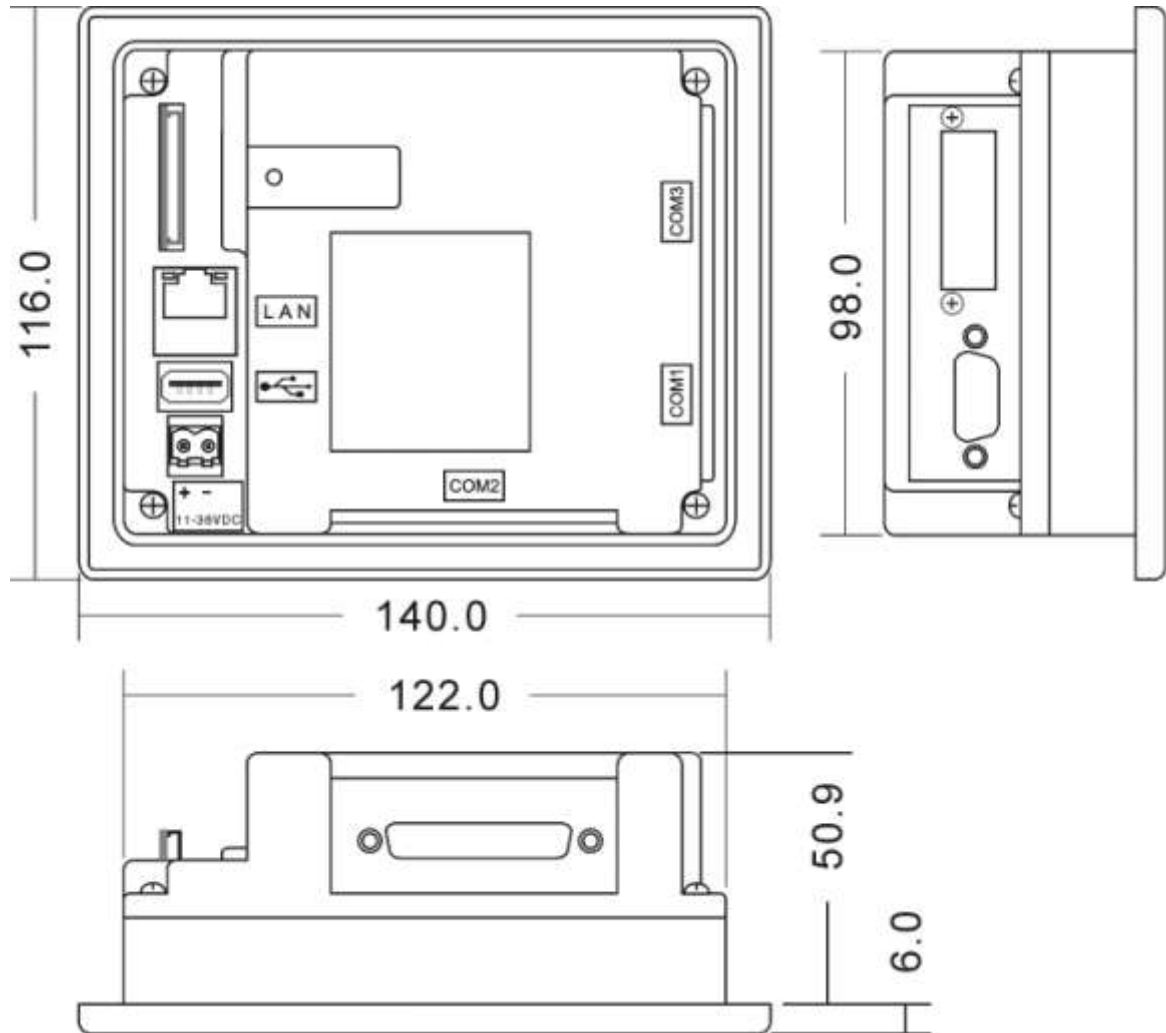# 4. Installation

4.1 Installation

⚠ Stainless steel front HMI has sharp edges and more weight. Care should be taken while inserting HMI into enclosure/panels using proper hand protection (gloves). Improper handing may cause injury during installation of HMI into enclosure/panels.

Guidelines

1. The HMI is intended for indoor use and not in any hazardous area.

2. HMI device should be installed in suitable enclosure/panels/cabinets/housings.

3. Avoid facing of HMI screen directly exposed to sun light.

4. Avoid installation in high vibration area/ moving parts.

5. Avoid installation near to high radiation/noise emitting devices like motors, transformers, variable frequency drives, inverters, UPS, cellular towers etc.

6. Avoid installation in areas where there is the presence of vapors, gases, oils, lubricants, chemicals etc.

7. Install HMI at suitable height and location which is easy accessible to operators.

8. When HMI is installed inside main panel, make sure that proper vents are available for the main panel, ambient temperature inside the panel is not exceeded beyond HMI specifications, operator is alerted in case of exceeding temperature limits.

9. When HMI is installed on panel front door, check depth of the HMI and make sure that there is enough clearance available inside the panel after closing the main panel door.

10. A sufficient panel gage should be used in the main panel to firmly install HMI. Take care when using stainless steel fronts as weight is heavy compared with alloy or plastic fronts. Use rubber gaskets properly to achieve degree of Ingress Protection.

11. Use panel cut out as specified and firmly attach all mounting clips.

12. Maintain proper clearances around the HMI panel approx. 50 mm on all directions to make sure that it is easy to remove HMI for maintenance purpose and temperature dissipates by natural air cooling method.

13. Use proper line protections in power supply line via fuses, circuit breakers etc.

14. Connect earth properly to the HMI enclosures/panels/cabinets/housings.

15. Use proper cables, connect to ground properly before connecting power supply to HMI

16. Thoroughly check voltage levels accepted by HMI, measure voltage levels with a multimeter before connecting them with HMI.

17. While using HMI with stainless steel front for wash down applications, make sure that panels/enclosures/cabinets/housings are perfectly closed to avoid water entry inside panels causing damages to the equipment and injury to operating personal.

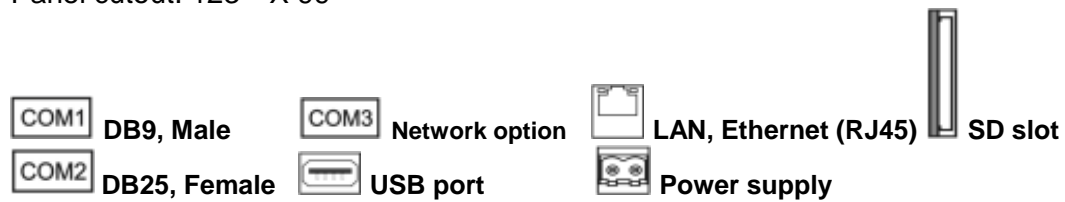18. Improper installation voids warranty.

4.2 Dimensional drawings
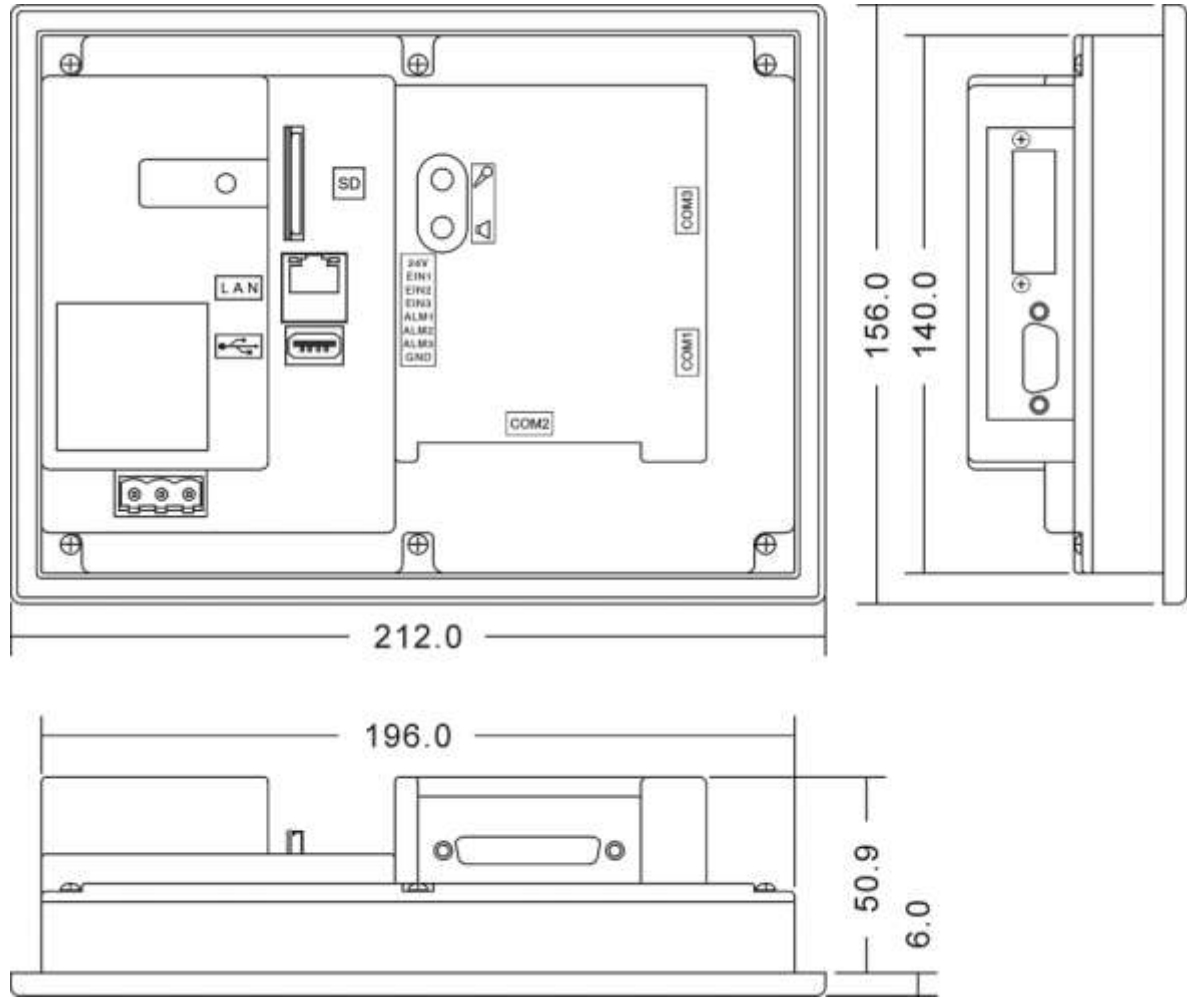
4.2.1 Dimensional drawings of the FDC450 - 4.3"

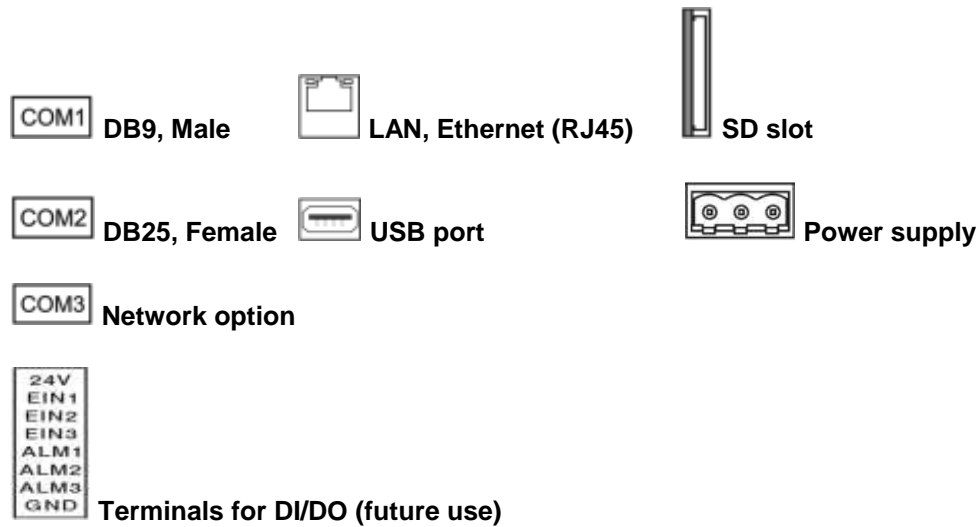Note: All dimensions are in mm. Tolerance +/- 1 mm.

Panel cutout: 123^{+1} X 99^{+1}

| COM1 | **DB9, Male** | COM3 | **Network option** | **LAN, Ethernet (RJ45)** | **SD slot** |
| COM2 | **DB25, Female** | | **USB port** | **Power supply** | |

4.2.2 Dimensional drawings of the FDC730 - 7"

Note: All dimensions are in mm. Tolerance +/- 1 mm

Panel cutout: 197^{+1} X 141^{+1}

COM1 **DB9, Male**	**LAN, Ethernet (RJ45)**		**SD slot**
COM2 **DB25, Female**	**USB port**		**Power supply**
COM3 **Network option**			

24V
EIN1
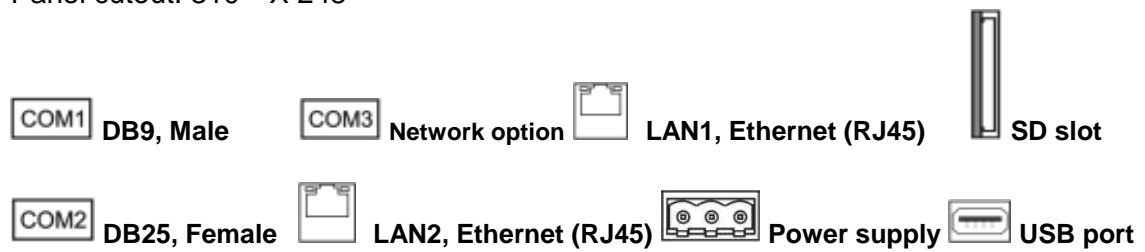EIN2
EIN3
ALM1
ALM2
ALM3
GND **Terminals for DI/DO (future use)**

16

4.2.3 Dimensional drawings of the FDC1050 - 10"
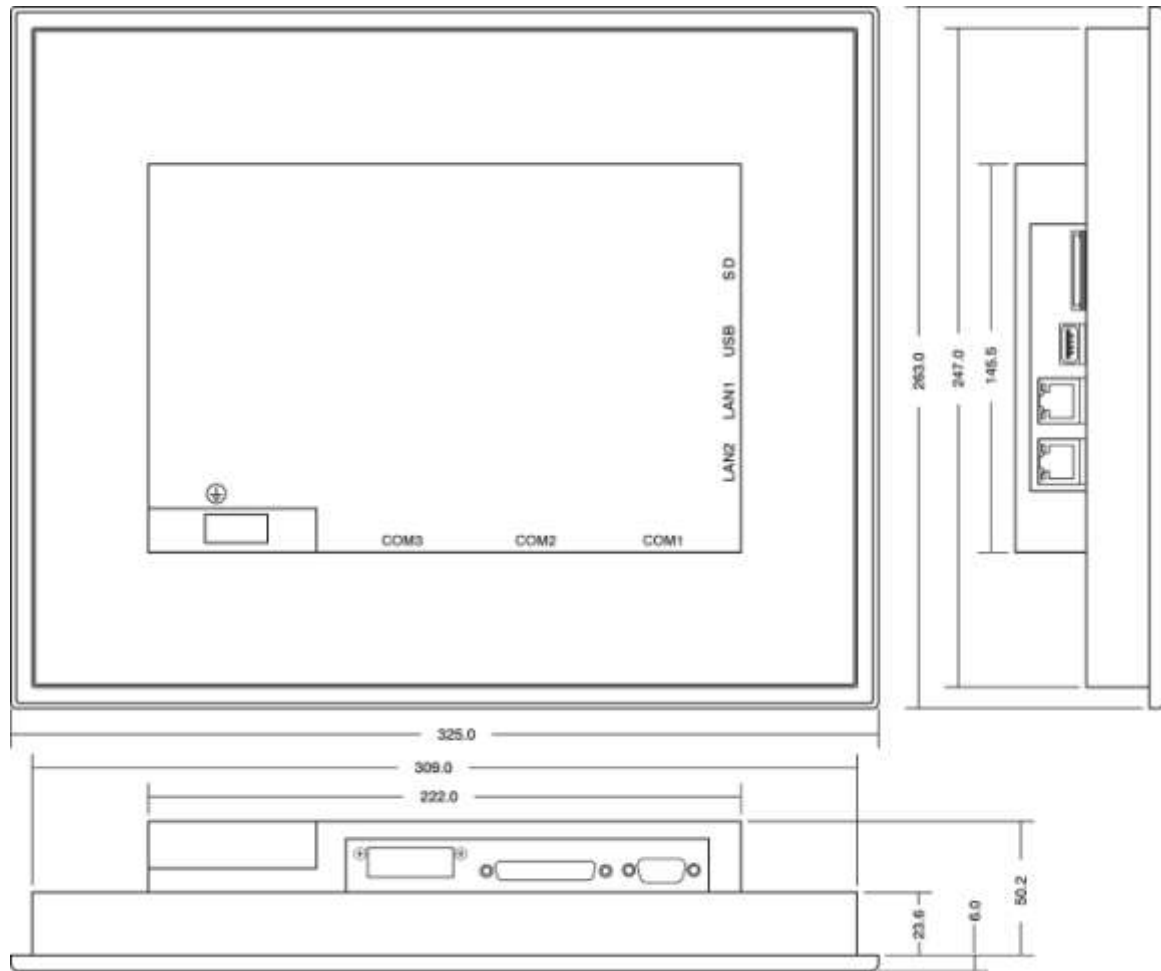
Note: All dimensions are in mm. Tolerance +/- 1 mm

Panel cutout: 310^{+1} X 248^{+1}

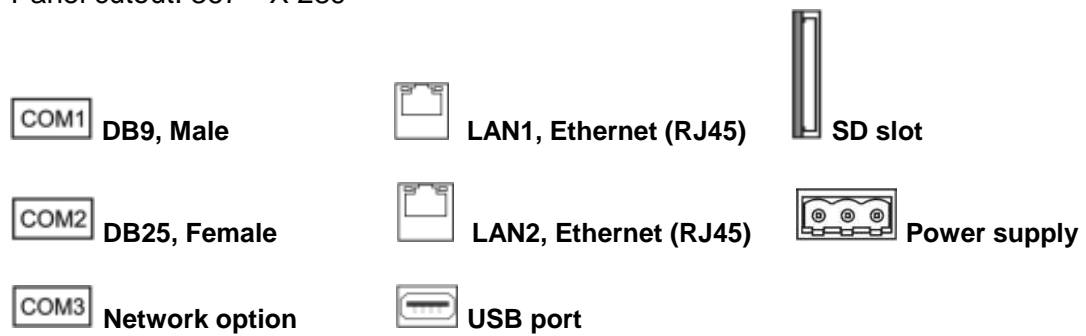|						
COM1	**DB9, Male**	COM3	**Network option**		**LAN1, Ethernet (RJ45)**	**SD slot**
COM2	**DB25, Female**		**LAN2, Ethernet (RJ45)**		**Power supply**	**USB port**

4.2.4 Dimensional drawings of the FDC1550 - 15"
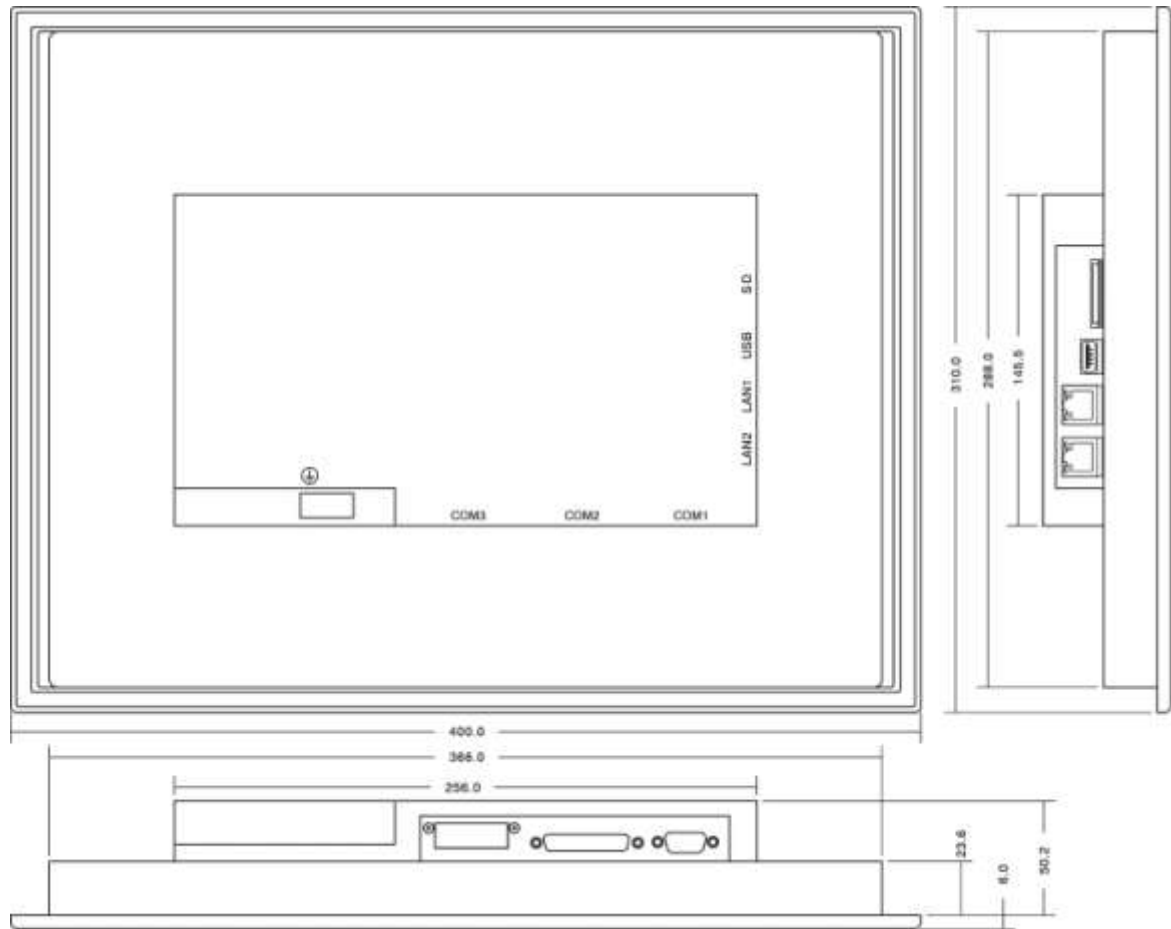
Note: All dimensions are in mm. Tolerance +/- 1 mm

Panel cutout: 367^{+1} X 289^{+1}

COM1	DB9, Male	LAN1, Ethernet (RJ45)		SD slot
COM2	DB25, Female	LAN2, Ethernet (RJ45)		Power supply
COM3	Network option	USB port		

4.3 Mounting

It is possible to insert HMI in either vertical or horizontal direction in enclosures/ panels/ cabinets/ housings. Panel cut out is as follows.

Horizontal Installation

Model	FDC450 4.3"	FDC730 7"	FDC1050 10"	FDC1550 15"
Width (mm)	123^{+1}	197^{+1}	310^{+1}	367^{+1}
Height (mm)	99^{+1}	141^{+1}	248^{+1}	289^{+1}
Depth (mm)	51	51	50	50

Vertical Installation

Model	FDC450 4.3"	FDC730 7"	FDC1050 10"	FDC1550 15"
Height (mm)	99^{+1}	141^{+1}	248^{+1}	289^{+1}
Width (mm)	123^{+1}	197^{+1}	310^{+1}	367^{+1}
Depth (mm)	51	51	50	50

FDC450 - 4.3":   4 Mounting clips
FDC730 - 7":   6 Mounting clips
FDC1050 - 10":   10 Mounting clips
FDC1550 - 15":   12 Mounting clips

Mounting clips for HMI with Metal enclosure

Top view   **Bottom View**

Use Proper Tools to open HMI enclosure.

Mounting clips for HMI with Plastic enclosure

Top view   **Bottom View**

Tighten all mounting clips otherwise it may affect the touch panel operation and ingress protection will be compromised.
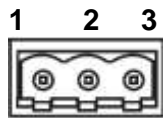
The torque used for 4 sides of the housing should be balanced and not more than 1N-m (8.9Lb-in or 10.2 KgF-cm) to eliminate the LCD panel from bending.

4.4 Power Supply

The following options are available.

1. AC Power, 90-250 V AC, 47~63 Hz, Universal AC power supply (Except FDC450 -4.3")
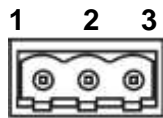
2. DC Power, 11-36 V DC

AC Power, 90-250 V AC, 47~63Hz

Pin		Description
1	⏚	Earth
2		Neutral
3		Line

Note: Orange color terminal supplied for AC

DC Power, 11-36 V DC

Pin		Description
1	⏚	Earth
2		DC-
3		DC+

Note: Green color terminal supplied for DC

DC Power, 11-36 V DC (For FDC450 - 4.3" only)
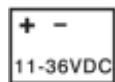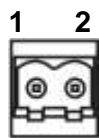
Pin	Description
1	DC +
2	DC -

Different power boards are available for above options and they will be fitted into HMI as per ordering code.

The protective earth terminal should be connected first before any other connection is made.

⚠ Do not open HMI enclosure in potentially explosive environments. If any service is required, switch off the power supply and bring HMI to a clean environment. Use proper tools to open HMI enclosure. Repairs/servicing should be done by personal qualified, trained, experienced and authorized to perform these kinds of tasks. Dangerous high voltages may be present in parts of PCB and improper servicing may cause shock and fatal injury to personal.

⚡ All local electrical regulations should be strictly followed while connecting power supply to HMI. Use proper rated cables, earth, grounding, shielding from reliable sources, line protections in power supply circuit via fuses etc., to avoid shock, injury/death to operating personal.

◇ It is advised to use uninterrupted regulated power supply with adequate protections and filters in power supply line to be used with HMI.

◇ The plug-in terminal block for connecting the power supply is supplied along with HMI and is designed for cables with a maximum cross-section of 1.5 mm^2.

4.5 Interfaces

Tighten all the screws after inserting connector at COM1/COM2, otherwise, communication failure with connected PLC/Inverter devices may occur because of loose connections.

COM ports are used for connecting with various PLC's. It is not used for downloading application or firmware from PC to HMI.

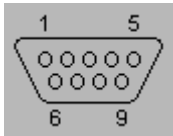### 4.5.1 COM1 port, DB9 male (RS232C)

Fig: DB9 male

Pin number	Signal	Signal Name	Signal Direction
1	DCD	Data carrier detect	Output
2	RD	Receive data	Input
3	TD	Transmit data	Output
4	DTR	Data terminal ready	Output
5	SG	Signal Ground	-
6	DSR	Data set ready	Input
7	RTS	Request to send	Output
8	CTS	Clear to send	Input
9	RI	Ring Indicator	Input

4.5.2 COM2 port, DB25 Female (RS232C/RS422/RS485)
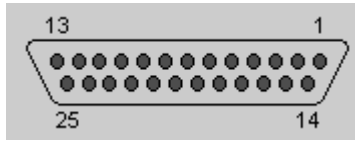
Fig: DB25 female

Pin number	Signal	Signal Name	Signal Direction	Type
1	FG	Frame Ground	-	-
2	TD	Transmit data	Output	RS232C
3	RD	Receive data	Input	RS232C
4	RTS	Request to send	Output	RS232C
5	CTS	Clear to send	Input	RS232C
6	DSR	Data set ready	Input	RS232C
7	SG	Signal Ground	-	5V-/RS232C
8	DCD	Data carrier detect	Output	RS232C
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	TXDA	Transmit data	Output	RS422/RS485
13	TXDB	Transmit data	Output	RS422/RS485
14	RTSA	Request to send	Output	RS422
15	RTSB	Request to send	Output	RS422
16	-	-	-	-
17	-	-	-	-
18	CTSA	Clear to send	Input	RS422
19	CTSB	Clear to send	Input	RS422
20	DTR	Data terminal ready	Output	RS232C
21	5 V +	5 V Power supply +	Output	-
22	RI	Ring Indicator	Input	RS232C
23	-	-	-	-
24	RXDA	Receive data	Input	RS422
25	RXDB	Receive data	Input	RS422

4.5.3 Ethernet
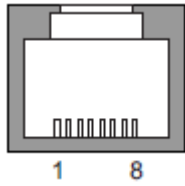
Fig: RJ45 connector

Ethernet, 10/100 Mbps

Pin	Description
1	Transmit (TX+)
2	Transmit (TX -)
3	Receive (RX+)
4	No connection
5	No connection
6	Receive (RX-)
7	No connection
8	No connection

ⓘ   For FDC1050 - 10" and FDC1550 - 15", two Ethernet ports are supported. One may be used to connect with PLC devices for process control and data logging applications and another port may be used for commercial applications like connection to local area network (LAN), internet, Web server, IP Camera etc. in future.
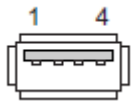
4.5.4 USB Host

Fig: USB connector

Pin	Description
1	+ 5V DC (max 500 mA)
2	USB-DN
3	USB-DP
4	GND

Applications

Connect Mouse, Insert USB flash disk etc.

Connect USB printer to HMI

Save Historical data and Historical Alarms in CSV format to USB flash disk

⬦   Use only USB flash disk recommended by manufacturer. Make sure that no virus is present in USB flash disk prior to use with the HMI.

4.5.5 SD slot

Applications

It is used to store large volumes of historical data.

 Use only SD card recommended by manufacturer.

4.6 Real Time Clock

Item	Description
Make	Seiko Instruments
Model	MS621-FL11E
Rating	3V/4 mAH
Typical life time	10 yrs
Buffer period	6 months
Type	Rechargeable
Accuracy	Maximum +/- 2 sec/day

Software Usage Note:

The selection, application and use of Future Design Control products or software are the sole responsibility of the purchaser or end user. No claims will be allowed for any damages or losses, whether direct, indirect, incidental, special or consequential.

In addition, Future Design reserves the right to make changes without notification to purchaser or user to materials or processing that do not affect compliance with any applicable specification. Future Design makes no warranties when using the nCompass system.

Warranty:

Future Design Controls products described in this book are warranted to be free from functional defects in material and workmanship at the time the products shipped from Future Design Controls facilities and to conform at that time to the specifications set forth in the relevant Future Design Controls manual, sheet or sheets for a period of one year after delivery to the first purchaser.

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