Multimedia LCD iS2

Technical Specification

1.0 Introduction

The iS2 LCD was designed with the easy operation interface, letting the customer ability to operate contents easily using the software provided by us. The iS2 is a slim advanced LCD display unit that has the following functions

- Elevator Info
  - Floor and travel directions of lift
  - Floor directory messages
  - Lift status messages
  - Scrolling messages
- Energy Saving and Eco-Friendly
  - LED backlight technology
  - Scheduler for screen power management
  - Screen brightness dimming feature
  - Improved lifespan
- Web Feed and Enhanced Graphics
  - Web feed and internet data
  - Extended graphical support and application and (animated objects, software application)
  - High definition playback content
- Wireless Connection [1]
  - Content updating
  - Surveillance
  - Monitoring and diagnostic
- Contents Visualization
  - Date/Time
  - MPEG 1/2/4 playback [2] [3]
  - Video Streaming(through Video server)
  - Portrait/Landscape view
  - Scheduled-based content [4]
  - Configuration update through Thumb-drive, Wireless and Ethernet Network
  - Support 10.4", 12.1", 15", 19" & 21.5" LCD panel customizable to other sizes.

[1]: For in-Car mode as USB extension cable replacement.
[2]: MPEG4(Xvid/H.264) for MPEG4 playback
[3]: Max Video size to be 80% of the card capacity. (Default card capacity: 1 GB)
[4]: Not recommended for background pictures

- Content Editing Software allows greater flexibility in changing elements:
  - Types and location of directional 3D arrows
  - Set Date/Time[5]
  - Fonts, colour, location of the floor numbers
  - Specify video files to play [6]
  - Specify video stream to play [6]
  - Fonts, size, colour, location of messages
  - Edit content of floor directory and user messages
  - Scheduling
  - Control/Monitoring/Diagnostic
- Annunciation with auto volume adjustment [7]
  - Floor
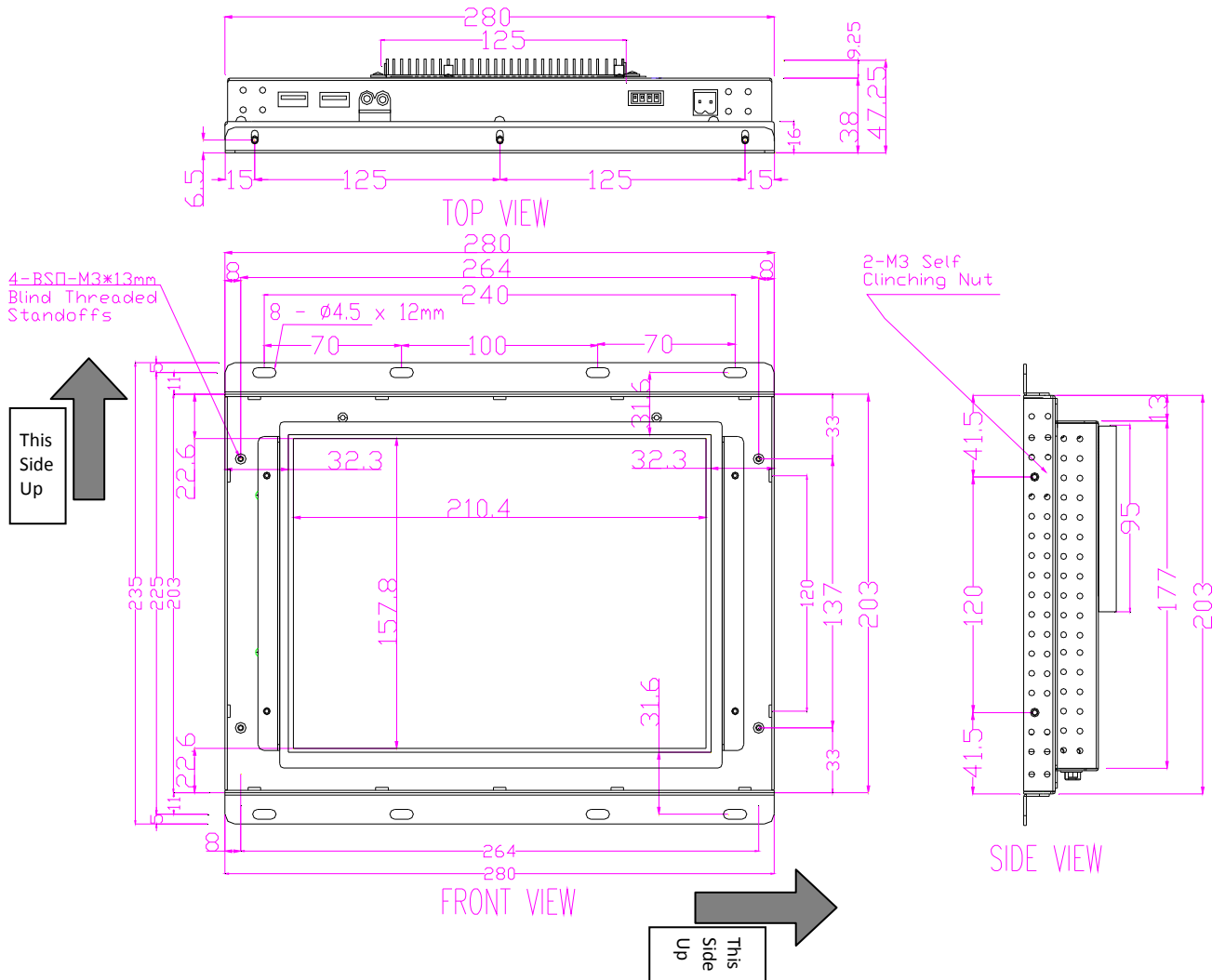 - Message
  - Gong

[5]: Daylight Saving to be supported
[6]: Max Video resolution for optimal performance is HD format
[7]: Valid and timely trigger source for annunciation needs to be provided by Lift controller. Audio library needs to be provided by customer if default library is not to be used.

2.0 Mechanical Drawings

2.1 Mechanical Dimension (10.4")
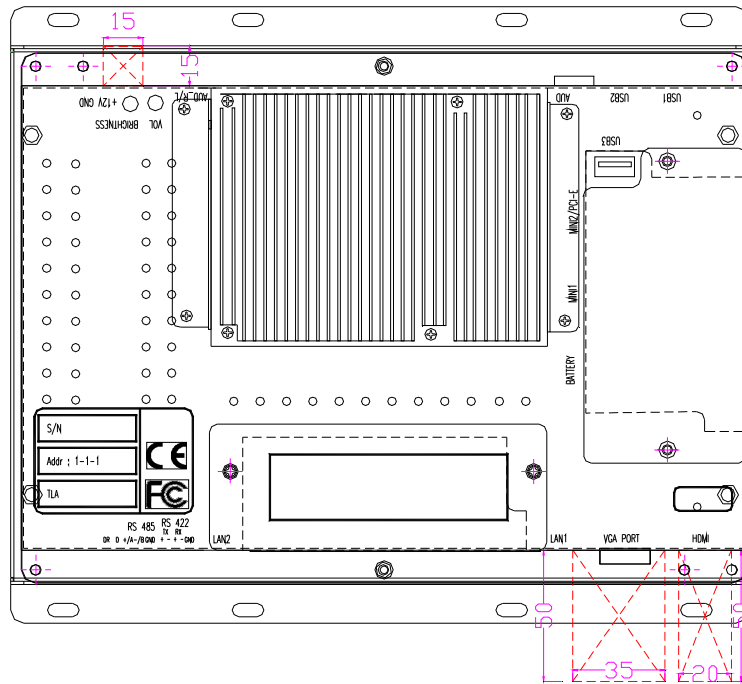E-Motive Part Number: iS2-104-913

TOP VIEW

FRONT VIEW

SIDE VIEW

4-BSO-M3*13mm
Blind Threaded
Standoffs

8 - Ø4.5 x 12mm

2-M3 Self
Clinching Nut

This Side Up

This Side Up

Note 1: Lens is optional item. Dimension will be provided separately. Window cut-out should reference to Lens cut-out (if any)

Note 2: in Landscape mode, in Portrait mode
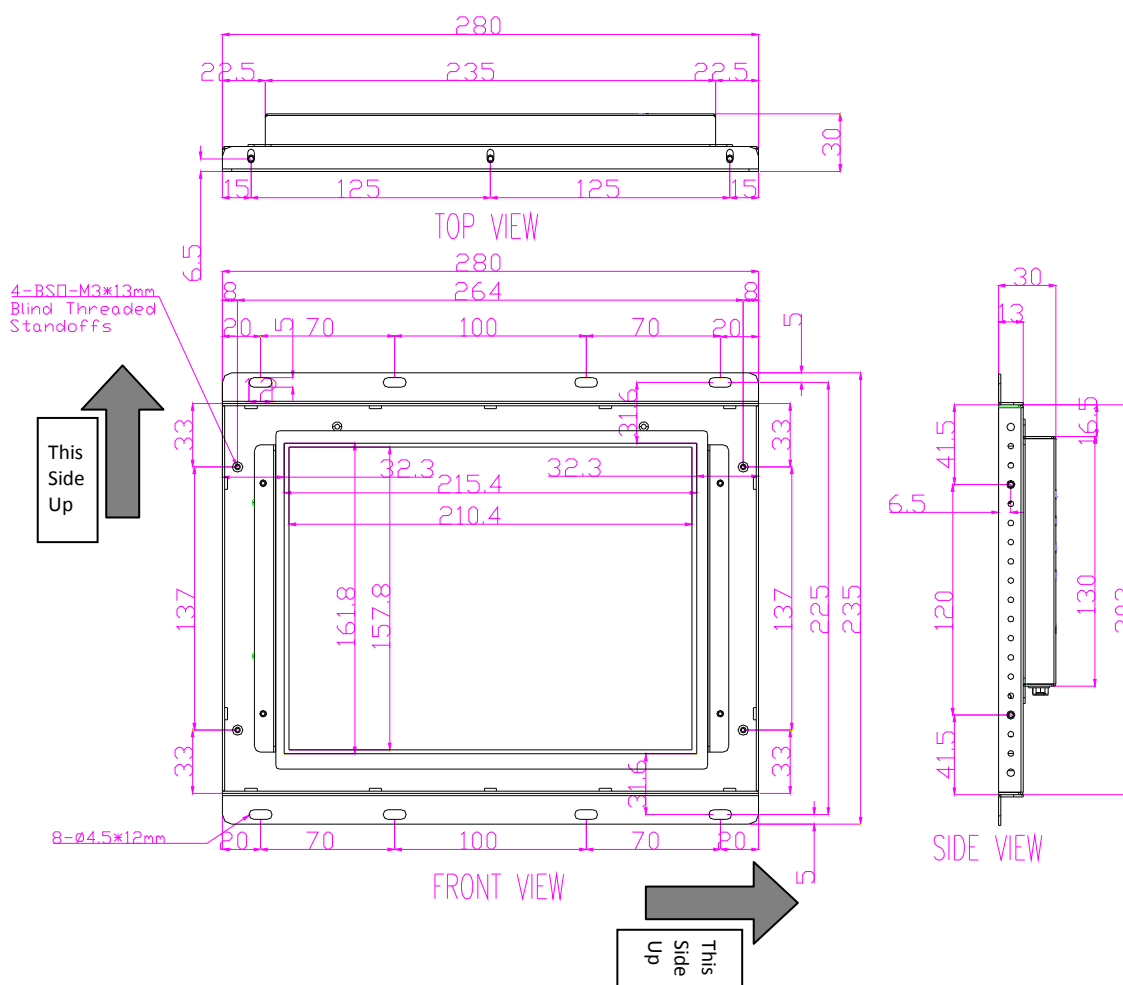
Please refer to next page for minimum cable allowance.

Back VIEW

Note 3: The minimum mounting clearance required for the cable entry is indicated by the red boxes.

2.2 Mechanical Dimension (10.4" Aux. Screen)
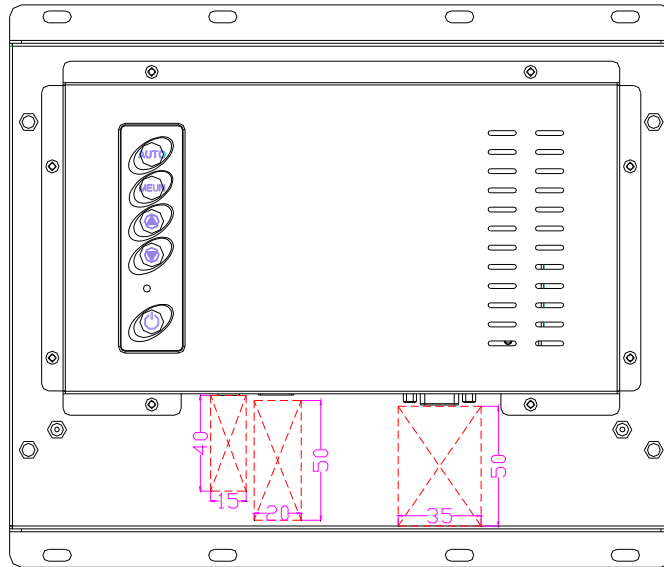### E-Motive Part Number: OF-104-913

Note 1: Mounting Hole of open Frame is identical to Main Display

Note 2: Lens is optional item. Dimension will be provided separately. Window cut-out should reference to Lens cut-out (if any)
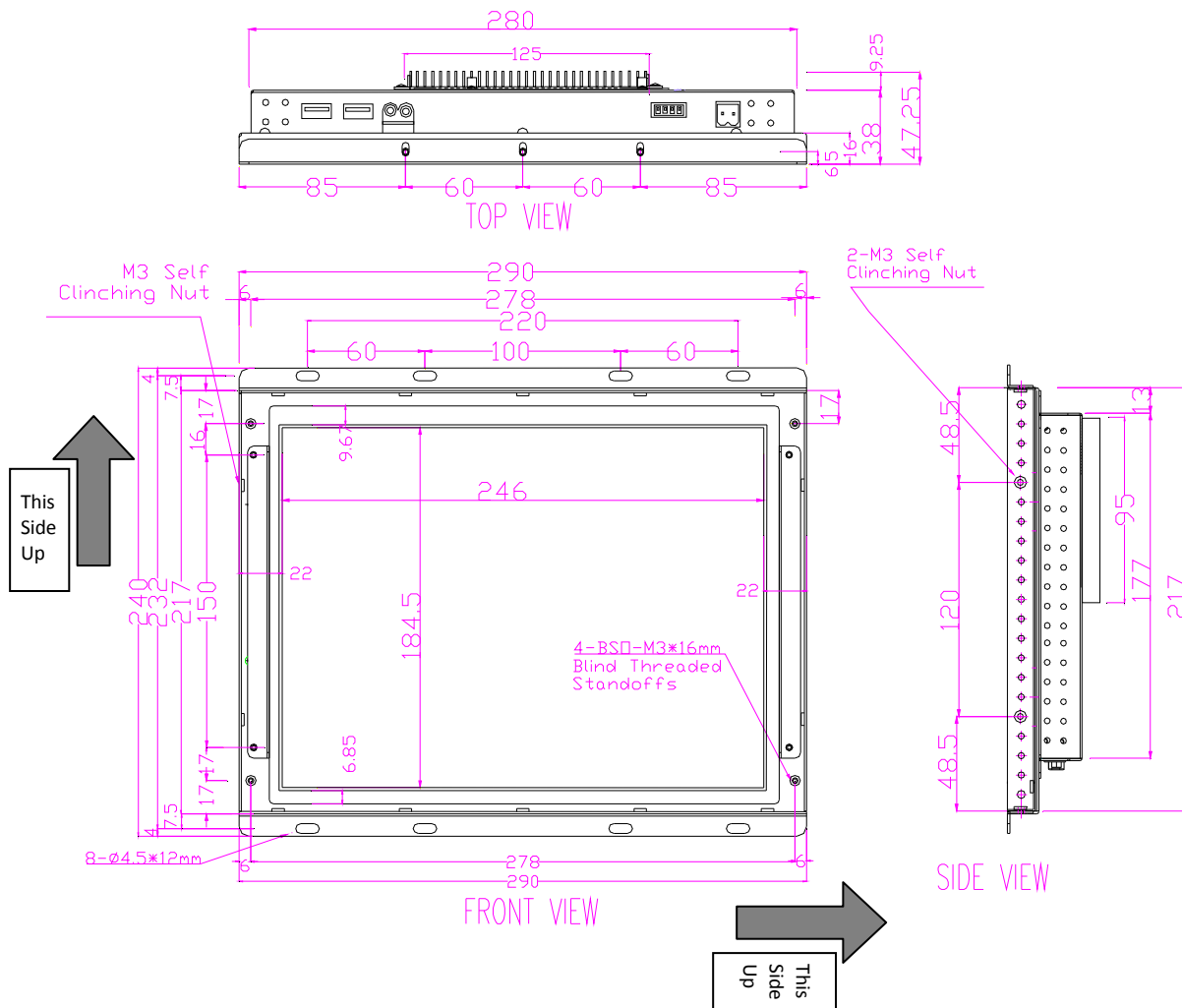
Note 3: ⬆ in Landscape mode, ➡ in Portrait mode

Please refer to next page for minimum cable allowance.

Back VIEW

Note 4: The minimum mounting clearance required for the cable entry is indicated by the red boxes.

2.3 Mechanical Dimension (12.1" Main Screen)
   E-Motive Part Number: iS2-121-913

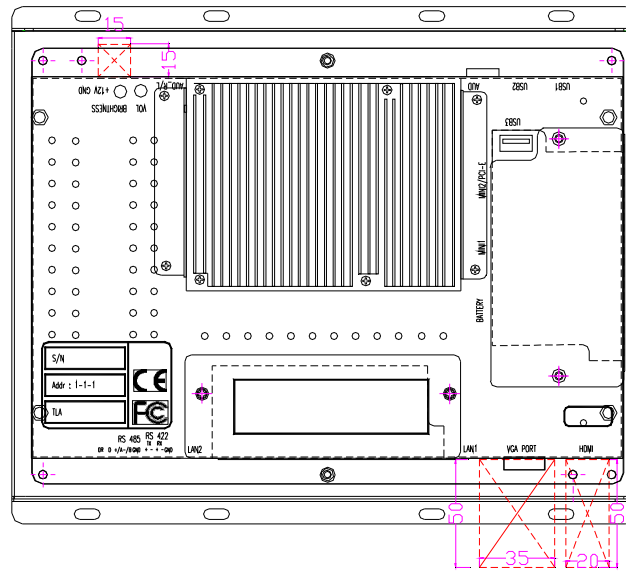

TOP VIEW

FRONT VIEW

SIDE VIEW

Note 1: Lens is optional item. Dimension will be provided separately. Window cut-out should reference to Lens cut-out (if any)

Note 2: ⬆ in Landscape mode, ➡ in Portrait mode

Please refer to next page for minimum cable allowance.

Note 3: The minimum mounting clearance required for the cable entry is indicated by the red boxes.

2.4 Mechanical Dimension (12.1" Aux. Screen)
E-Motive Part Number: OF-121-913

Note 1: Mounting Hole of open Frame is identical to Main Display

Note 2: Lens is optional item. Dimension will be provided separately. Window cut-out should reference to Lens cut-out (if any)

Note 3: ⬆ in Landscape mode, ➡ in Portrait mode

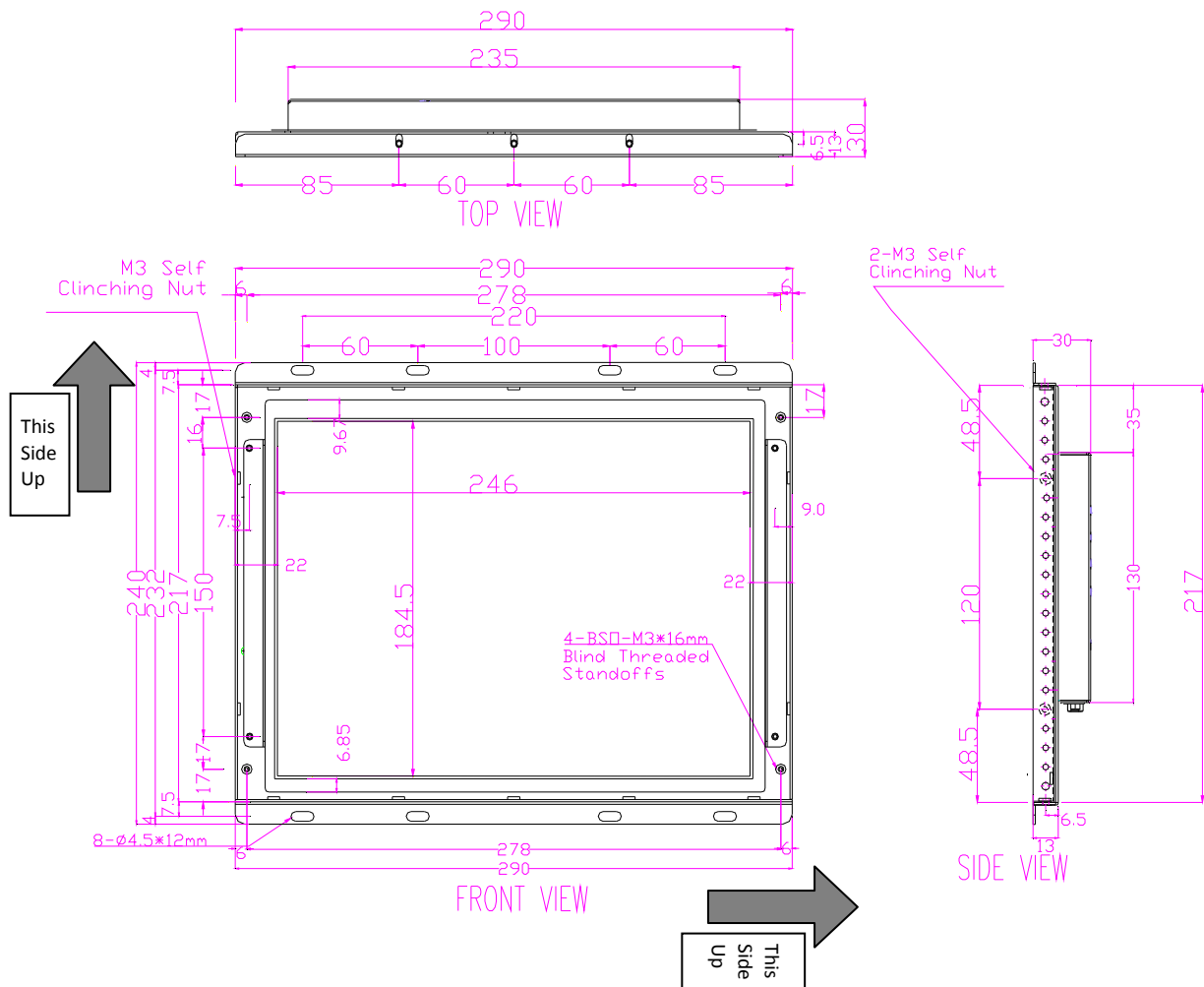Please refer to next page for minimum cable allowance.

Back VIEW

Note 4: The minimum mounting clearance required for the cable entry is indicated by the red boxes.

2.5 Mechanical Dimension (15" Main Screen)
E-Motive Part Number: iS2-150-913

Note 1: Lens is optional item. Dimension will be provided separately. Window cut-out should reference to Lens cut-out (if any)

Note 2: ⬆ in Landscape mode, ➡ in Portrait mode

Please refer to next page for minimum cable allowance.

Back VIEW

Note 3: The minimum mounting clearance required for the cable entry is indicated by the red boxes.

2.6 Mechanical Dimension (15" Aux. Screen)
E-Motive Part Number: OF-150-913

TOP VIEW
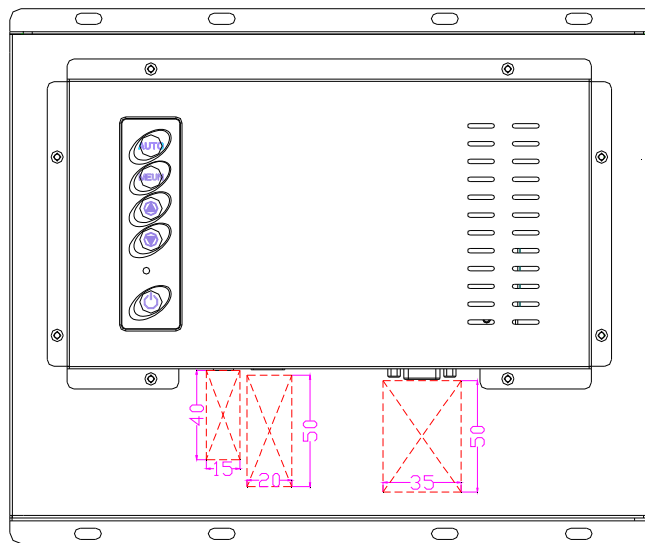
FRONT VIEW

SIDE VIEW

Note 1: Mounting Hole of open Frame is identical to Main Display

Note 2: Lens is optional item. Dimension will be provided separately. Window cut-out should reference to Lens cut-out (if any)

Note 3: ⬆ in Landscape mode, ➡ in Portrait mode

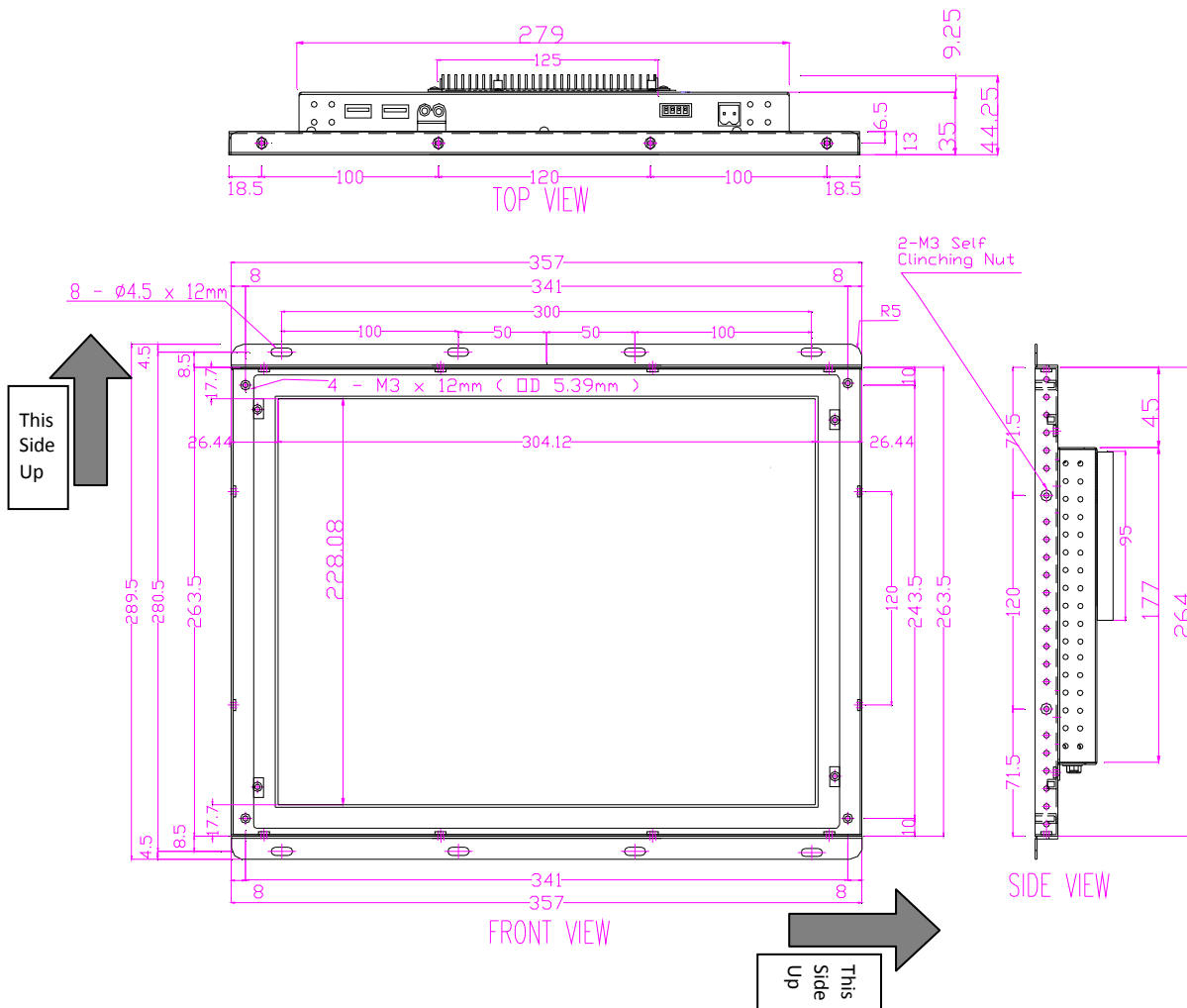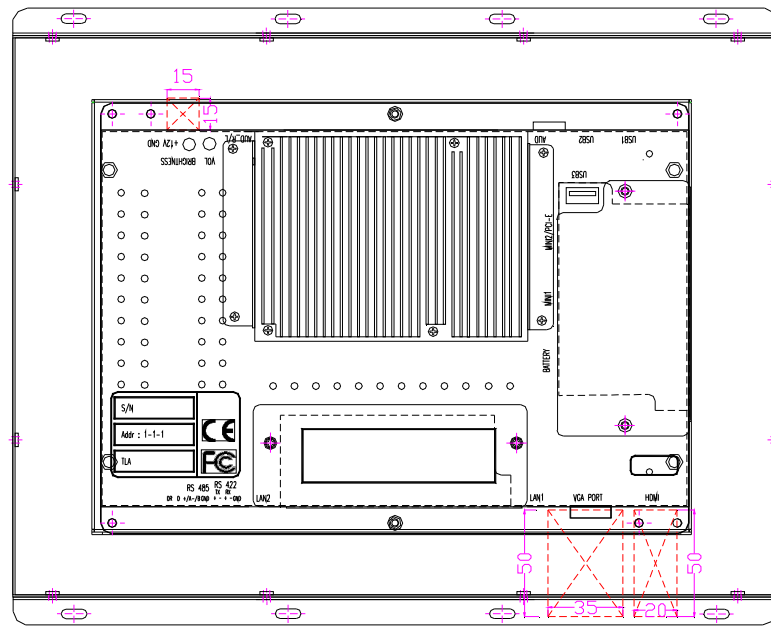Please refer to next page for minimum cable allowance.

Back VIEW
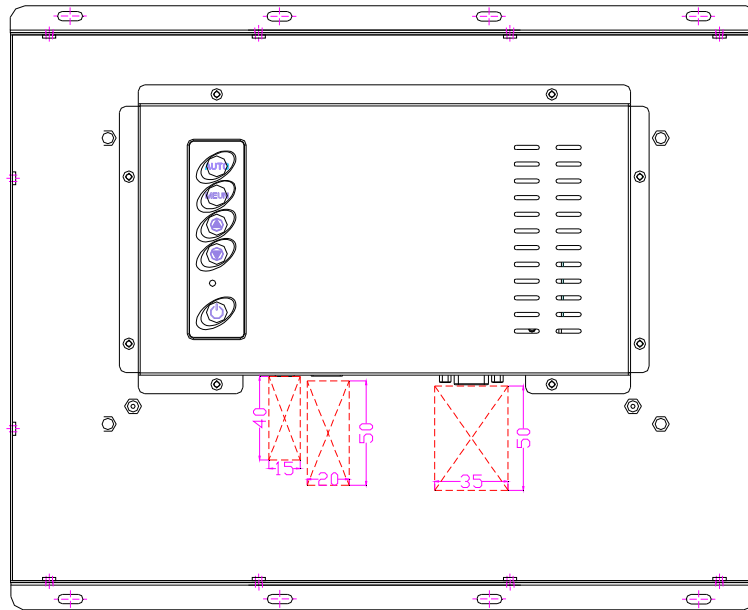
Note 4: The minimum mounting clearance required for the cable entry is indicated by the red boxes.

2.7 Mechanical Dimension (19")
E-Motive Part Number: OF-190-913
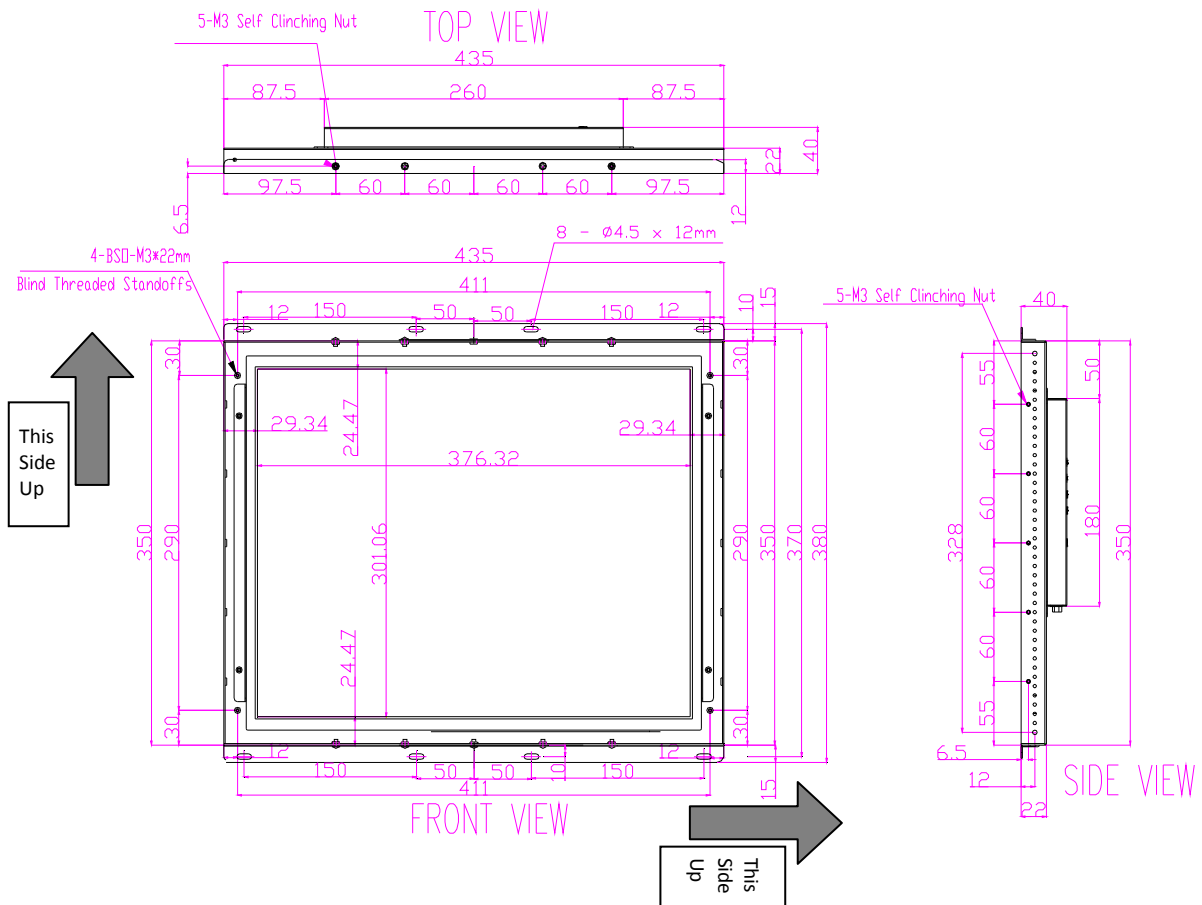
Note 1: OF-190 will operate as a display with a separate CPU unit iS2-000 attached.

Note 2: Lens is optional item. Dimension will be provided separately. Window cut-out should reference to Lens cut-out (if any)
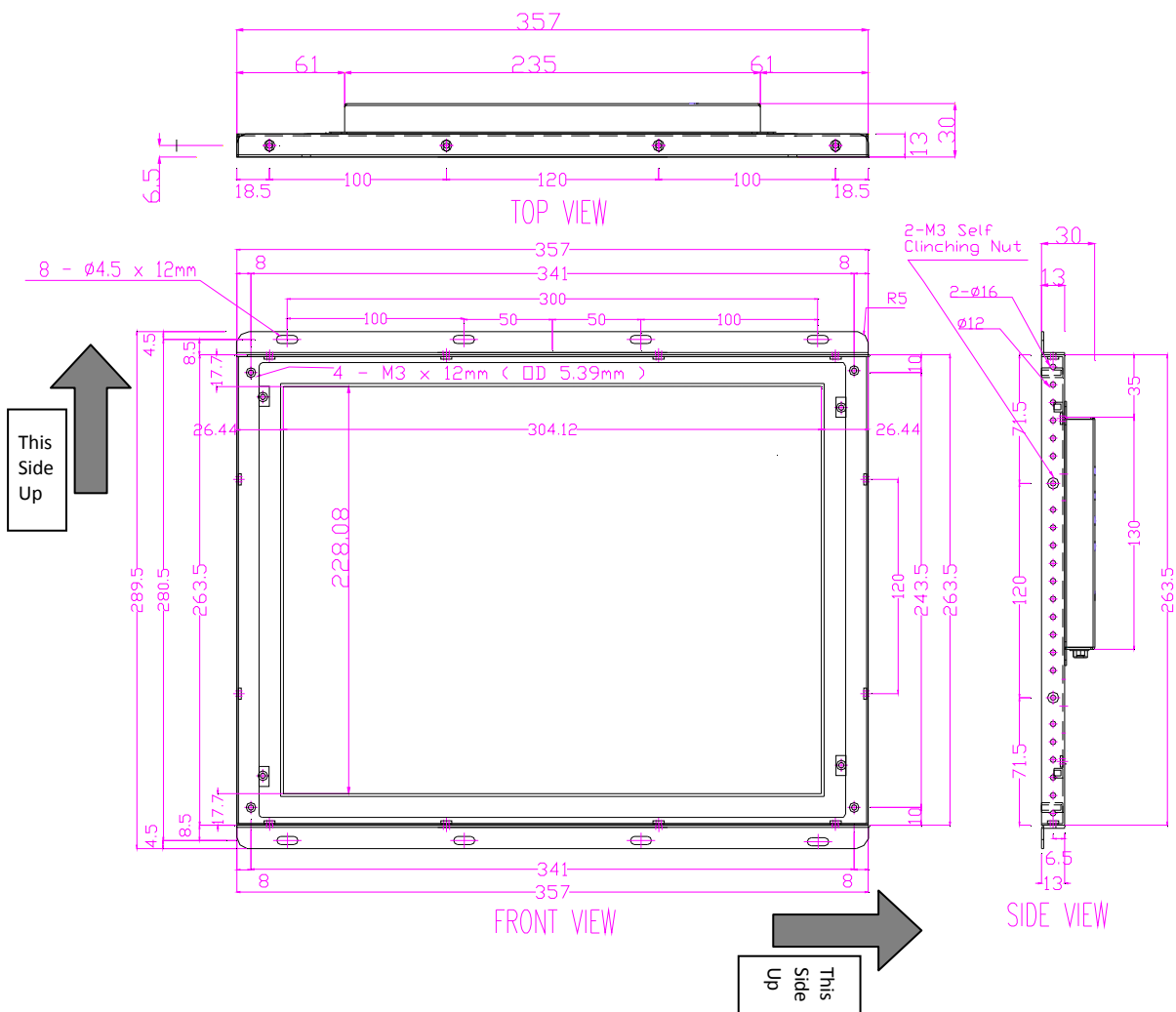
Note 3:   in Landscape mode,   in Portrait mode

2.8 Mechanical Dimension (21.5")
E-Motive Part Number: OF-215-913
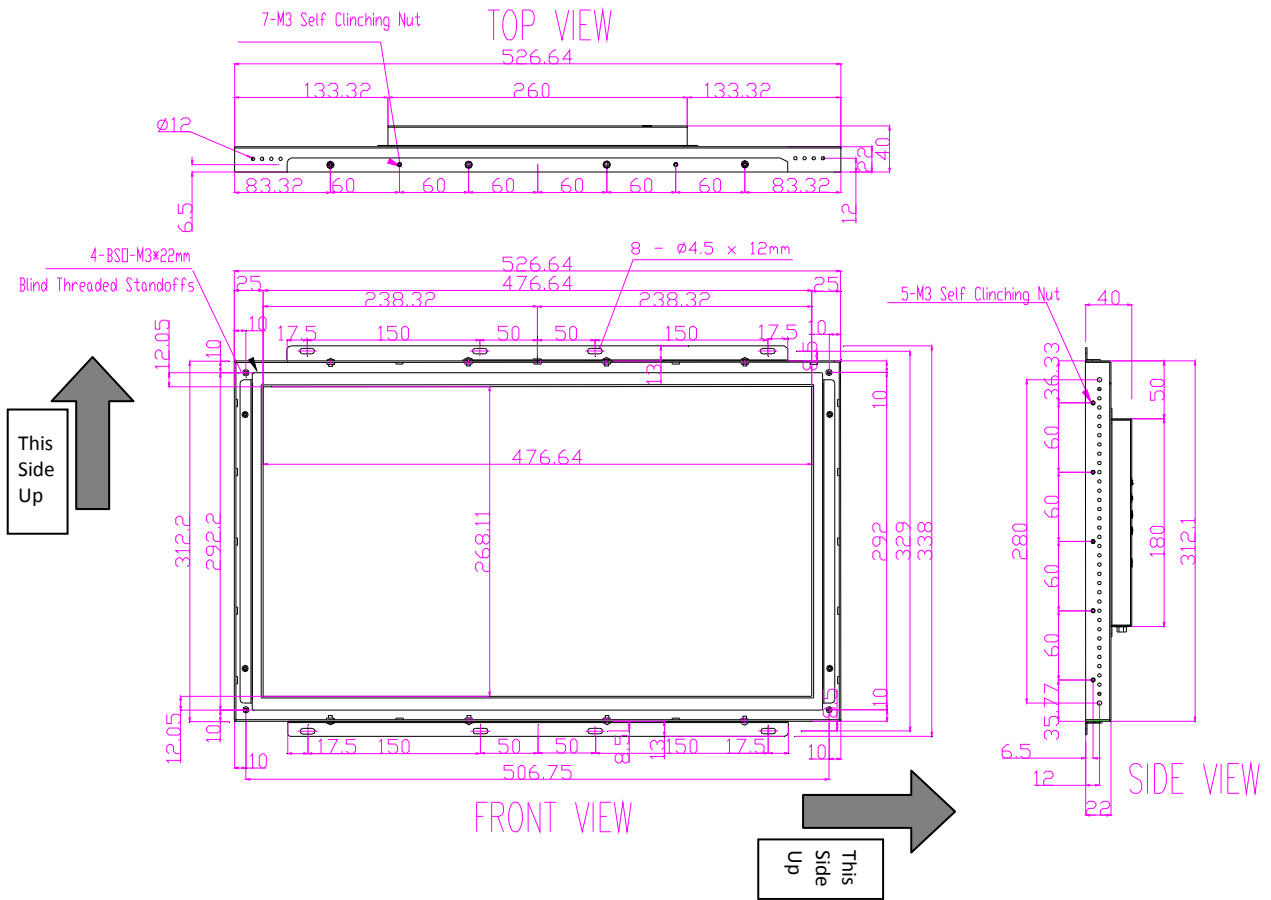
Note 1: OF-215 will operate as a display with a separate CPU unit iS2-000 attached.

Note 2: Lens is optional item. Dimension will be provided separately. Window cut-out should reference to Lens cut-out (if any)

Note 3: ⬆ in Landscape mode, ➡ in Portrait mode

2.9 Mechanical Dimension (iS2 CPU Unit)
E-Motive Part Number: iS2-000-913

TOP VIEW

BACK VIEW

SIDE VIEW
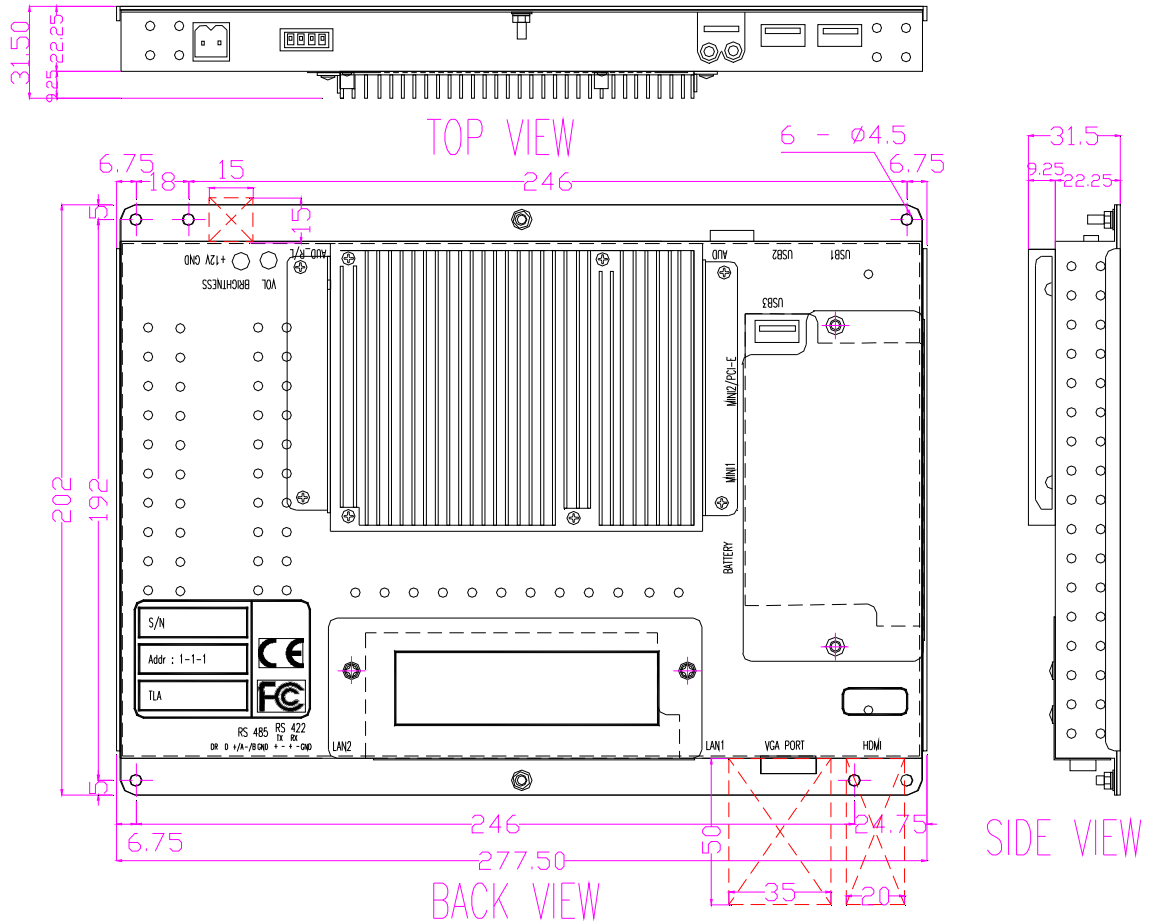
Note 1: This CPU unit iS2-000 can be used to output to E-Motive's Open frame solution (from size 10.4" to 19") through a 5m VGA cable. This solution is usually used for those screens that are above 15".

Note 2: Can be mounted at separate location depending on site situation.

Note 3: The minimum mounting clearance required for the cable entry is indicated by the red boxes.

2.10 Mechanical Dimension (Lens – 10.4" Main/Aux Screen)
E-Motive Part Number: 134-P-A-951

TOP VIEW

FRONT VIEW

SIDE VIEW

8 – ø5
4 – CSK3
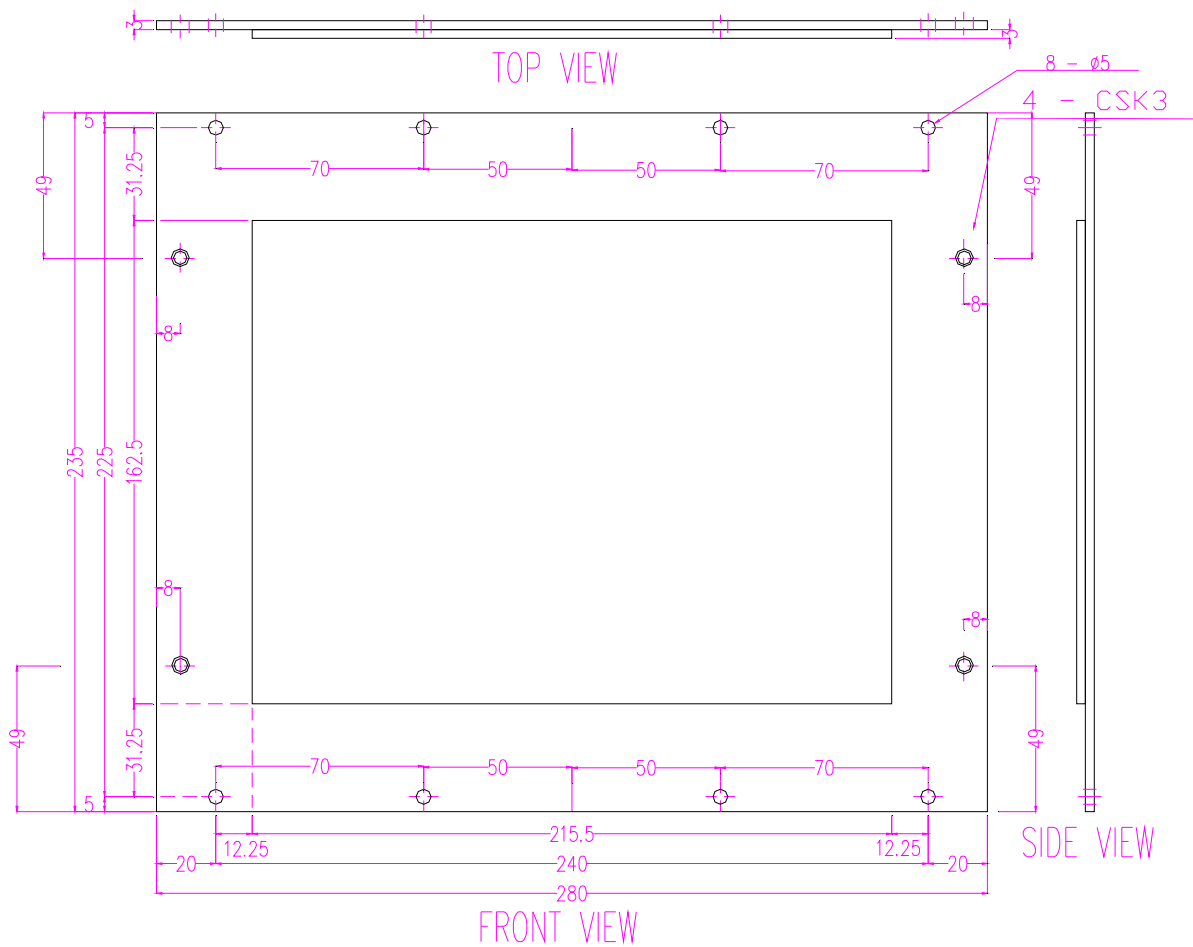
Note 1: Window cut-out is reference to Lens cut-out +0.5mm (tolerance)

2.11 Mechanical Dimension (Lens – 12.1" Main/Aux Screen)
E-Motive Part Number: 134-P-A-954
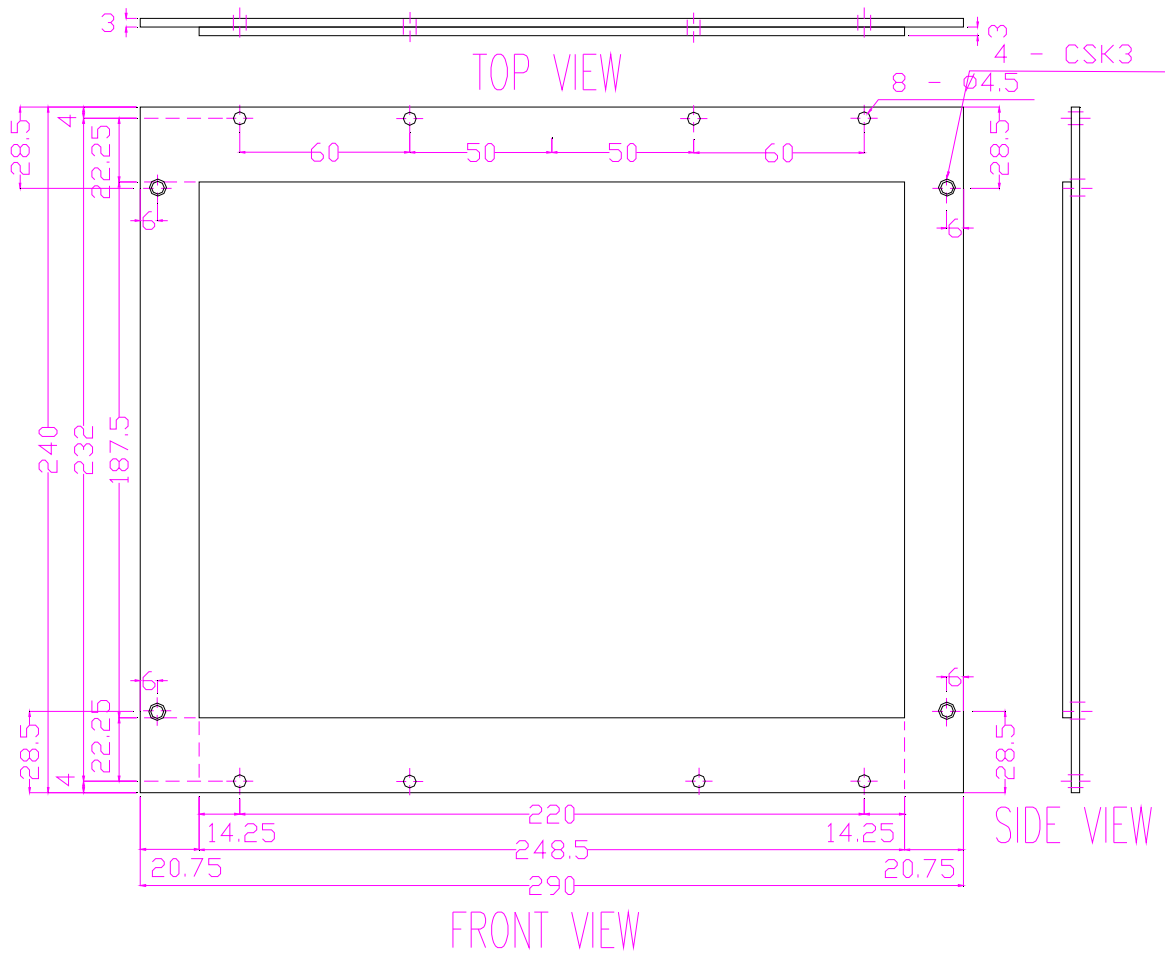
Note 1: Window cut-out is reference to Lens cut-out +0.5mm (tolerance)

2.12 Mechanical Dimension (Lens – 15" Main/Aux Screen)
E-Motive Part Number: 134-P-A-B16
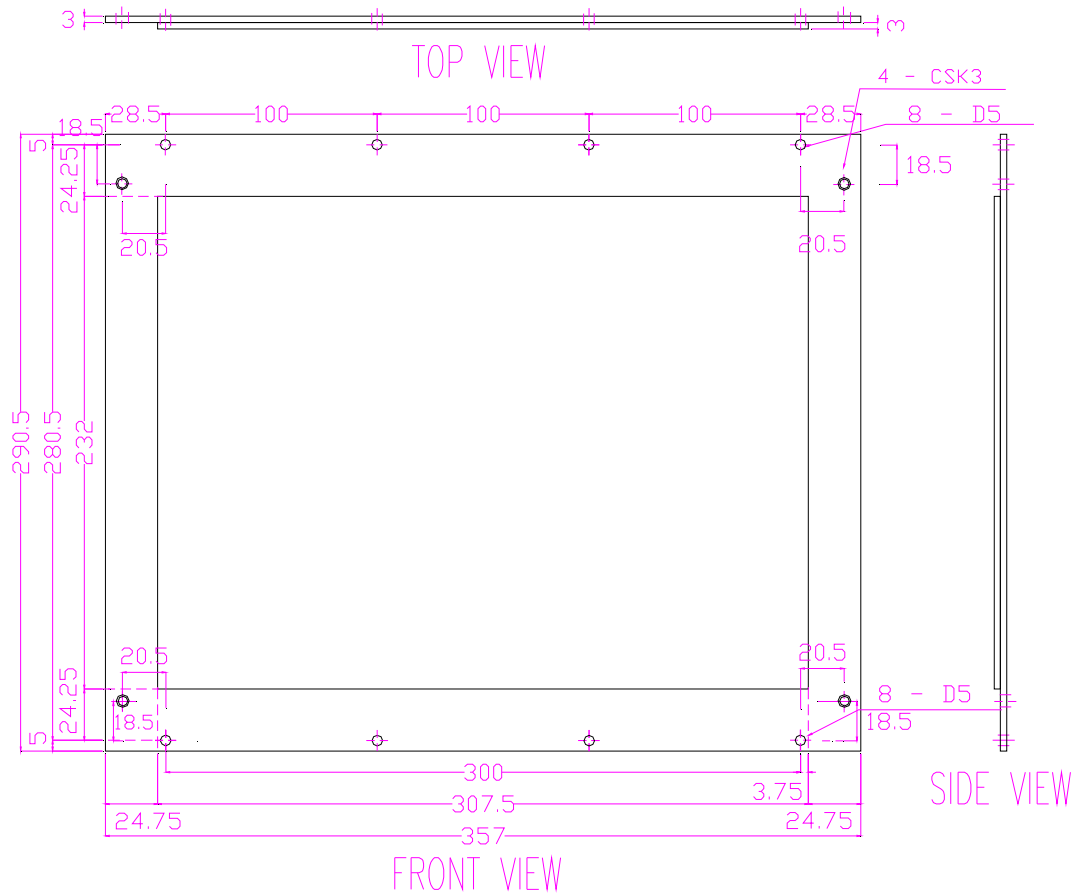
Note 1: Window cut-out is reference to Lens cut-out +0.5mm (tolerance)

2.13 Mechanical Dimension (Lens – 19" Aux. Screen)
E-Motive Part Number: 134-P-A-B23

TOP VIEW

FRONT VIEW

SIDE VIEW

Note 1: Window cut-out is reference to Lens cut-out +0.5mm (tolerance)

2.14 Mechanical Dimension (Lens – 21.5" Aux. Screen)
E-Motive Part Number: 134-P-A-B19

Note 1: Window cut-out is reference to Lens cut-out +0.5mm (tolerance)

3.0 Electrical Description and Specifications

3.1 General Specification

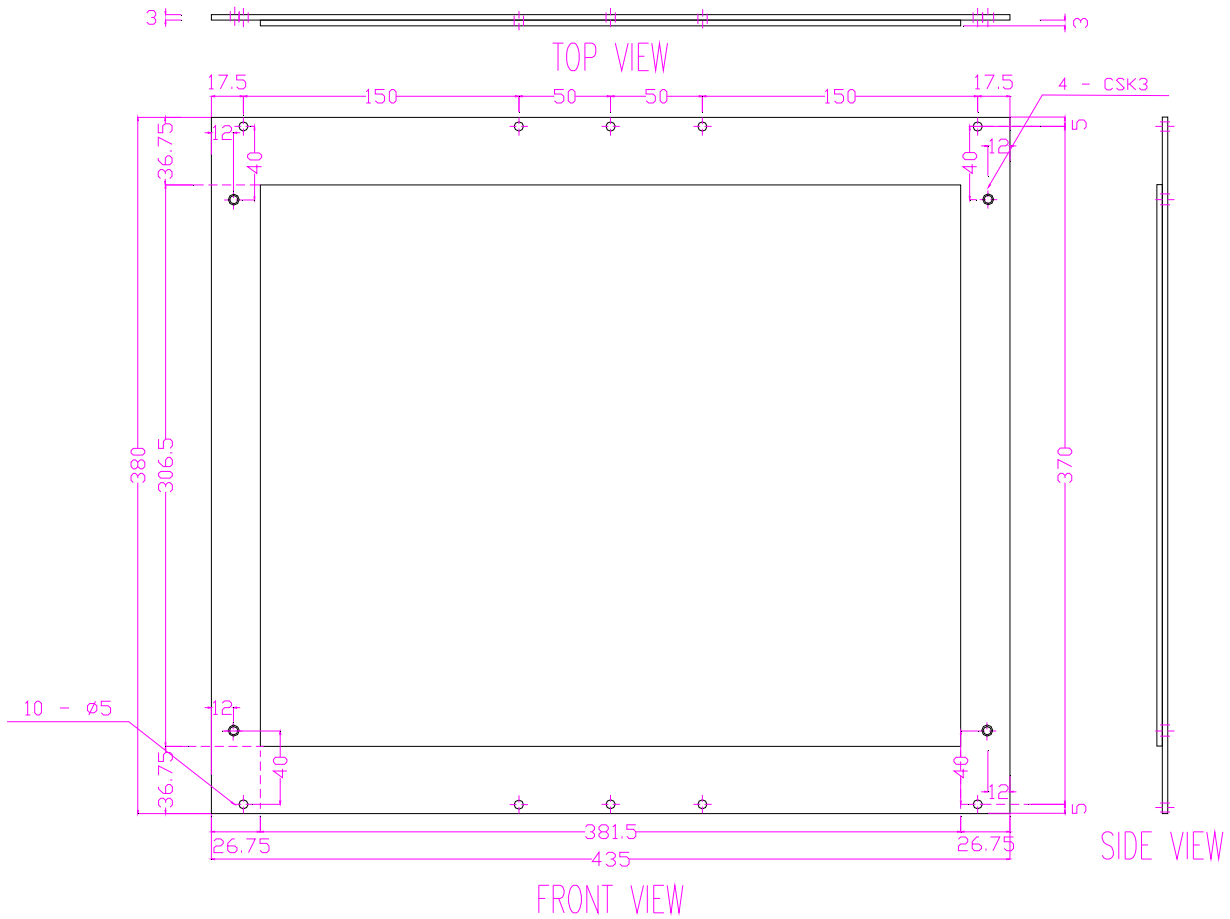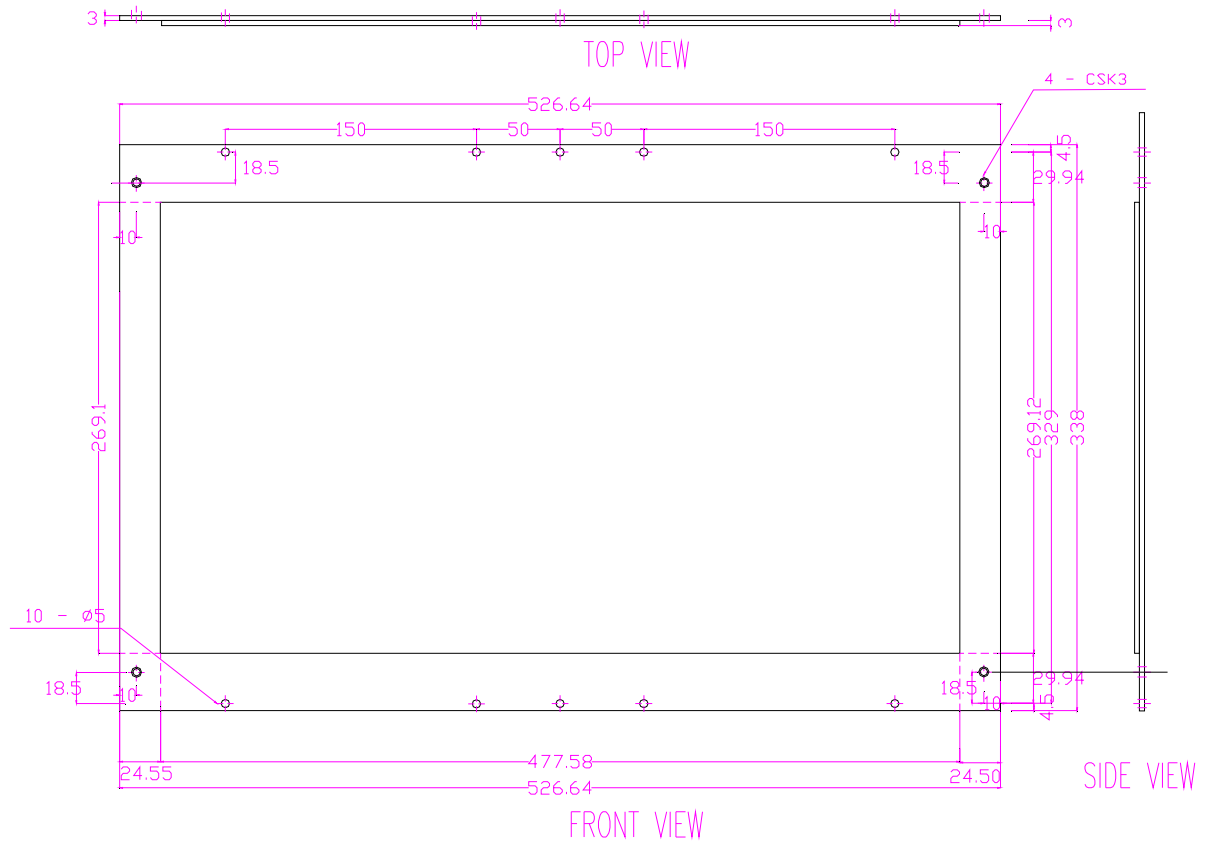|	10.4"	12.1"	15"	19" [2]	21.5" [2]
LCD Type	TFT	TFT	TFT	TFT	TFT
Colour Depth	True Colour	True Colour	True Colour	True Colour	True Colour
View Area (L x H)(mm) [1]	211 x 158	246 x 185	304 x 228	376 x 301	477 x 268
Resolution(X x Y) [1]	1024 x 768	800 x 600	1024 x768	1280 x 1024	1920 x 1080
Aspect Ratio	4:3	4:3	4:3	5:4	16:9
Dot Pitch(mm) [1]	0.0685 x 0.2055	0.3075x 0.3075	0.30 x 0.30	0.294 x 0.294	TBA
Viewing Angle (x-axis)(°) [1]	+88/-88	+89/-89	+85/-85	+89/-89	+89/-89
Viewing Angle (y-axis) (°) [1]	+88/-88	+89/-89	+85/-85	+89/-89	+89/-89
Contrast Ratio [1]	1000:1	700:1	1000:1	2000:1	5000:1
Luminance [1] (cd/m^2)	500	500	350	300	300
Temperature Range(°C) [1]	0 ~ 50	0 ~ 50	0 ~ 50	0 ~ 50	0 ~ 50
Humidity Range (%RH)	10 ~ 90	10 ~ 90	10 ~ 90	10 ~ 90	10 ~ 90
Backlight MTBF(Hrs) [1]	50,000	50,000	50,000	50,000	50,000
Overall Dimension(X x Y x H) (mm) [1]	280 x 235 x 48	290 x 240 x 48	357 x 290 x 45	435 x 380 x 40	527 x 338 x 40

[1] **Specifications subjected to changes**
[2] **Specifications of the Auxiliary screen**

3.2 Electrical Spec

	10.4"	12.1"	15"	19"	21.5"
Operating Voltage(V)	12	12	12	12	12
Typical Power Consumption [7] (W)	20 (Main Screen), 16 (Aux. Screen [4])	22 (Main Screen), 16 (Aux. Screen [4])	28 (Main Screen), 15 (Aux. Screen [4])	38	38
Current consumption(A)	1.6 (Main Screen), 1.33 (Aux. Screen [4])	1.8 (Main Screen) 1.33 (Aux. Screen [4])	2.3 (Main Screen) 1.25 (Aux. Screen [4])	3.1	3.1
Lift Interface [3]	E-Motive 4 wire Serial, RS485 Serial	E-Motive 4 wire Serial, RS485 Serial	E-Motive 4 wire Serial, RS485 Serial	E-Motive 4 wire Serial, RS485 Serial	E-Motive 4 wire Serial, RS485 Serial
PC Interface	RS422, LAN, Wireless [5]	RS422, LAN, Wireless [5]	RS422, LAN, Wireless [5]	RS422, LAN, Wireless [5]	RS422, LAN, Wireless [5]
RF Input [6]	NA	NA	NA	NA	NA

[3] The Communication through Lift interface of different Lift controller is done through E-Motive's Encoder board that is sold separately.

[4] Open Frame uses a separated AC/DC switching power supply. Additional AC point is required.

[5] Wireless Communication is via USB WIFI adaptor.

[6] Available through TvCard integrated to video server and video stream to Display.

[7] Typical Power consumption which varies according to content. Further reduction is through Power saving mode.

4.0 Power Supply

The standard iS2 come with a 12Vdc input and is powered via an AC/DC switching power supply that is shipped together with this product. An AC power point 115/230 VAC is required for this product. This is to ensure stability of the power supply to the LCD screen and prolong the life span of the unit.
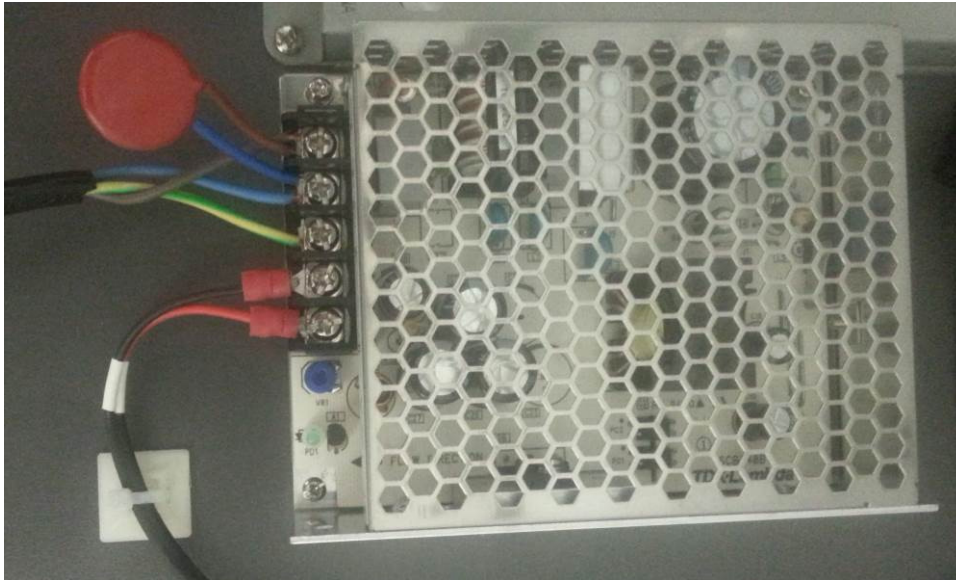
[1] Varistor is connected to protect power supply from power line surge

[2] DC Cable is directly connected to power supply. Polarity of the connection needs to be correct.

5.0 Communication

The iS2 LCD has different communication capabilities catering to different requirements and it has the following capabilities

- Communication to lift controller
  - o via our encoder which uses RS485 serial communication or E-Motive 4-wire

- Communication to Configuration PC
  - o RS 422 multi drop – capable to have up to 32 devices
  - o Ethernet communication 10/100 base-T communication
  - o USB Flash Drive
  - o Wireless Communication Via USB WiFi Adaptor

6.0 Typical System Configuration

6.1 Lift Information Network (Serial Communication via E-Motive encoder)

6.1.1 Remote PC Configuration Network (via RS422 serial)

2 wires for Encoder Serial Data – CSA 0.75 mm^2

2 pairs of RS-422 networking shielded, twisted-pair cable – CSA 0.205 mm^2 or 24 AWG

Note 1: iS2 Display includes power supply to AC points
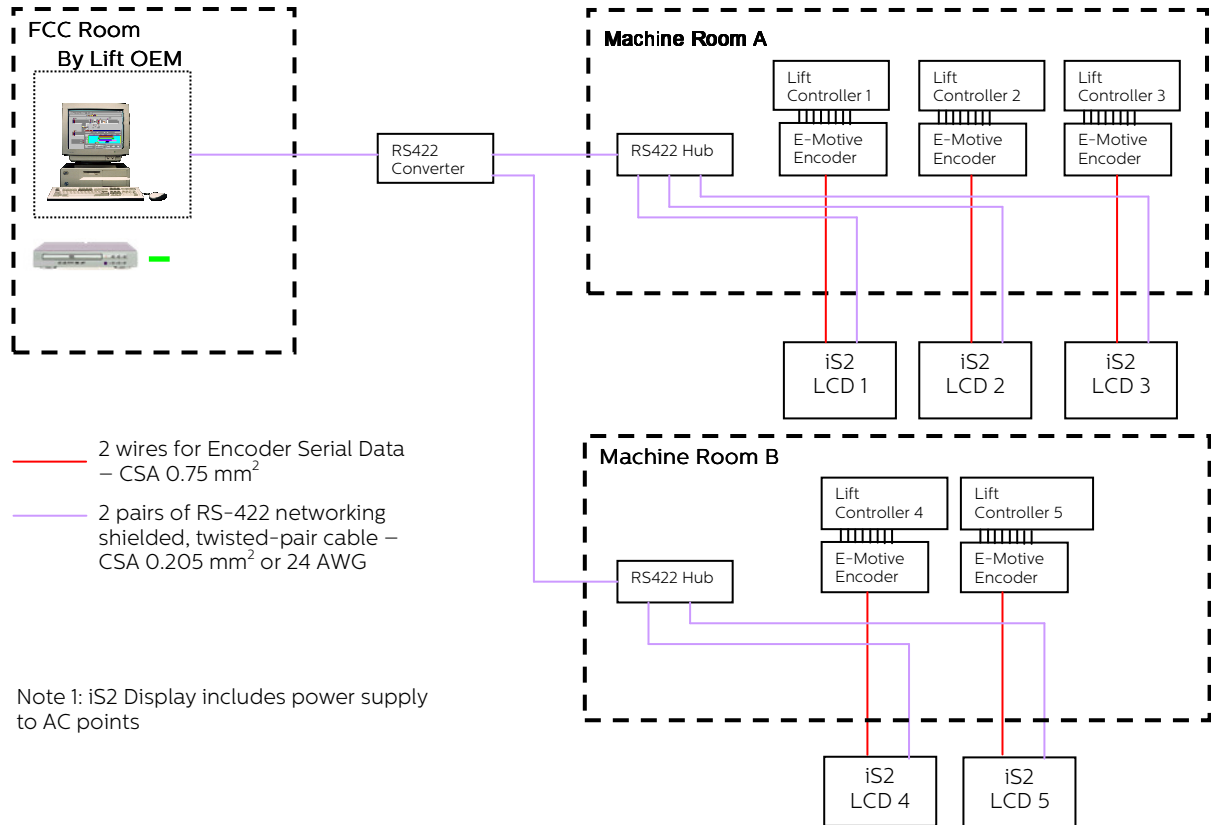
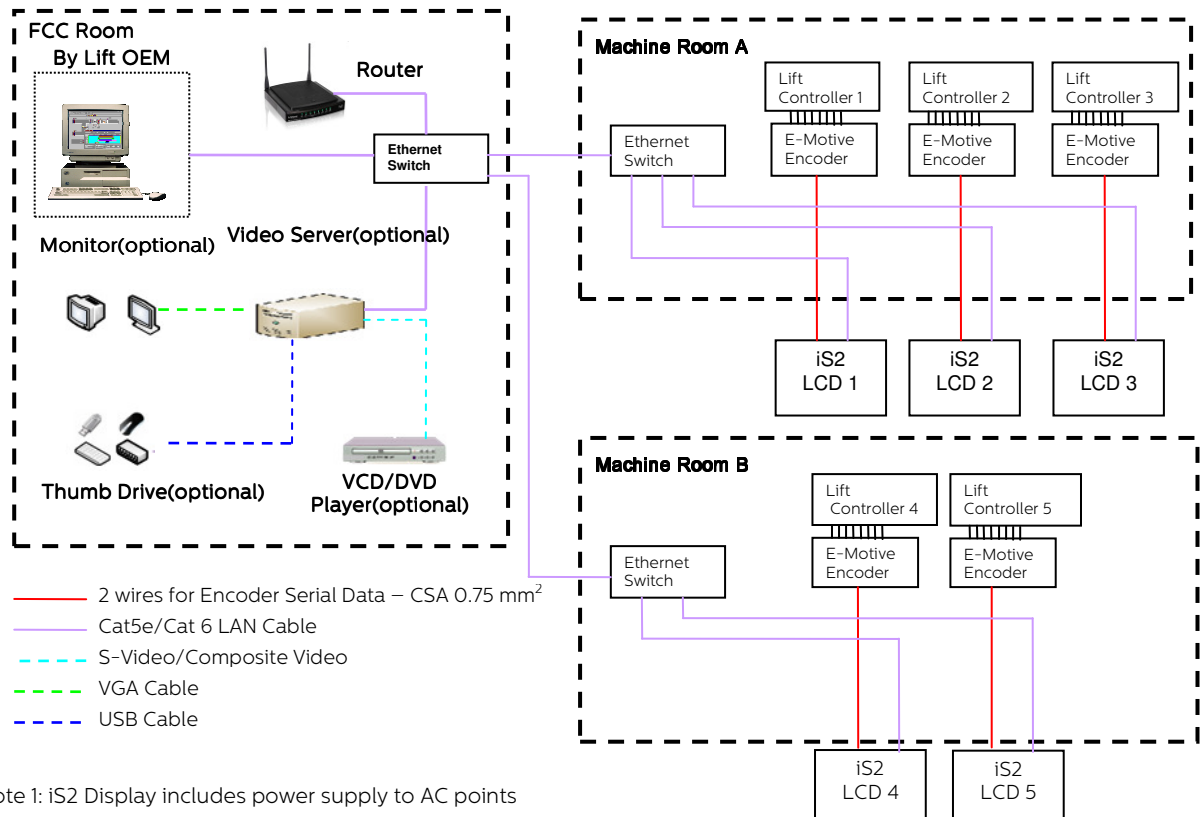## 6.1.2 Remote PC Configuration Network (via Ethernet)

FCC Room By Lift OEM

Router

Ethernet Switch

Monitor(optional)　Video Server(optional)

Thumb Drive(optional)　VCD/DVD Player(optional)

Machine Room A

| Lift Controller 1 | Lift Controller 2 | Lift Controller 3 |

Ethernet Switch

E-Motive Encoder　E-Motive Encoder　E-Motive Encoder

iS2 LCD 1　iS2 LCD 2　iS2 LCD 3

Machine Room B

Lift Controller 4　Lift Controller 5

Ethernet Switch

E-Motive Encoder　E-Motive Encoder

iS2 LCD 4　iS2 LCD 5

───── 2 wires for Encoder Serial Data – CSA 0.75 mm^2
───── Cat5e/Cat 6 LAN Cable
– – – – S-Video/Composite Video
– – – – VGA Cable
– – – – USB Cable

Note 1: iS2 Display includes power supply to AC points

Note 2: The maximum length of LAN cable (point-to-point inclusive of patch cable) is about 90m˜100m. If length info is unclear, it is recommended to have a repeater or switch installed. E-Motive support Media-link solution to extend network that is beyond this.

6.1.3 Remote PC Configuration Network (via WiFi)
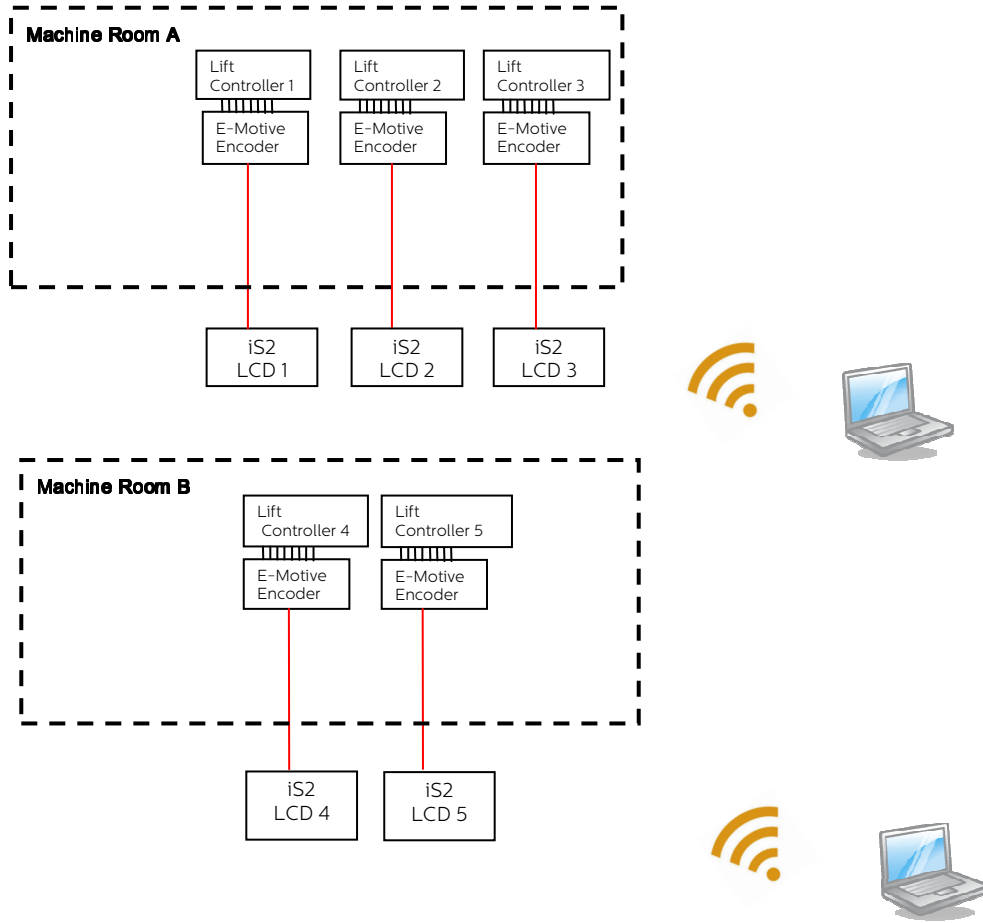
―――― 2 wires for Encoder Serial Data – CSA 0.75 mm^2

Note 1: iS2 Display includes power supply to AC points

Note 2: Optimum operating distance is 1 to 2m for 1-to-1 communication.

7.0 Version History

Rev	Changes	By	Date
0.9	Preliminary Release iS2 Technical Spec	LKH	30th Sept 2014
0.91	Added 12.1" and 15" Open Frame Added 19" and 21.5" Lens Drawing	LKH	13th Oct 2014
1.0	Updated Drawing for 10.4"/12.1"/15"Updated Added Annunciation features Updated Typical power consumption of Open Frame	LKH	22nd Dec 2014

Data provided is current as of publication date and may be subjected to change without notice