

## Biometric Terminal BT320 Series

The product enclosure is of a steel construction with dry power coating providing a corrosion resistant finish.

The enclosure is designed for wall mounting, and whilst weather resistant should not be installed in strong direct sunlight or where high degrees of contamination may occur.

### Mounting Considerations

- Thermally the unit is an enclosed system with no air flow from outside for provision of cooling. All cooling is provided through the wall of the enclosure.
- For long-life operation the unit should be mounted in a well ventilated area away from direct sunlight. Exposure to direct strong sunlight can raise the enclosure temperature several degrees above ambient. Where mounting in strong sunlight cannot be avoided it is recommended that a sunshade is provided.
- In high ambient temperature applications (>35°C) and if the unit is to be mounted on an insulating surface a small air gap should be allowed at the rear of the unit to allow air to flow around the rear surface of the unit.
- It must be noted that whilst unit is rated for operation at 40°C ambient it is generally accepted within the electronics industry that life expectancy halves for every 10°C rise in temperature above 25°C.
- The enclosure is weather and dust resistant and no ingress of rain or dust should occur when the instrument is mounted in general outdoor conditions. However, the system is optical in nature and excessive contamination on the outside of the enclosure may interfere with operation. It is therefore recommended that the unit is installed in a sheltered area avoiding direct contact with outdoor elements.

### Mounting Procedure

The enclosure is in two parts, these being 1) rear housing, 2) front panel. The rear housing provides mounting facilities and cable access. The front panel holds all of the electronics and user interface.

The front panel is attached to the rear housing by two hinge pins positioned down one side of the rear housing. Removal of this front panel assembly is allowed by opening the enclosure door to around 90° and lifting the door panel vertically.

***NB. Prior to removal, the connections of the front panel to the key switch, USB service connector, power and the earth bond connectors must all be removed together with any external connections made.***

When removing the door panel care must be exercised to avoid pushing the door open too far as this places excessive force on the hinges and may cause permanent damage.

With the front panel removed, the rear enclosure may be secured to the wall using the four holes provided.

If the unit is to be mounted in areas where rain or free flowing water is present, the mounting screws must be fitted with washers and seals to prevent ingress of water through the mounting holes.

Cable entry provision is through either the bottom or the rear cut-out. In either instance, the Icotech cable gland should be employed and the blanking plate used to blank off the unused aperture. When using the blanking plate the gasket material must be outer most.

Once the backplate is mounted and with external cables routed, the front panel may be placed on the hinge pins and the external cables connected to the motherboard.

To close the unit, carefully swing the door, ensuring that no cables foul the door aperture.

The central lock is the primary mechanism for holding the door closed.

The central door lock mechanism is rotated thorough 90°.

Additionally, two small 'grub-like' retaining screws are positioned vertically on either side of the lock, concealed behind the front panel, to ensure that the upper and lower corners of the front panel stay in-situ on the door gasket.

The correct alignment of these screws to the back holes assists the weatherproofing function of the gasket.

It may require a reasonably firm push on the front panel to ensure this lock engages fully.

***Note - DO NOT apply excessive force as if this is required there is probably an obstruction preventing closure.***

To correctly adjust these retaining screws gently press on the front panel, close to the screws, and tighten the screw with care until there is very little play left in the movement of the door.

Opening of the enclosure door is exactly the reverse whereby the two retaining screws are unscrewed followed by the unlocking of the lock mechanism. Then proceed as previously ie., ensuring that the door is not pushed too far back so as to place excessive force on the hinge

50mm Clearance required on side and upper surfaces  
between unit and walls

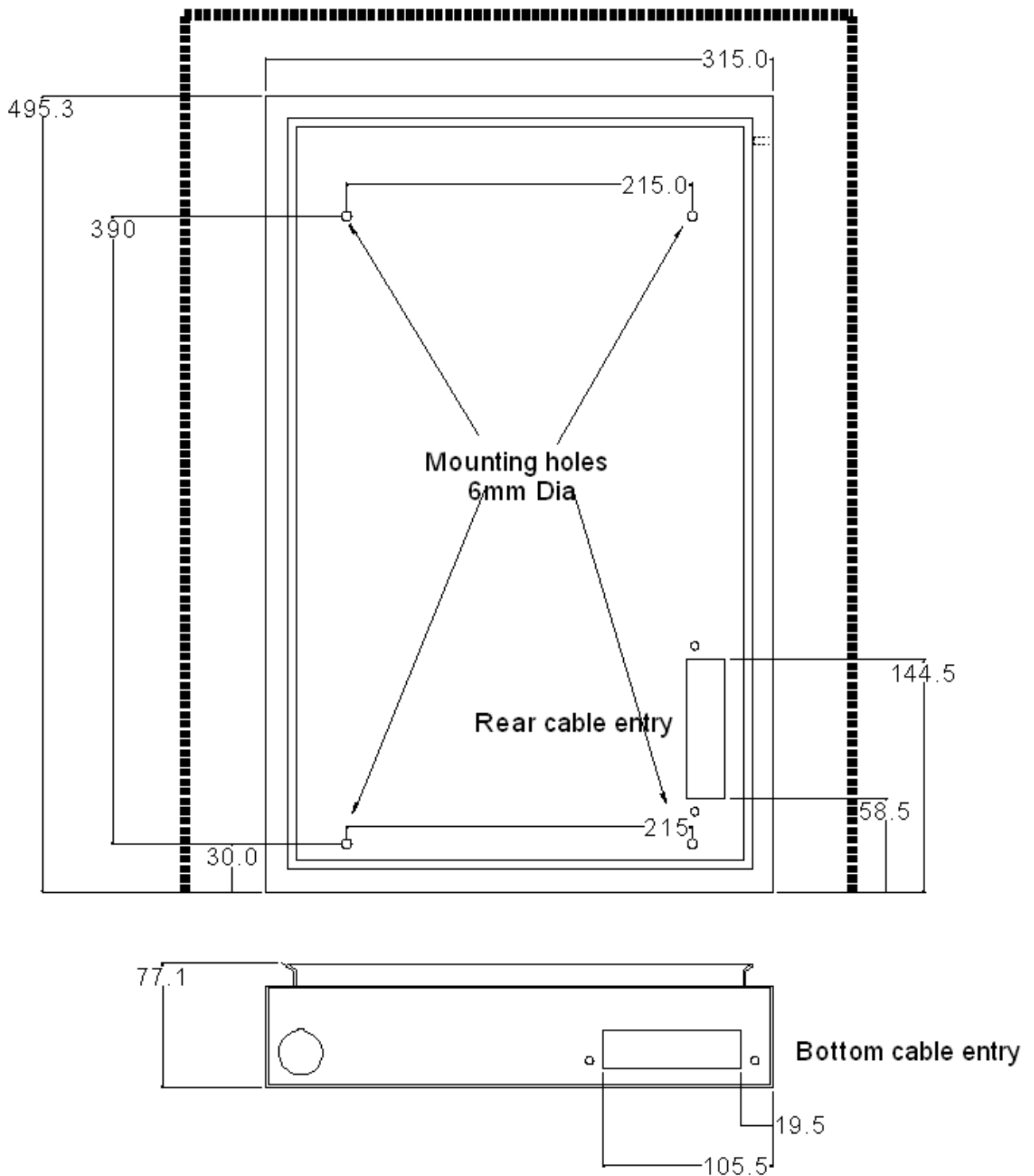


Fig 1 – Mounting details and clearance requirements

## Power Supply Specification

Supply voltage range	90 to 265V
Supply frequency	47 to 63Hz
Typical input power	45W
Intermittent maximum power	100W
Inrush current @ 240V	1.5A
Inrush current @115V	3A
Dielectric strength primary to ground	1800V ac for 1 sec
Dielectric strength primary to secondary	1800V ac for 1 sec
Insulation resistance primary to ground	>20Meg ohms
Insulation resistance primary to secondary	>20Meg ohms

## EMI Regulatory

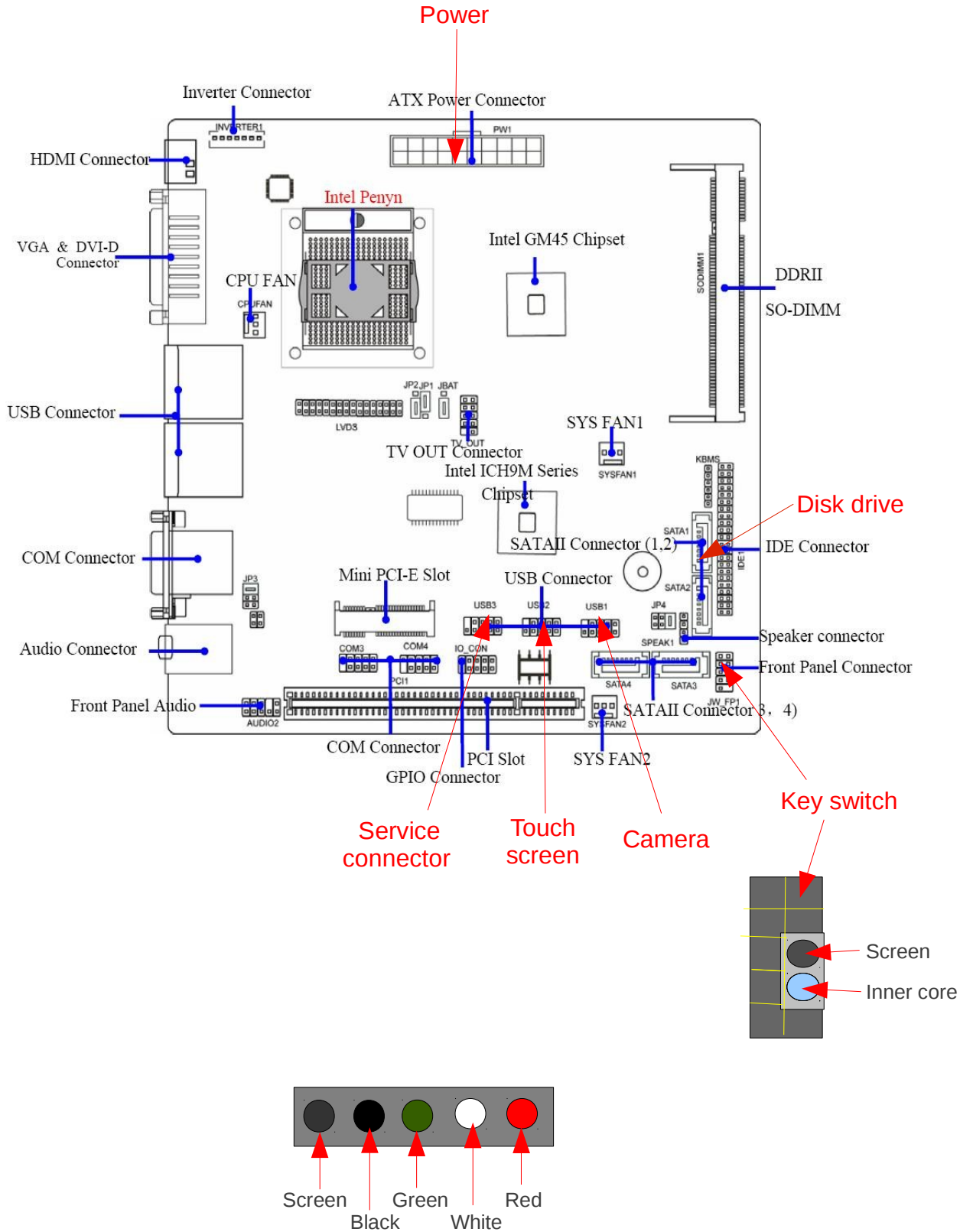
FCC Part 15 Subpart J, Class 'B' 115 Vac operation

CISPR 22 Class 'B' 230 Vac operation

## Power Supply Safety

- NEMKO EN 60950
- TUV EN60950 OR VDE EN60950
- CSA-C22.2 NO. 60950
- IEC 60950
- UL 60950
- CE:
  - EN 55022:1998+A1: 2000, Class B
  - EN 61000-3-2: 2000
  - EN 61000-3-3: 1995+A1: 2001
  
  - CISPR22: 1997+A1: 2001, Class B
  - AS/NZS CISPR 22: 2002, Class B

# Internal Wiring



All USB to be mounted in this orientation with the red cable positioned to the right-hand side with the board as shown above.

IPC connection diagram

## Statement of RoHS

**RoHS**, also known as Lead-Free, stands for **Restriction of Hazardous Substances**.

All applicable products in the European Union (EU) market after July 1, 2006 must pass RoHS compliance.

RoHS impacts the entire electronics industry.

The EC RoHS Directive **2002/95/EC** restricts the use of the six hazardous materials listed below in electrical and electronic equipment. The maximum concentration values of the restricted substances by weight in homogeneous materials are:

1. Lead (Pb)	0.1%
2. Cadmium (Cd)	0.01%
3. Mercury (Hg)	0.1%
4. Hexavalent Chromium (Cr6+)	0.1%
5. Polybrominated Biphenyls (PBB)	0.1%
6. Polybrominated Diphenyl Ethers (PBDE)	0.1%

Based on information provided by our suppliers Perception Sensors & Instrumentation designates the product listed below:-

### **Biometrics Terminal BT320 Series**

as RoHS compliant per the RoHS Directive 2002/95/EC.

Perception Sensors & Instrumentation take all reasonable steps to confirm suppliers' statements regarding the absence of restriction of hazardous substances.