

# Data Centre Technical Specifications

## Suntech @ Penang Cybercity (Penang)

*“This MSC status facility is located in Penang’s fast-growing Bayan Lepas Industrial Area, an industrial hub for a multitude of multinational and semiconductor companies.*

*It is a single 21-storey commercial building with excellent security characteristics that include contactless card access, digitally monitored systems and cameras deployed all around its premises.”*

### **Building Information**

#### **Address:**

1-12B-17 & 18, SUNTECH @ Penang Cybercity, Lintang Mayang Pasir 3, 11950 Bayan Baru, Penang, Malaysia

#### **Building Information:**

Single block 21 storey commercial building

#### **Power Supplies:**

11kV HT power feed from TNB power grid

#### **Telecommunication Manhole:**

Manhole for the incoming telecommunication fibre path

### **Site Specification**

#### **Data Centre Block:**

- Data Centre Space: 1,000 ft<sup>2</sup>

### **Building Floor Information**

#### **Floor Height:**

4.45 meter, slab to slab

#### **Floor Load:**

2.5 kN per square meter

### **Data Centre Specification**

#### **Critical Load Power Density:**

60 watts per sq ft

#### **Cooling Density:**

60 watts per sq ft

#### **Rack Arrangement/ Space Configuration:**

Hot aisle and cold aisle configuration:

- Cold Aisle Spacing: 1,200mm
- Hot Aisle Spacing: 1,000mm

#### **Critical Load Power Distribution:**

1 x primary and 1 x redundant final sub-circuits from separate PDU within the data centre

#### **Lighting:**

500 lux light density at the raised floor

### **Raised Floor System**

#### **Gross Raised Floor Area Per Floor:**

1,000 square feet

#### **RAF Height:**

300mm raised floor height

#### **RAF Type:**

HPL cementitious rigid grid

#### **Concentrated Load:**

4.5 kN

#### **Uniform Load:**

12 K-N per square meter

#### **Underfloor Insulation:**

Thermal isolation trocellin polyethylene foam

#### **Perforated Panel:**

Perforated panels are placed at the cold aisle

### **Uninterruptible Power Supply (UPS) System**

#### **Uninterruptible Power Supply (UPS) System:**

- Transformer less True-Online Double Conversion Modular Type Static UPS
- UPS system is installed to protect data centre critical loads

#### **Static UPS Capacity:**

20kVA per module

#### **Total Static UPS Capacity:**

60kVA

#### **UPS Battery Autonomy:**

10 minutes at full load

#### **UPS Redundancy:**

N + 1 Configuration

#### **UPS External Bypass:**

Provided

### **Earthing System**

#### **Dirty Earth:**

- Both dirty and clean earths are available at the data centre area
- The dirty (electrical) earth system is linked to existing building electrical earth
- All the electrical earth/ bonding are connected to the main dirty earth bar including the raised floor system pedestals bonding

#### **Clean Earth:**

Clean earth point is provided to each rack location under the raised floor

### **Power Distribution Unit (PDU)**

#### **PDU Configuration:**

- Each PDU receives one 400Vac protected power supply from UPS output panel within the data centre area
- PDU is equipped with digital power meter, KWH meter and indicating lights

#### **Static UPS Capacity:**

2 x 70kVA

#### **Circuit per Cabinet:**

1 x primary and 1 x redundant final circuit from separate PDU

#### **Circuit Protection:**

Each final circuit is individually protected by MCB and RCCB at PDU

#### **Circuit Breaker Sizes:**

Single phase 20A, 30A single phase are available from the PDU

#### **AC voltage at Cabinet Level:**

- 230V/ 50 Hz
- 400V/ 50 Hz

### **Emergency Power Generator (EPG)**

#### **EPG Plant:**

120KVA backup diesel generators

#### **Fuel Tank:**

External fuel tanks able to support EPG plant for 24 hours full load

#### **Supported Services:**

Data centre UPS, CRACs, chillers, lighting and general services within data centre areas



## **Construction/ Partition**

### **Ceiling:**

No false ceiling in data centre areas

### **Partitions:**

2 hours fire rated partition for each fire suppression zone

### **Cabling System:**

The data centre is installed with structured cabling system and infrastructure

## **Cooling**

### **CRAC Redundancy:**

N+1 redundancy

### **CRAC System Support:**

CRAC system is supported by EPG Plant

### **Temperature Control:**

22 Degree +/- 2°

### **Humidity Control:**

50% RH +/- 10% RH

## **Water Leakage Detection**

### **Water Leakage Detection:**

Water leak detection system is installed in data centre area

### **Leak Detection Type:**

Resistive leak tape (cable) monitoring leakage at any point along the perimeter of the data centre area and surrounding the CRACs.

## **Fire Detection and Suppression System**

### **Fire Suppression:**

Data centre areas are installed with FM-200 fire suppression system

### **FM-200:**

FM-200 Gas Suppression System will be installed above and under the raised access floor in data centre areas.

### **Fire Alarm and Detection System:**

Two stages of alarms are implemented for RM-200 heat and smoke detection system.

## **Security**

- 24 x 7 on site security
- Multi layered security controls
- Contactless card access system at all data centre door entrances and exits
- 24 x 7 CCTV monitoring backed by digital recordings up to 90 days storage at multiple sites

## **Building Management System**

### **Monitoring:**

Building Management System (BMS) to monitor and control the data centre areas

- Automatic control and monitoring of the environmental control system
- Monitoring of high tension supplies
- Monitoring of UPS and backup generator systems
- Monitoring of switchboard, PDU, fans, CRAC units
- Monitoring of fire safety system
- Monitoring of water leak detection
- Monitoring of room temperature and RH

### **On Site Manned Support:**

- 24 x 7 Service Operation Centre (SOC)
- 24 x 7 Facility Management team

## **Awards and Accreditations**

- ISO/ IEC 27001:2013 Information Security Management System
- ISO 9001: 2015 Quality Management System
- ISO 20000-1 Information Technology Service Management (ITSM)
- Computerworld Readers' Choice Awards for Cloud IaaS category in 2015
- 'Data Center Service Provider of The Year' by Frost & Sullivan in 2006, 2014 & 2016
- 'Best Data Centre Engagement of The Year' by Outsourcing Malaysia Excellence Award in 2011