

# BIOCIRCUIT - BIOCIRCUIT

# FREE

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## Pre-Installation Requirements

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**The Wellness Company**



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# 1. GENERAL WARNINGS

This manual includes informative notes with specific meanings:

**Safety signs classified according to the relative seriousness of the potential hazards:**



**DANGER:** INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY. THIS SIGNAL WORD IS TO BE LIMITED TO THE MOST EXTREME SITUATIONS.



**WARNING:** Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.



**CAUTION:** *Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.*

**Signs applicable to equipment:**



**ATTENTION:** REGULATION THAT MAY LEAD TO DAMAGE TO THE EQUIPMENT IF NOT COMPLIED WITH.



*Detail regarding the operation in progress.*



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## **2. NETWORK DESIGN – CONFIGURATION AND INSTALLATION**

### **2.1 INTRODUCTION**

- Installation and configuration of the network infrastructure (cables), of the network hardware (Switch, Router, firewall) and any wireless network are at the expense of the customer.
- Technogym warns that the efficiency and correct operation of the equipment and of the mywellness Cloud services depend on the technical characteristics of the hardware that is installed.
- Technogym does not guarantee the correct operation of the mywellness Cloud services in the event of failure to comply with all the technical specifications and warnings indicated.

### **2.2 NETWORK DESIGN AND INSTALLATION**

During the network design and preparation phases, Technogym requests to be put in touch with the technicians of the company performing the work, in order to obtain and provide technical information, so that the network is installed and configured according to the required technical requirements.

Technogym can not be held responsible for failures due to site preparation, assembly and installation not correct.

### **2.3 CONFIGURATION AND INSTALLATION**

Before performing the installation, the customer should inform Technogym that all the required components have been provided and installed and that they operate correctly.

For this purpose, Technogym will contact the customer few days before the date set for installation, to acquire the information related to the installation status of the network for the equipment and make sure that everything that has been requested to perform installation of the equipment is provided and operational.



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## 3. DISPLAY

### 3.1 BIOSTRENGTH LINE

#### 3.1.1 UNITY MINI

Equipment of BIOSTRENGTH LINE may be fitted with UNITY MINI Display.



*Fig. 1*

#### 3.1.2 10" DISPLAY

Equipment of BIOSTRENGTH LINE may be fitted with 10" Display.



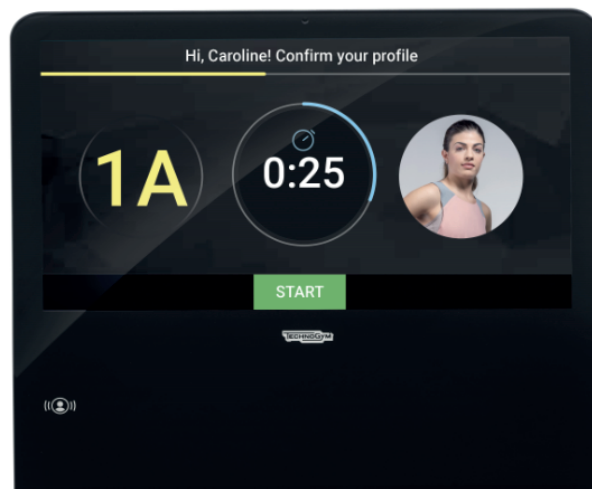
*Fig. 2*

## 3.2 CARDIO MACHINES (NOT AVAILABLE FOR BIOCIRCUIT FREE) AND UNITY SELF (NOT NECESSARY FOR BIOCIRCUIT FREE\*)

*\*: A Unity Self is NOT mandatory for a Biocircuit Free format, but it is strongly recommended to have at least 1 per location to let end users manage their prescribed workouts.*

### 3.2.1 DISPLAY UNITY

RUN, BIKE, NEW SYNCHRO machines and UNITY SELF are fitted with UNITY Display.



**Fig. 3 - Run machine**



**Fig. 4 - Unity Self (Not necessary for Biocircuit Free)**

## 4. TECHNICAL INFO AND REQUIREMENTS

### 4.1 TECHNICAL DATA AND POWER REQUIREMENTS

POWER SUPPLY	
BIOSTRENGTH LINE BIKE ARTIS NEW SYNCHRO ARTIS UNITY SELF	Multivoltage: 100÷240Vac, 50/60Hz
RUN ARTIS	Europe: 200÷240Vac, 50/60Hz Multivoltage: 100÷240Vac, 50/60Hz

**Tab. 1 - Power Supply**

MAXIMUM ABSORPTION VALUES		
	Power Supply: 100÷240Vac, 50/60Hz	
	Max Absorption 110V	Max Absorption 220V
BIOSTRENGTH LINE (except LEG PRESS)	12A*	6A
LEG PRESS	20A*	10A
BIKE ARTIS	2.8A	1.6A
NEW SYNCHRO	2.5 A	1.5 A

**Tab. 2 - Maximum absorption values**

MAXIMUM ABSORPTION VALUES				
	Power Supply EU: 200÷240Vac, 50/60Hz		Power Supply Extended Range: 100÷240Vac, 50/60Hz	
	Max Abs. 110V	Max Abs. 220V	Max Abs. 110V	Max Abs. 220V
RUN ARTIS	-	10A	20A	16A

**Tab. 3 - Maximum absorption values for Run Artis**

(\*): The values are theoretical.

USEFUL GUIDELINES FOR CIRCUIT BREAKERS	
BIOSTRENGTH LINE (except LEG PRESS)	Power Supply: 110 Vac: RECOMMENDED a 20 Amp Single Pole AFCI circuit breaker for each 2 equipment of Biostrength Line
	Power Supply: 220 Vac: RECOMMENDED a C10 circuit breaker for each 2 equipment of Biostrength Line
LEG PRESS	Power Supply: 110 Vac: RECOMMENDED a 20 Amp Single Pole AFCI circuit breaker for each LEG PRESS
	Power Supply: 220 Vac: RECOMMENDED a C10 circuit breaker for each LEG PRESS

**Tab. 4 - Useful Guidelines for circuit breakers**

BIOSTRENGTH LINE - TECHNICAL CHARACTERISTICS	
Motor peak power	2kW 6kW in Leg Press
Noise Level	Less than 70 dB
Protection rating	IP 20

**Tab. 5 - Biostrength Line - Technical Characteristics**

BIKE ARTIS - TECHNICAL CHARACTERISTICS	
Mains power input	150VA max
Braking Power (70 rpm)	40÷500 W ±10%
Protection rating	IP 20

**Tab. 6 - Bike Artis - Technical Characteristics**

SYNCHRO ARTIS - TECHNICAL CHARACTERISTICS	
Mains power input	160VA max
Braking Power (90 spm)	30÷310 W ±10%
Time	0÷999min ±1%
Distance	0÷99.99km ±5% (0÷99.99mls ±5%)
Protection rating	IP 20

**Tab. 7 - Synchro Artis - Technical Characteristics**

RUN ARTIS - TECHNICAL CHARACTERISTICS		
	Power Supply 200÷240Vac, 50/60Hz	Power Supply 100÷240Vac, 50/60Hz
Peak motor power	5800W (7.8Hp)	5800W (7.8Hp)
Speed 100 Vac power supply maximum power input	-	0.8-25Km/h (0.5-15.5 mph) 1600VA
Speed 120 Vac power supply maximum power input	-	0.8-25Km/h (0.5-15.5 mph) 2000VA
Speed 200-240 Vac power supply maximum power input	0.8-25Km/h (0.5-15.5 mph) 2200VA	0.8-25Km/h (0.5-15.5 mph) 2200VA
Gradient	0-15%	0-15%
Noise Level	Less than 70 dB	Less than 70 dB
Protection rating	IP 20	IP 20

**Tab. 8 - Run Artis - Technical Characteristics**

## 4.2 RECOMMENDATION: RCD SWITCH TYPE F

In the sites with RCD Switches installed it is mandatory to have a RCD Switch **type F** for every strength machine.

## 4.3 ELECTRICAL CONNECTION

Before connecting the product to the mains power supply, ensure that the electrical system specifications comply with current regulations. Check the mains power supply specifications on the identification label - on the label affixed close to the main switch.



**The wall socket must be located in a place where the plugging and unplugging can be done easily and safely.**



**The power supply socket must be grounded. If not, a ground connection must be installed by a qualified electrician before connecting the equipment to the electricity mains.**

The plug must be connected to an appropriate socket that is properly installed and earthed in accordance with all local codes and ordinances.



**Improper connection of the earth wire may result in risk of electrical shock. Check with a qualified electrician or maintenance operator if you are in doubt as to whether the product is properly earthed. Do not modify the plug provided with the product; if it does not fit the socket, have a suitable socket installed by a qualified electrician.**

There must be a dedicated power supply line for each machine and Unity Self. Connection in series via "Bridge" cable is not certified for BIOCIRCUIT and must not be realised.

The wall socket of the Unity Self must provide power of at least 800 watt and be used exclusively for Unity Self.

## 4.4 POSITION OF THE PRODUCT SOCKET

The Chest Press, Shoulder Press, Low Row, Vertical traction, Lower Back and Total Abdominal machines have the product socket, positioned on the front side, as shown below.



*Fig. 5 - Example picture*

The Leg Extension and Leg Curl machines have the product socket, positioned on the back side, as shown below:



*Fig. 6 - Example picture*





**Fig. 7 - Leg Press (Left Side)**



**Fig. 8 - Bike**



***Fig. 9 - Synchro***



***Fig. 10 - Run***



***Fig. 11 - Unity Self***



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## 5. BIOCIRCUIT - BIOCIRCUIT FREE NETWORK REQUIREMENTS

### 5.1 BIOCIRCUIT NETWORK CONFIGURATION: FORBIDDEN MIXED CONFIGURATIONS

**Field of Application:** Biocircuit.

Technogym doesn't guarantee the correct functioning of BIOCIRCUIT, if machines of BIOCIRCUIT are connected to a data network both via wireless and via ethernet cable: mixed configuration. Therefore, you must have all BIOCIRCUIT equipment connected to a data network via wireless or via cable.

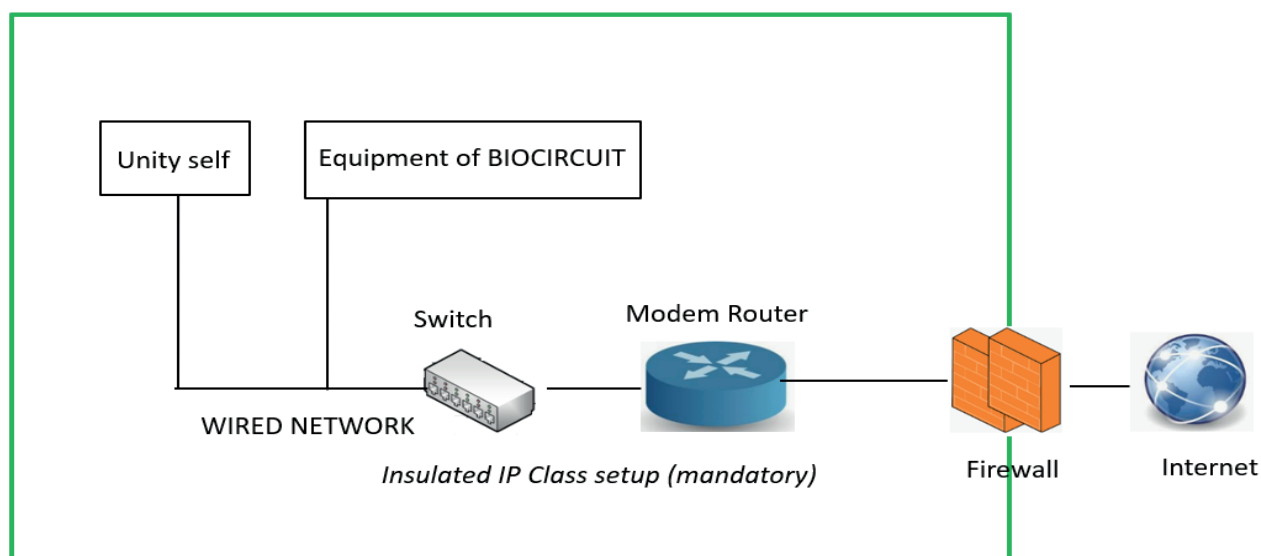
### 5.2 BIOCIRCUIT NETWORK ARCHITECTURE

**Field of Application:** Biocircuit.

The BIOCIRCUIT must have a dedicated network and is strongly recommended to have a wired network, as shown in the pictures below.

#### 5.2.1 Correct wired network architecture (strongly recommended)

**Field of Application:** Biocircuit.



**Fig. 12**

## 5.2.2 Correct wireless network architecture

Field of Application: Biocircuit.

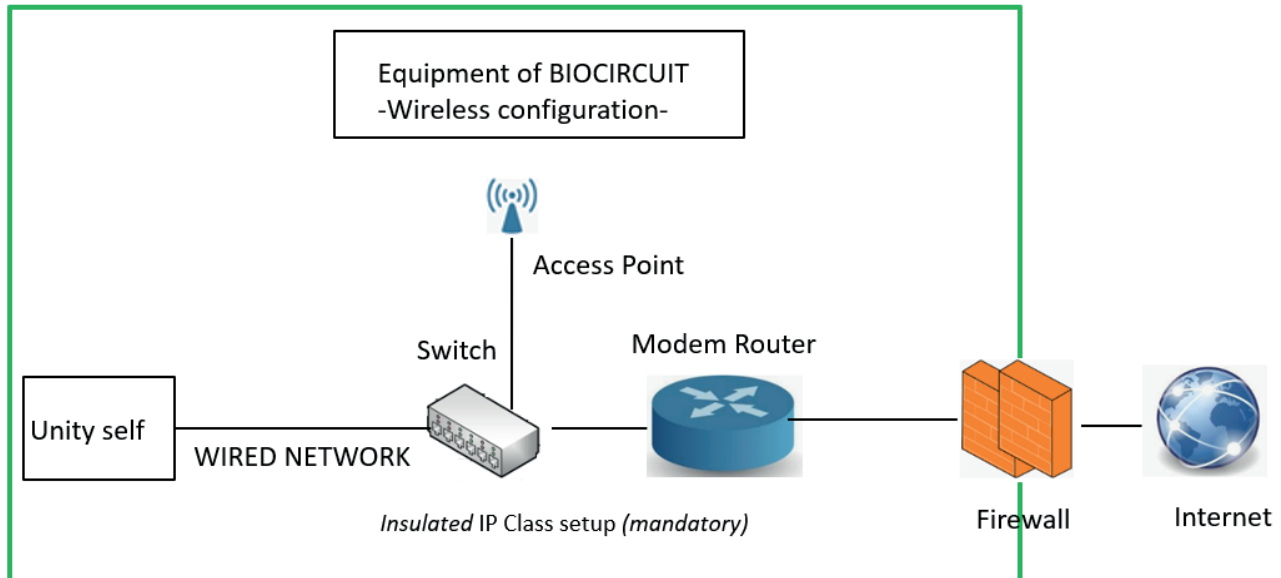
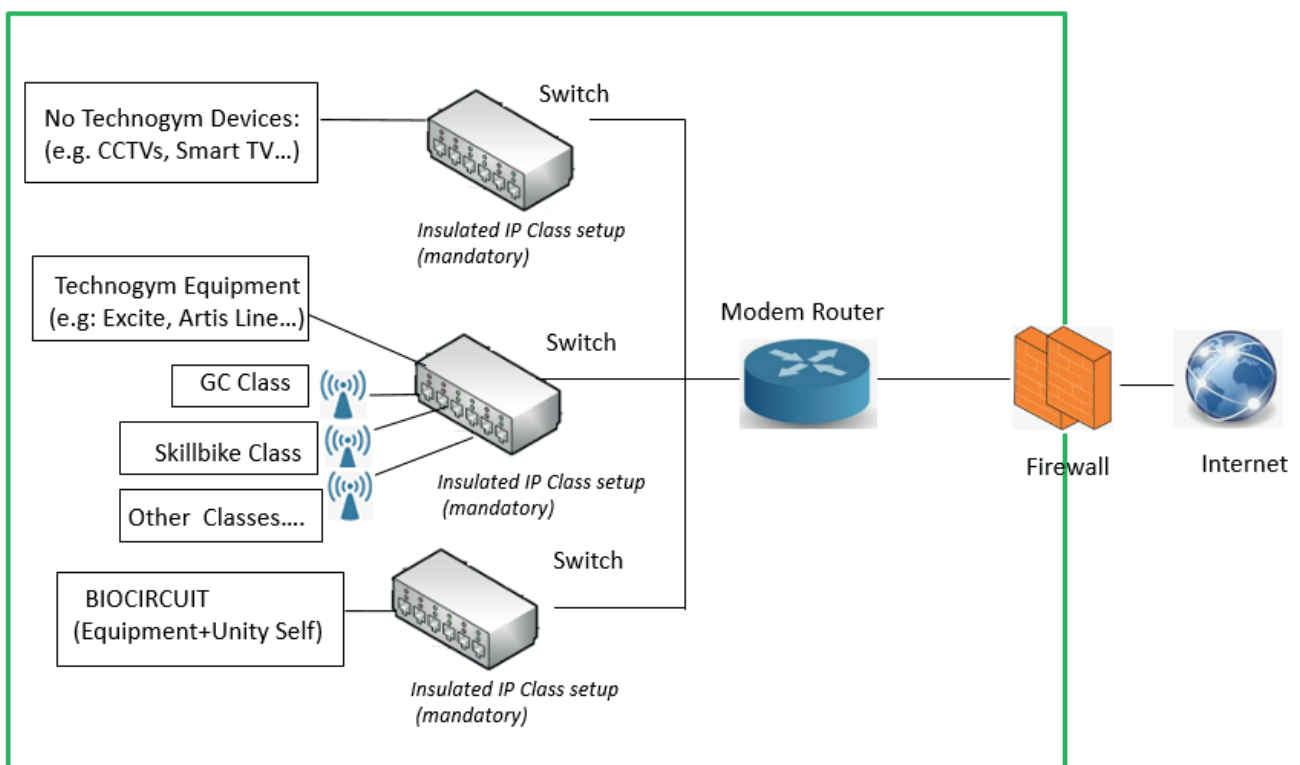


Fig. 13

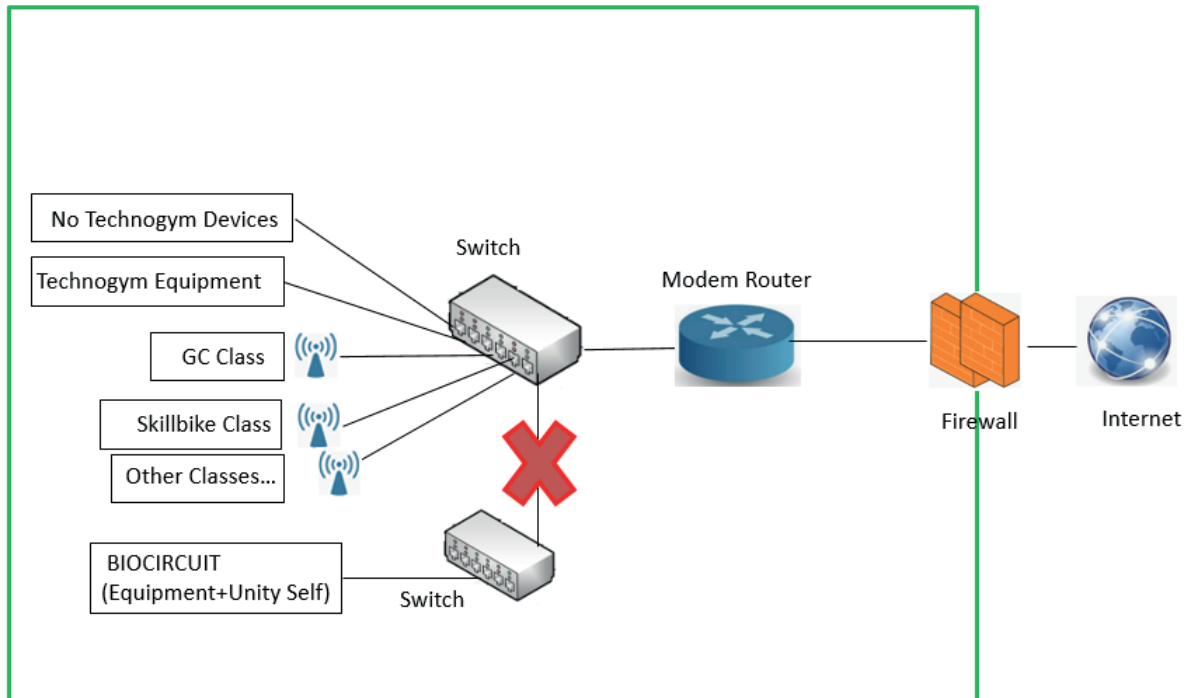
## 5.2.3 Correct complex network architecture (mandatory)

Field of Application: Biocircuit.



## 5.2.4 Forbidden network architecture that causes local network latency (Example 1)

Field of Application: Biocircuit.



**Fig. 14**

## 5.2.5 Forbidden network architecture that causes local network latency (Example 2)

Field of Application: Biocircuit.

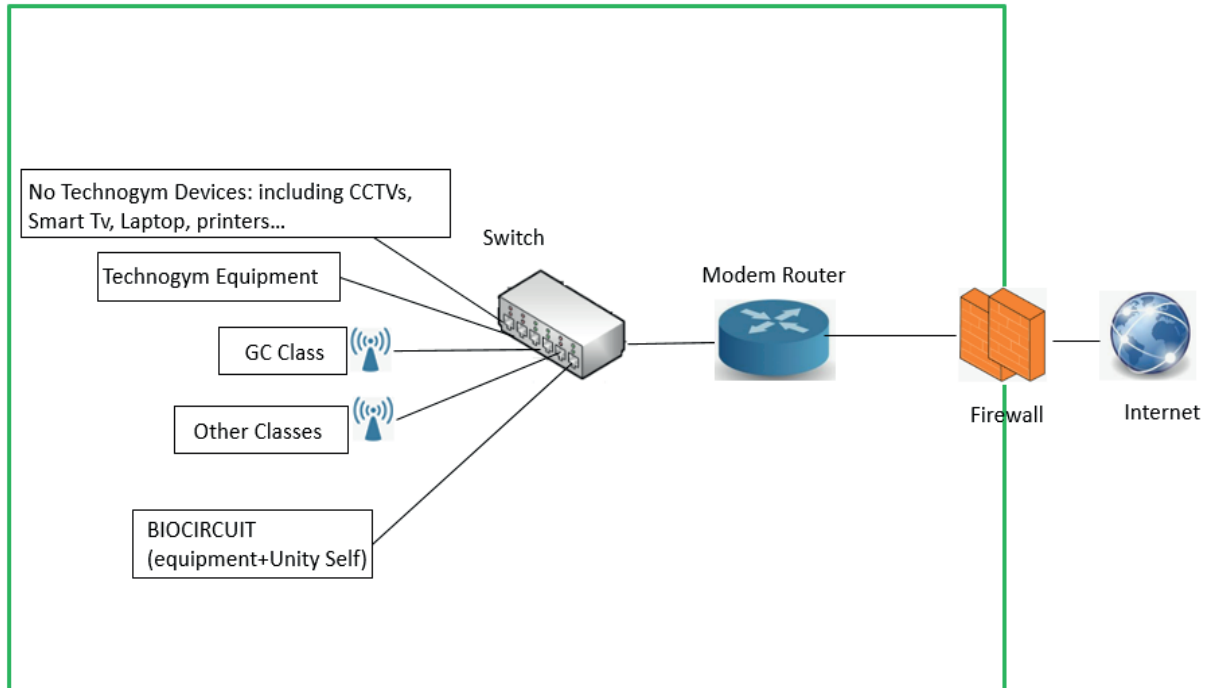


Fig. 15

## 5.3 ROUTER WITH 4G FAILOVER IN CASE OF UNSTABLE INTERNET CONNECTION

Field of Application: Biocircuit.

Technogym strongly recommends to use a ROUTER WITH 4G FAILOVER, in case of unstable internet connection.

The Modem router Nighthawk 4G LTE has been tested and guarantees the correct functioning of Biocircuit.



Fig. 16 - Modem router Nighthawk 4G LTE



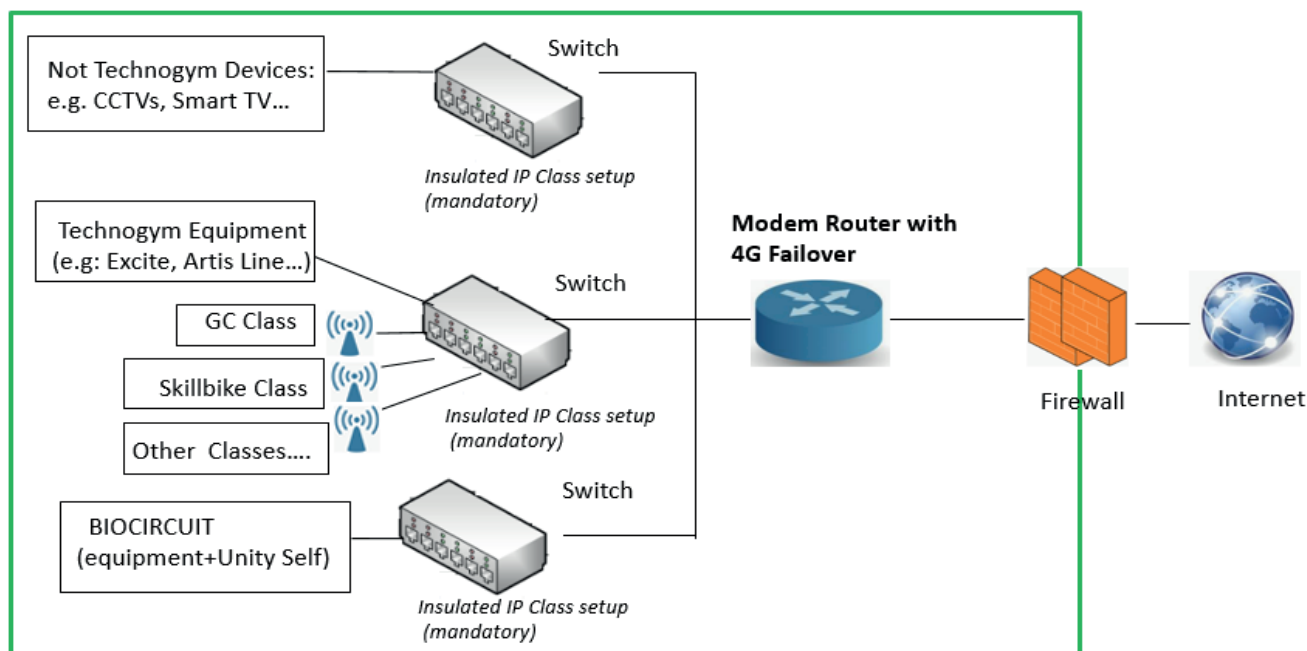


Fig. 17

## 5.4 BIOCIRCUIT - BIOCIRCUIT FREE: NETWORK REQUIREMENTS

### 5.4.1 Ethernet cabled network (Recommended)

**Field of Application:** Biocircuit - Biocircuit Free: Unity Self (not necessary for Biocircuit Free), Biostrength Line, Cardio equipment (not available for Biocircuit Free).

Please note that UNITY SELF MUST BE CONNECTED TO A DATA NETWORK, BY ETHERNET CABLE. Technogym doesn't guarantee the correct functioning of BIOCIRCUIT, if UNITY SELF is connected to a data network via wireless.

#### Ethernet Cabled Network Requirements:

- \_ Category 5e/6 -UTP Ethernet cables with RJ45 patch;
- \_ Switch with a number of ports greater than or equal to the number of equipment (included the Unity Self) connected.

### 5.4.2 Wi-Fi network

**Field of Application:** Biocircuit - Biocircuit Free: Biostrength Line and Cardio equipment (not available for Biocircuit Free).

#### Wireless Network Requirements:

The wireless network must be installed and configured only by specialised companies and expert technicians before Technogym delivers the product, in accordance with the technical specifications set out below.

- Standard: IEEE 802.11 a/b/g/n at 5GHz or 2.4GHz;
- Frequency Band:
  - \_ 5GHz band only (not automatic) is the configuration suggested;
  - \_ If the Access Point is not provided with 5GHz band, 2.4GHz is ok but might need some channel fine tuning by the local IT company. The best practice for 2.4GHz Wi-Fi configuration is enabling Wi-Fi on one of the following channels: 1, 6, 7, 8, 9, 10, 11, 12. Other channels: 2, 3, 4, 13, 14 might cause interference with Bluetooth signal and it's best to avoid them.
  - \_ Avoid in any case to broadcast the same SSID, through 2.4 and 5 GHz, at the same time.
- Security Protocol: WEP, WPA/WPA2, open (free) network; Please note that the protocol WPA2 Enterprise is not supported.
- Technogym requires mandatory to use only one dedicated Professional Access Point for each BIOCIRCUIT, with only one SSID (Service Set Identifier). The SSID must not be hidden;
- DHCP enabled;
- LEASE TIME: at least three days;
- Wi-Fi Auto Channel disabled, set on the best fixed channel for that structure;
- SESSION TIMEOUT disabled (Typically achieved setting the timeout = 0).



*For more details about your chosen Access Point please refer to the manufacturer's printed AP technical specifications.*

### **Wireless Network Guidelines:**

The wireless network should be installed and configured only by specialised companies and expert technicians.

- The equipment must not be more than 25-30 metres LOS (line of sight) away from the Access Point (analyse possible problems due to the presence of walls or other obstacles between the Access Point and the equipment).
- If you use an Access Point with a fixed channel: avoid overlapping problems if, in the same area, there are Access Points that use the same channel.

### **5.4.3 Firewall / Router rules for Mywellness Cloud**

The Firewall\Router installed locally must be configured with ports 80 and 443 open. These ports must also be opened on the devices of the related ISP (Internet Service Provider). Free access to the Internet must be guaranteed for correct use of the Mywellness Cloud services, and in particular access to the following DNS names must never be disabled:

DNS Names
mywellness.com
technogym.com
rackcdn.com
clouddrive.com
cloudfront.net
certs.godaddy.com
thawte.com
google.com
googleapis.com
google-analytics.com
2.android.pool.ntp.org
amazonaws.com
https://services.mywellness.cn (*)

**Tab. 9**

(\*): Only for China.

Moreover, It shall be possible to download **tar.gz** and **.tar** packets.

#### 5.4.4 Proxy

Proxy not managed.

#### 5.4.5 Network bandwidth requirements

The below table illustrates the minimum infrastructure requirements.

NETWORK BANDWIDTH REQUIREMENTS							
N° OF EQUIPMENT		5		10		20	
MINIMUM REQ.	LOCAL NETWORK	WI-FI or wired		WI-FI or wired		WI-FI or wired	
	BANDWIDTH REQ.	DownLoad	Upload	DownLoad	Upload	DownLoad	Upload
		>2Mbps	>512Kbps	>5Mbps	>512Kbps	>7Mbps	>1Mbps
	LOCAL SERVER	Not necessary		Not necessary		Not necessary	

**Tab. 10**



## **5.5 SPECIFIC REQUIREMENTS FOR UNITY SELF OF BIOCIRCUIT**

As defined above: UNITY SELF MUST BE CONNECTED TO A DATA NETWORK, BY ETHERNET CABLE.

**Compliant UNITY SELF:** starting from UNITY SELF ARTIS 2016 (E0204V15) / UNITY SELF ARTIS 2017 (E0204V16).

**IP Setting:** a static IP must be assigned to the Unity Self.

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## 6. ACKNOWLEDGEMENT AND ACCEPTANCE

*Date:* \_\_\_\_\_

*Acknowledged and accepted* \_\_\_\_\_



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## 7. LIST OF CHANGES FOR MANUAL VERSION

The main changes made to this manual, are listed below in chronological order.

### 7.1 REVISION 1.0

First released version.

### 7.2 REVISION 2.0

Changed paragraph "3. Electrical Data/Requirements": added the circuit breakers values.

New paragraph "5.1 Network configuration" added: underlined to use of a broadcast network to guarantee the correct use of BIOCIRCUIT.

New paragraph "5.2 Broadcast Network" added: included a note to use equipment connected to a data network or via wireless or via cable.

New paragraph "5.4.1 Ethernet Cabled Network" added: included the possibility to use BIOCIRCUIT equipment fitted with UNITY MINI that are connected via Ethernet cable.

Changed paragraph "5.4.5 Firewall Router Rules for Mywellness cloud": added two DNS names.

### 7.3 REVISION 3.0

Changed paragraph "5.2 Broadcast Network": specified the mandatory use of equipment connected to a data network or via wireless or via cable.

Changed paragraph "5.3 Access Point": specified the use of only one Professional Access Point for each Biocircuit with only one SSID.

Changed paragraph "5.4.2 Wi-fi Network": specified the wireless technical characteristics as frequency band, LEASE TIME and SESSION TIMEOUT.

Changed paragraph "5.4.5 Network Bandwidth Requirements": specified the wireless technical characteristics about frequency band.

Changed paragraph "5.5 Unity Self": added Static IP address.

### 7.4 REVISION 4.0

Inserted technical data for equipment and Unity Self.

Inserted technical info for the new equipment NEW SYNCHRO that can be inserted in the Biocircuit.

Detailed the network architecture;

Detailed the network requirements for equipment and Unity Self of Biocircuit.

## **7.5 REVISION 5.0**

Extended the scope of the document to BIOCIRCUIT FREE.

Inserted the reference to the new display 10".

New paragraph RECOMMENDATION: RCD SWITCH TYPE F.

## **7.6 REVISION 6.0**

Modified § 5.4.2 Wi-Fi Network: the Wi-Fi Auto Channel must be disabled.







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