NFC User Manual.doc
Pag. 1 di 8

TECHNOGYM S.p.A.
Via G. Perticari, 20 - 47035
Gambettola (FC) - Italia
Tel.: +39 (0) 547- 56047

Technogym®

NFC 12V Reader
0wq00484AB

User/Integration manual

NFC User Manual.doc
Pag. 2 di 8

TECHNOGYM S.p.A.
Via G. Perticari, 20 - 47035
Gambettola (FC) - Italia
Tel.: +39 (0) 547- 56047

Table of contents

1 General overview

NFC 12V Reader with Technogym code 0wq00484AB is an accessory of Technogym Equipment that let them communicate with Technogym MyWellness app running on NFC enabled mobile phones, in a contactless way.
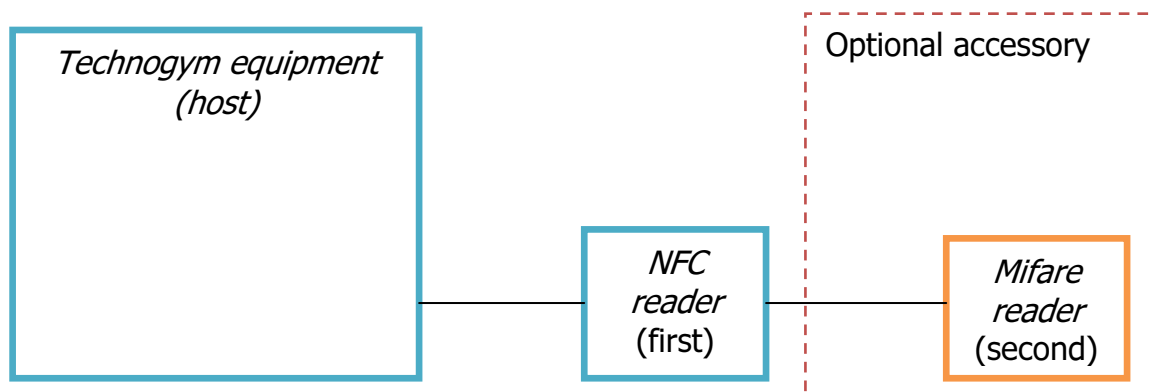
Once a NFC phone is approached to the NFC 12V reader it automatically launches Technogym MyWellness app on the phone and exchange user specific training data to the equipment.

In this way the equipment unequivocally identifies the user and configures itself with a GUI, workout and training time specifically for this user.

2 Description

NFC 12V Reader is made by a board inside a plastic housing that may change depending of the Technogym equipment where the device must be mounted on.
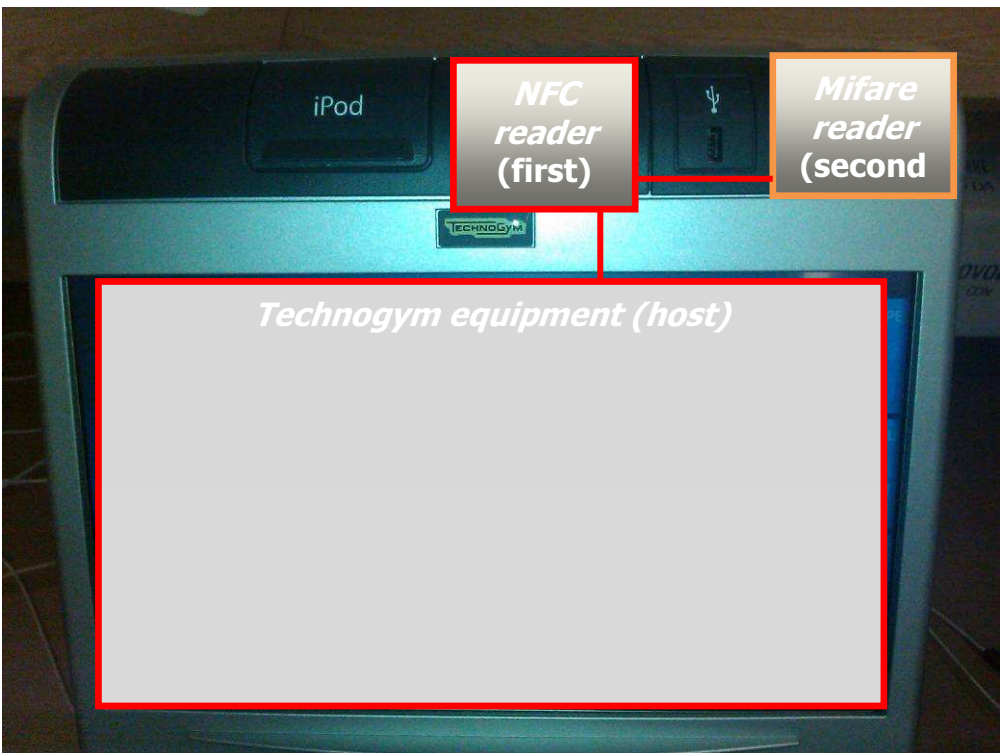
Technogym equipment can be enabled to interact with NFC mobile phones connecting NFC reader 0WQ00484AB and with Technogym Mifare Classic tags connecting Mifare reader 0WQ00485AA "in chain mode" to NFC reader, as follow:

Picture 1 – System block diagram

NFC reader and Mifare reader never work at the same tame.

NFC User Manual.doc
Pag. 4 di 8

TECHNOGYM S.p.A.
Via G. Perticari, 20 - 47035
Gambettola (FC) - Italia
Tel.: +39 (0) 547- 56047

This block diagram can be better understood in the next picture, overlayed with the real equipment:
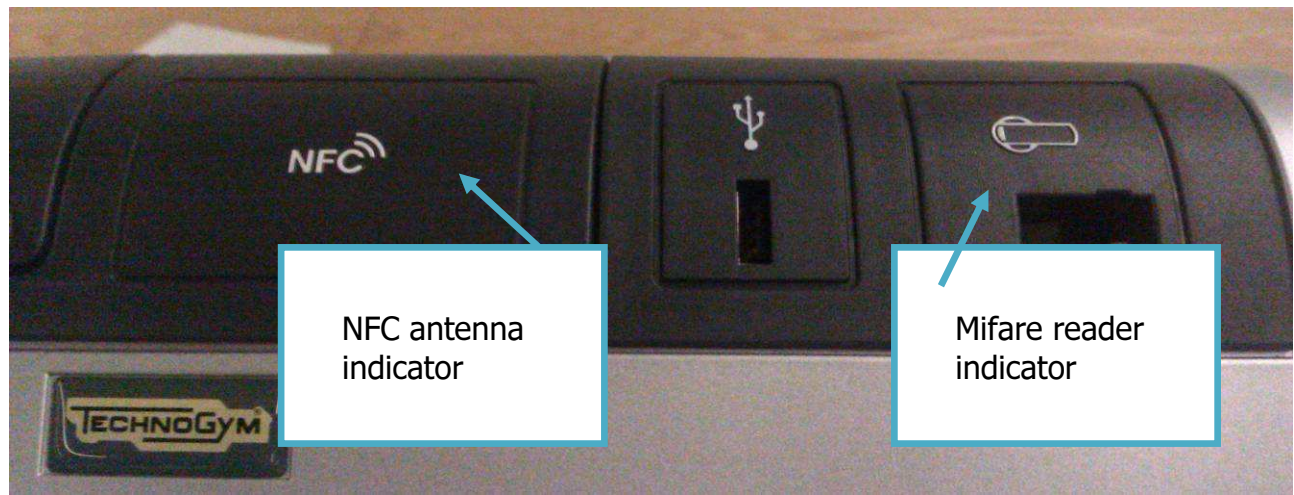

Picture 2 – Equipment with overlayed block diagram

The connection to the host is made by means of a cable that allows:
- Device powering;
- Data communication (the host SW manage a serial port switch to enable once the NFC reader and once the Mifare reader, working in time slots).
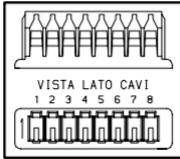
The module antenna is embedded on the board and its positioning on the equipment is shown with a specific indication:

Picture 3 – NFC and Mifare indications.

NFC User Manual.doc
Pag. 5 di 8

TECHNOGYM S.p.A.
Via G. Perticari, 20 - 47035
Gambettola (FC) - Italia
Tel.: +39 (0) 547- 56047

3 Communication and connector

Connector of NFC 12V Reader has the following signals and pinout:

Picoblade Molex on the device (on board)	Description
VISTA LATO CAVI 1 2 3 4 5 6 7 8	
1	+12Vdc
2	TX out
3	RX in
4	N.C.
5	N.C.
6	N.C.
7	N.C.
8	GND

Data communication is standard RS232 with next parameters:
- Baud rate: 115200 bps;
- Data bits: 8;
- Parity: None;
- Stop Bit: 1;

Over this serial communication Technogym has developed a proprietary communication protocol implemented on every host that may be connected to this device.
The SW driver for the NFC Reader is developed by Technogym an integrated into Operating System of the host.
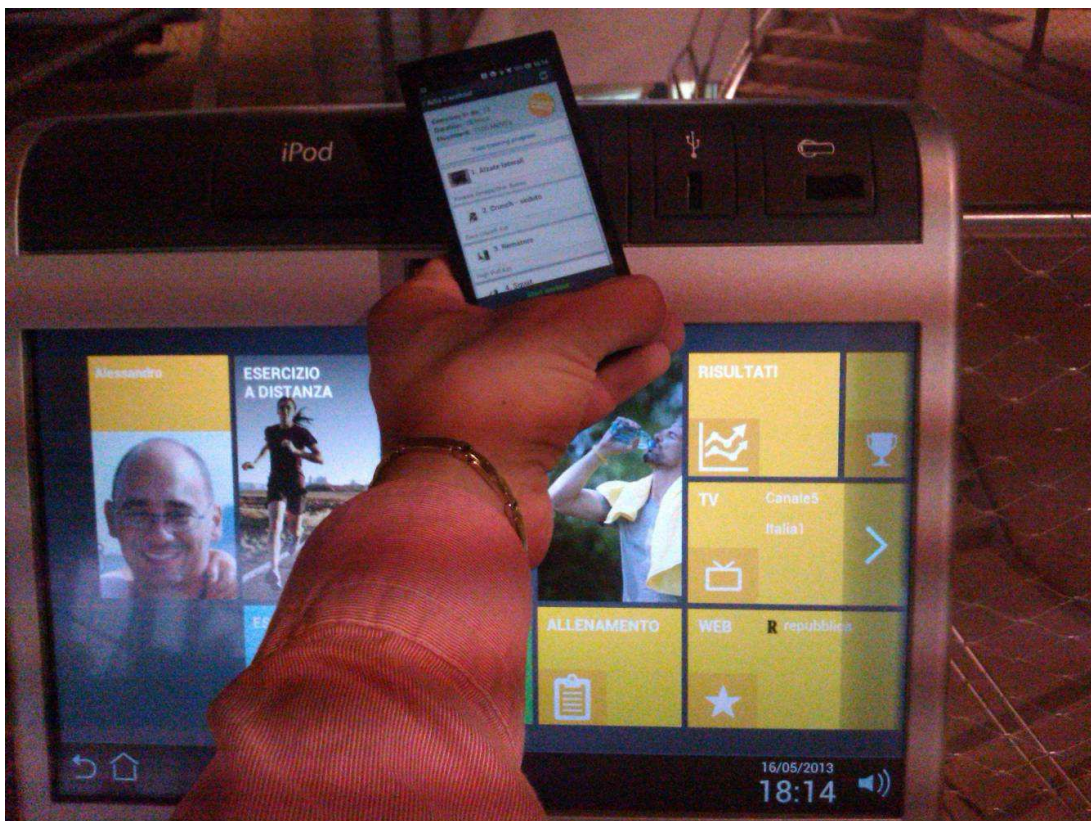
4 Operating mode

The Technogym equipment host switches continuously between NFC and Mifare reader, looking for a compatible device present in the RF field.
NFC reader will communicate to NFC mobile phones once the phone is located in the RF field. After that mobile phone with preinstalled Technogym MyWellness application will manage the communication to the equipment, that will be able to unequivocally will identify the user and its training data.
Use case is shown in the following pictures:

NFC User Manual.doc
Pag. 6 di 8

TECHNOGYM S.p.A.
Via G. Perticari, 20 - 47035
Gambettola (FC) - Italia
Tel.: +39 (0) 547- 56047

Picture 4 – User places NFC mobile phone in front of NFC indicator

Picture 5 – User identified from the equipment through NFC link

NFC User Manual.doc
Pag. 7 di 8

TECHNOGYM S.p.A.
Via G. Perticari, 20 - 47035
Gambettola (FC) - Italia
Tel.: +39 (0) 547- 56047

5 NFC compatibility

The NFC module will be compatible with the following handsets:

- Google NEXUS S
- Samsung GALAXY NEXUS GT-i9250
- Samsung MINI 2 S6500 NFC
- Sony Xperia P LT22i
- LG 4X

This list may be subject to future changes according to new devices released on the market in the coming months. For a complete list of devices which integrate NFC please refer to:
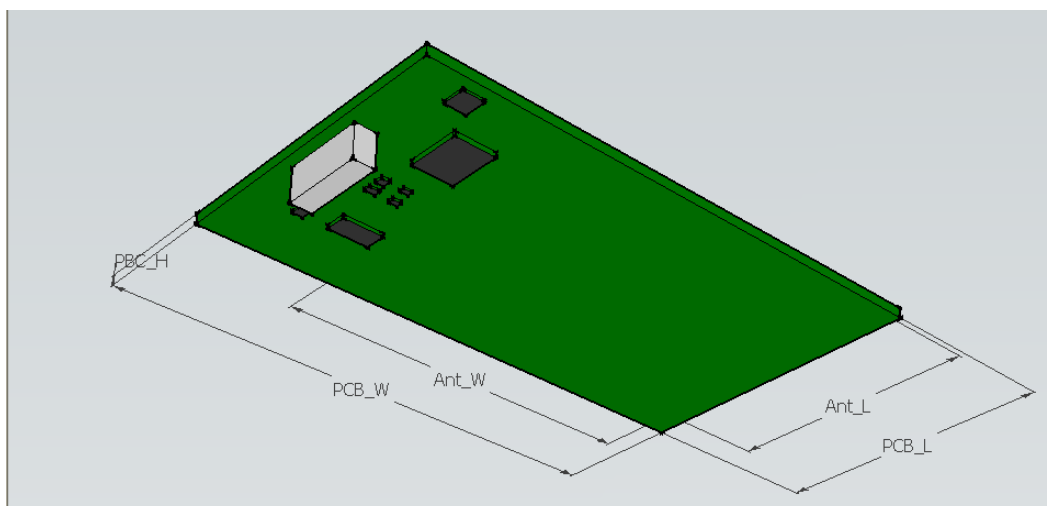
http://www.nfcworld.com/nfc-phones-list/
http://www.paywithisis.com/
http://www.nfc.cc/nfc-phones/

New mobile phone compatibility will be obtained through a software update.

6 Mechanical dimensions

The NFC 12V reader has the following mechanical dimensions:

Reference	MAX dimension
PBC_W	83mm
PCB_L	45mm
PCB_H	1.6mm
Ant_W	40÷60mm (tbd)
Ant_L	40mm

The electronic board has all components on one side only and the connectors must be of type SMT.

NFC User Manual.doc
Pag. 8 di 8

TECHNOGYM S.p.A.
Via G. Perticari, 20 - 47035
Gambettola (FC) - Italia
Tel.: +39 (0) 547- 56047
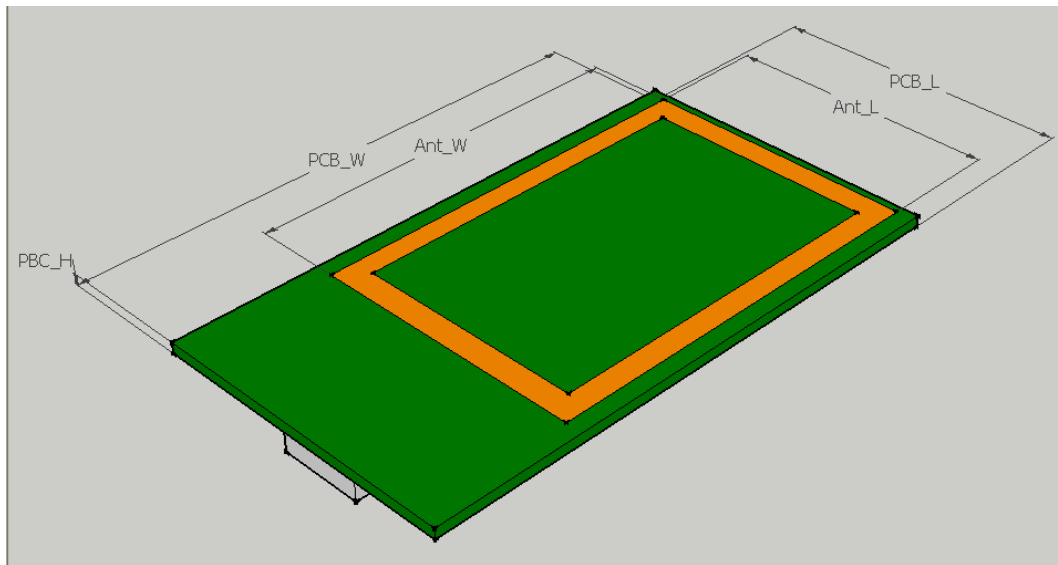
Picture 6 - NFC 12V reader mechanical dimensions

7   Installation

Each equipment has a specific upgrade kit to upgrade it with NFC 12V Reader 0wq00484AB, please refer to the specific equipment service manual to get the right part number with the right housing and the right installation procedure.

8   FCC Statements

FCC § 15.19 Labelling requirements

This device complies with part 15 of the FCC Rules subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

When integrating the module into end products, the end product label shall be marked in the following way:

Contains FCC ID: ZQWGIT000004

FCC § 15.21 Information to user

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.