mitrefinch T2 Clocking and Access Control Terminal Owner's Manual

**T2 Clocking and Access Control Terminal
Owner's Manual**

What is the management portal?
The management portal is an enterprise time and security control platform.
The family of Mitrefinch terminal hardware enables you to use a variety of clocking options, including face, fingerprint, and prox devices, to capture employee time clocking and much more.

How does the management portal work?

The T2 connects over the internet to the Mitrefinch management portal. The portal provides graphical configuration tools and real-time visibility of security status throughout the world.

The T2 automatically performs config and the management portal OS updates. No on-site servers or software are required to control and manage your security estate.

What is a T2?

A T2 is a biometric authentication terminal used to allow a business to authenticate and track clocking data for users. The users do this by interacting with the device to register their arrival and departure times.

Additional applications and features are available on the device according to the customer's requirements.

Contents

Specifications

Everything you need to know about the T2

Case	PTFE coated Magnesium Alloy
Networking	Ethernet, Wi-Fi (2.4Ghz)
IP Rating	IP66
Battery Backup	Up to 60 mins
Authentication Modes	Face/Finger/Prox
Contactless Clocking	✅
Onboard User Enrolment	✅
HD Video Camera	✅
Mic/Speaker	✅
7" Hi-Res Colour Touchscreen (Capacitive)	✅
Internal Proximity Reader	✅
Integrated Prox Card Enroller	✅
Temperature Sensor	✅
Supported Users	10,000
LED Status Indicator	✅
Operating System	Mitrefinch OS
Cabling Conduit Adaptor	(Optional)
Power	10W (typ) DC or PoE
Operating Temperature Range	-10 to 40°C
Certifications	CE/CB/FCC/MET/RCM/NRTL/UK CA
Dimensions (H x W x D mm)	296x126x39

Installation procedure

Before use the device should be wall-mounted using the supplied steel wall bracket.
We recommend that the device is installed by a suitably qualified installation technician.

Installation steps

1. Fix the steel wall bracket to the wall in an appropriate position, ensuring there is enough space to mount the T2.

2. Run all necessary cables to their position near the terminal. The T2 can be cabled directly into the back via a wall conduit or from underneath. The rear access port is recommended when an IP66 installation is required.

3. Plug the cables into the T2 as specified within a Mitrefinch installation plan.

4. If you are a Mitrefinch installation professional, you may plug the power into the T2 and turn it on at the mains.

5. Switch the battery to on. The T2 will begin to boot up.

6. Screw the rear plate onto the back of the T2.

7. Screw the set screws into the bottom of the T2.

8. Hang the T2 on the wall bracket.

9. Install the two retaining nylon locking nuts onto the set screws and tighten them.

At this point, the unit will need to be added to the network. This is covered in 'Network settings and hardware' on page 13.
This stage of commissioning is undertaken by a Mitrefinch specialist and we do not recommend a customer attempt to add the unit to their network until fully trained by a Mitrefinch specialist to do so.

Cabling and physical installation options
The T2 supports a wide variety of installation options. If installed correctly the T2 can offer full IP66 water and dust ingress protection to support use both outside and in environmentally challenging environments.
The unit may be powered by Power over Ethernet or a dedicated low voltage DC power supply. Mitrefinch only recommends the use of a Mitrefinch supplied and certified power supply with Mitrefinch hardware.

Wall mounting bracket

The T2 comes with a strong steel wall mounting bracket.
The rear bracket plate should be screwed to the wall with a recommended minimum of M3.5 x 40mm screw and rawl plug. In the case of an IP66 installation please see the guidelines in the IP66 Section.
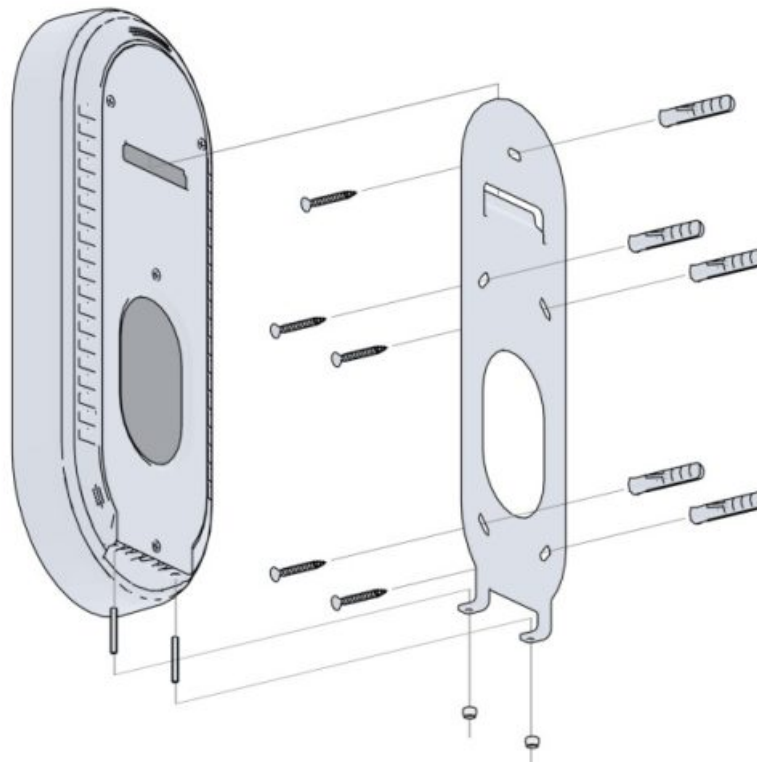
Cables can be fed through the circular hole ready for the T2.
Once all the cables have been inserted, the T2 backplate can then be screwed to the T2, he set screws screwed into the holes in the bottom of the T2, and the T2 hooked onto the wall bracket.
The T2 is secured in place by two nylon locking nuts fitted to the set screws.

Cable entry
Cables can enter the T2 from the rear or from below.

Placement

1300mm
or 850mm*

*depending on accessibility requirements ✓ Less than 1.0m
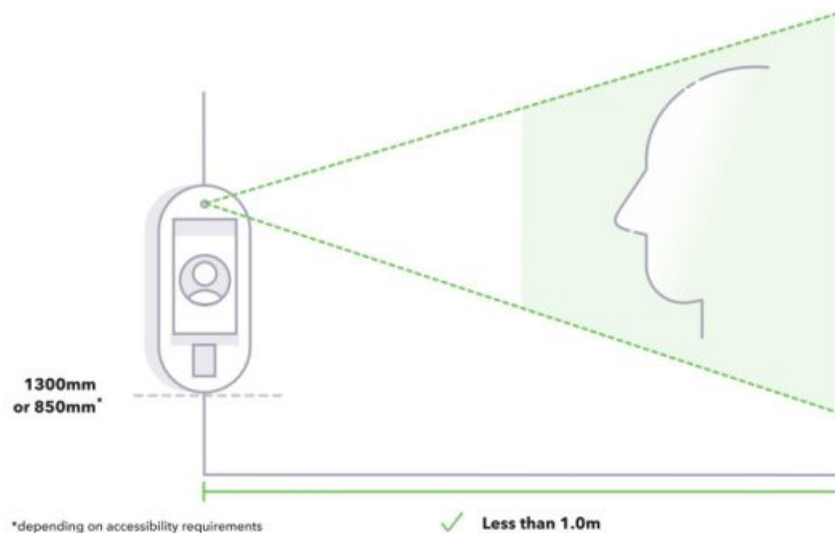
IP66 installations

The T2 is IP66 certified – installations that require protection against the ingress of water or dust must use the rear cable entry.
Rubber seals are supplied as standard with all units and must be left fitted to the cable slots in the bottom of the unit before the rear plate is affixed. Before the wall bracket is screwed to the wall, care should be taken to ensure the wall is flat and flush with the bracket.
To ensure water does not gather behind the T2 supporting bracket, exterior grade waterproof sealant needs to be applied. A ring of sealant should be piped onto the wall, 1cm from the outside edge of the bracket, and cover the entire circumference prior to screwing it to the wall.
Cables should be channeled into or presented through the wall and fed through the holes in the T2 brackets. Once securely fastened, the two neoprene seals will compress to ensure a watertight seal.

It is imperative that the DC power adapter should not be left exposed or positioned externally. It should be placed inside and the long lead run down the channel and into the back of the T2 through the waterproof aperture.
Similarly, where an ethernet cable is used to power the device, the cable should be carried down a waterproof channel and in through the entry hole.

Optional conduit adapter

For installations requiring a bottom entry, Mitrefinch can supply an optional conduit adapter which enables power and data cables coming in via a 20mm standard conduit to be junctioned to the bottom of the T2.
In this case, the two rubber bungs are removed to enable the cables to enter into the bottom of the unit.
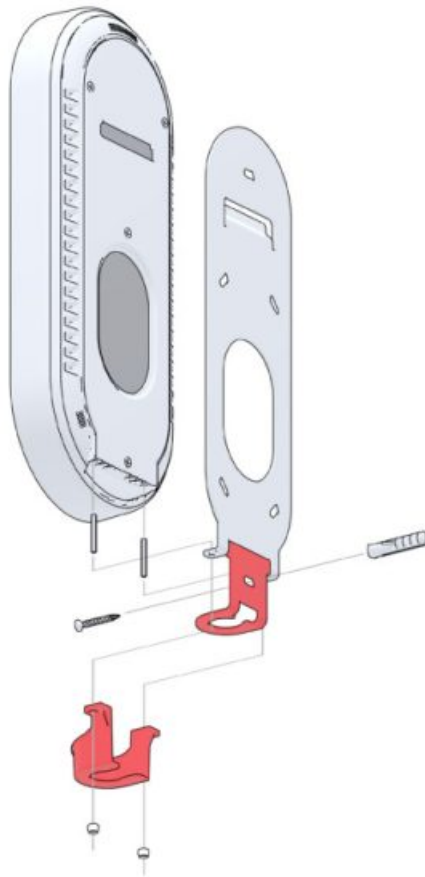
Under no circumstances should your DC power supply or PoE switch be placed outside or exposed to water.

Configuration and deployment process

Before you turn on the T2, build the appropriate configuration using the graphical configuration screen on the management portal.

Scenarios for most hardware devices are applied as templates and adaptively assign the wiring connections on the rear of the T2.

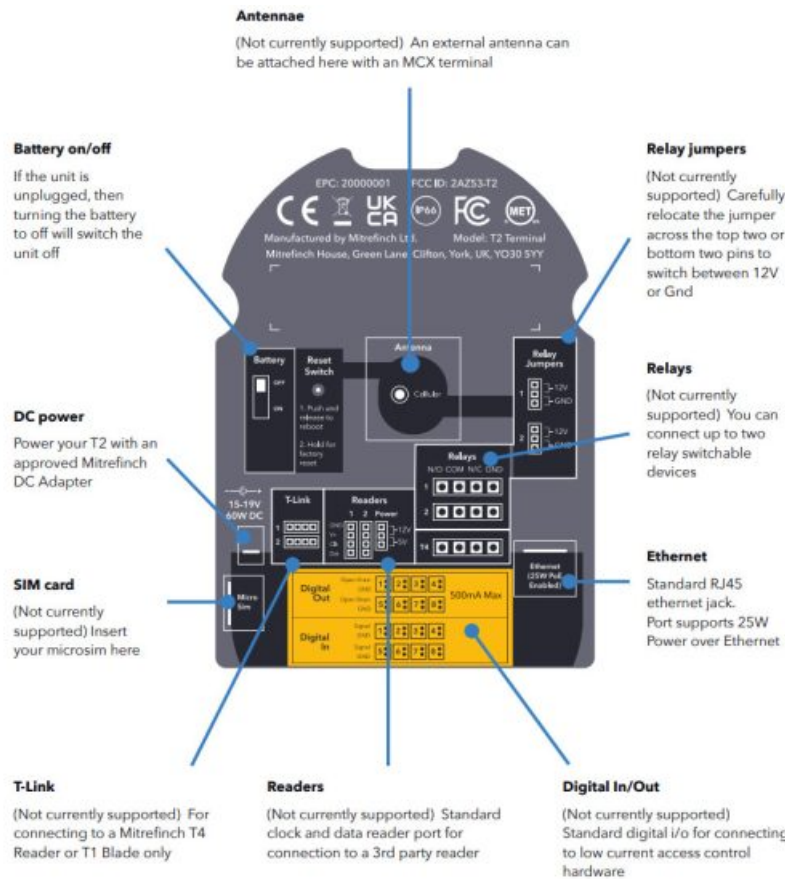When on-site, wire the solution exactly as detailed in the graphical configuration (downloadable).

During the setup phase for the T2, a device-specific engineer pin code will be required in order to enable and configure the device.

Connectivity

On the back of the T2 is an illustrative sticker detailing the connections on the unit. The following diagram outlines the purpose and function of these connections.

Antennae

(Not currently supported) An external antenna can be attached here with an MCX terminal

Battery on/off

If the unit is unplugged, then turning the battery to off will switch the unit off

Relay jumpers

(Not currently supported) Carefully relocate the jumper across the top two or bottom two pins to switch between 12V or Gnd

DC power

Power your T2 with an approved Mitrefinch DC Adapter

Relays

(Not currently supported) You can connect up to two relay switchable devices

SIM card

(Not currently supported) Insert your microsim here

Ethernet

Standard RJ45 ethernet jack. Port supports 25W Power over Ethernet

T-Link

(Not currently supported) For connecting to a Mitrefinch T4 Reader or T1 Blade only

Readers

(Not currently supported) Standard clock and data reader port for connection to a 3rd party reader

Digital In/Out

(Not currently supported) Standard digital i/o for connecting to low current access control hardware

Network settings and hardware registration

The T2 can connect to the internet in two ways.

Physical cabled ethernet

(via an industry standard Cat5/6 RJ45)

Industry standard Wi-Fi B/G

The network will fail over to the next live available network transport in the event of a failure. If you have Ethernet and Wi-Fi and the ethernet fails, the unit will automatically switch over to Wi-Fi.

Once booted the T2 will ask you to select your preferred network connection and configure DHCP or a static IP address.

Adding a T2 to your network

1. The T2 uses standard TCP/IP networking.
2. Upon acquiring a static or DHCP IP address it will attempt to connect to the portal to identify itself. During normal operations, it will make regular outbound connections to the T2 management portal to check for updates and deliver operational status, clocking, and alerts.
3. No special configuration of your firewall should be necessary providing the IP address is granted internet access and the following outbound ports are freely available.
4. Ports required: 80, 443, 123

If your security policy mandates the use of third-party client software, specialized certifications, domain login, or

any other type of enhanced security service, then the device-specific provision will need to be made, or the T2 placed into a discrete VLAN or DMZ with access.
If your network security requires the hardware MAC address this can be found within the Settings page on the T2.

When the device is added to the management portal, an engineering pin code will be required in order for the unit to register itself into the correct company account and to download the correct configuration.
The engineering pin code(s) will be supplied to the installation engineer prior to installation. It is vital to remember that there is a unique code for each specific T2.

Note: The factory reset option will erase the T2 and require it to be registered again. The current config and user data will be restored back to the device after re-registering. This will require a new engineering pin that can be found within the portal

Powering on and resetting the T2
Your T2 will need the battery switch turned to the on position during installation and before the unit is finally screwed into place.

1. The switch is located on the back of the unit behind the backplate.

2. This will turn the unit on for the first time, as will provide DC power.

3. The RESET switch is to the right of the battery switch.

There are 2 modes

1. Push and release to force a reboot.

2. Push and hold to enter the factory reset mode. The T2 will reboot and offer you three options:

    • **Reset to factory**

    This will erase the current config and boot from a safe version of the operating system. Software updates will

   be required to bring the T2 back to the current version.

    • **Revert to the previous version**

    This will revert to the last production-certified Mitrefinch software version.

    • **Restore the current version**

    This will re-install the current version.

Note: The factory reset option will erase the T2 and require it to be registered again. The current config and user data will be restored back to the device after re-registering.
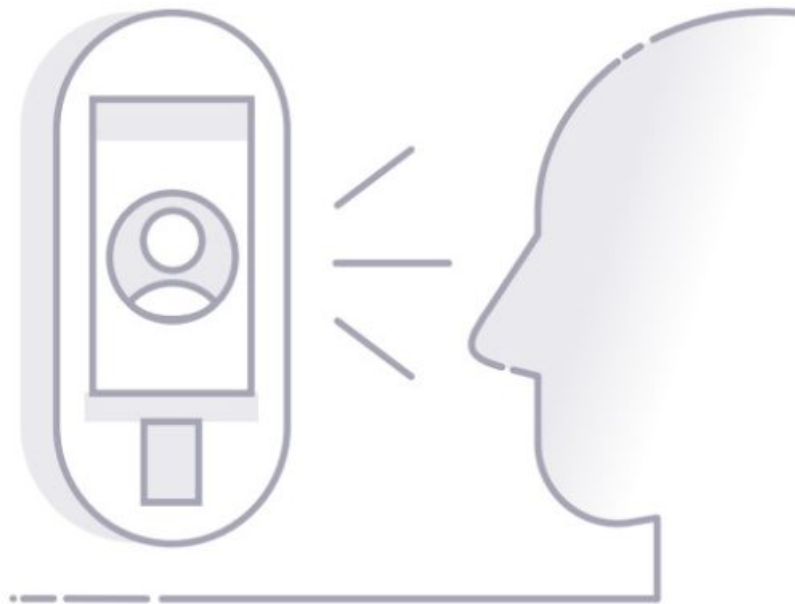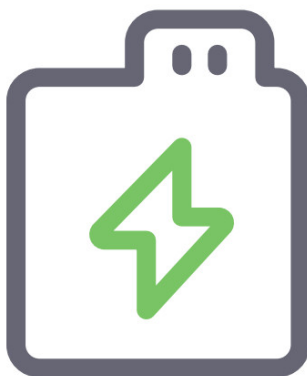
Power and batteries

Power supply requirements	PoE	20W Min, 802.3at compliant
	DC	15-24V DC 40W Min.
Power consumption		10W (typ)

The T2 contains an integrated rechargeable lithium battery which will protect the product from transient power outages.
The battery is not removable or user-serviceable.

Maintenance and support

If you have an active maintenance contract in place with Mitrefinch or a Mitrefinch partner company then your T2 may be covered under the terms of that agreement, depending on your global location and the terms of your agreement.
In the event of a failure, you should call Mitrefinch on 0330 726 0066 for guidance.
Warning
The T2 is not user-serviceable and physically opening the T2 will destroy the screen and the glass faceplate and should not be attempted.

mitrefinch

Manufactured by Mitrefinch Ltd., Mitrefinch House, Green Lane, Clifton, York, United Kingdom, YO30 5YY, Unit 4L, The Square Industrial Complex, Tallaght, Dublin 24, Ireland

Contains radios for 802.11b/g Wi-Fi (2.4GHz) and 13.56MHz RFID. Compliant with directives 2018/53/EU and 2011/65/EU. Full compliance information and certificates are available at the   following internet address: **https://mitrefinch.co.uk/compliance/**

This device complies with Part 15 of the FCC Rules. Operation is 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.

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

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

Equipment product code: 20000001
FCC ID: 2AZ53-T2

Documents / Resources

mitrefinch T2 Clocking and Access Control Terminal [pdf] Owner's Manual
T2, 2AZ53-T2, 2AZ53T2, T2, Clocking and Access Control Terminal