

IT Requirements

FourJaw Manufacturing Analytics Platform

Customer Support

If you have any questions whilst reading this document, please feel free to contact our support team.

Email: support@fourjaw.com Phone: (+44) 0114 400 0158

IT Requirements

IMPORTANT – PLEASE READ

The intent of this document is to enable a smooth installation of the FourJaw platform. Please read through each section to check your IT setup is compatible.

Depending on your existing IT setup, some of these sections may require no action.

For ease of reading, key pieces of information are highlighted throughout, and action items are listed for each section.

These **actions must be completed** before the FourJaw MachineLink and tablets are shipped to enable a plug-and-play installation.

The FourJaw team is on hand to support. If you have questions at any point, you're very welcome to get in touch.

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The FourJaw Manufacturing Analytics Team

One-Page Actions Checklist

Network Configuration

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ACTION: Please choose the network, SSID and Wi-Fi frequency you will use for installing the FourJaw system.

Firewall Rules, DNS and NTP

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ACTION: If you have a firewall, please ensure the following ports are open to outbound traffic on TCP and UDP: 53, 123, 443, 1194

Domain Filtering and Packet Inspection

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ACTION: Please ensure there is no blocking of traffic based upon domain filtering or packet inspection.

Network Authentication

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ACTION: Please ensure the FourJaw team has accurate credentials for your Wi-Fi network prior to shipment of the MachineLinks and tablets.

MAC Addresses and Ethernet

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ACTION: Please ensure the FourJaw team has been informed if you are using MAC address filtering or Ethernet connections (rather than Wi-Fi).

DHCP and Static IPs

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ACTION: Please ensure there is a DHCP server in place for the MachineLinks and tablets to pick up an IP address.

Introduction

FourJaw Manufacturing Analytics provides a machine monitoring platform, consisting of IoT hardware and a cloud-based web application.

This document provides an overview of the platform and provides details about the IT requirements and includes any actions that must be taken depending on your network setup.

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Platform Description



MachineLink

A Linux-based IoT device (one per machine) that measures productivity and energy consumption via clip-on electrical current sensors. The MachineLink connects to your Wi-Fi and sends electrical current data up to the FourJaw Cloud Platform over the internet.



Tablet (Only applies to Pro plans)

A Samsung tablet running Android (one per machine) presents machine utilisation rates, cycle times, job lists and other production information to machine operators.

The tablet is locked down to the FourJaw web application using Samsung Knox and allows machine operators to label reasons for downtime, send messages and book on/off jobs.

The tablet connects to your Wi-Fi and communicates over the internet to the FourJaw platform. There is no direct communication between the tablet and the MachineLink.



Cloud Platform

FourJaw hosts its cloud platform on Microsoft Azure data centres based in the UK. The cloud platform analyses data from the MachineLinks in real-time and presents the data on the tablets, and on a web-based dashboard that can be accessed on desktop or mobile.

Network Configuration

The FourJaw MachineLinks and tablets will need to connect to an on-site network (also referred to as a VNET/VLAN) with outbound internet access so they can communicate with the FourJaw Cloud Platform.

There is no requirement for on-premise servers, or for visibility of other devices across the network. Each tablet and MachineLink only communicates with the cloud platform.

For many customers, the simplest option is to connect to an existing network, such as a guest network or a corporate network. For customers with more advanced IT setups, it may be desirable to create a dedicated “FourJaw” network (or SSID).

Wi-Fi Frequencies and Protocols

Both the MachineLinks and tablets can connect to either 2.4GHz or 5GHz Wi-Fi, and are compatible with protocols, up to and including Wi-Fi 6.

Due to its longer wavelength and therefore better penetration, a 2.4GHz frequency will always work better in a factory environment. Because of this, we frequently recommend setting up a new SSID that is dedicated to FourJaw, broadcasting at 2.4GHz to give a robust and reliable signal.

It will be at your discretion (or the relevant IT contact) to decide if the existing Wi-Fi network has good enough coverage, or whether a dedicated 2.4GHz SSID should be created.

ACTION: Please choose the network, SSID and Wi-Fi frequency you will use for installing the FourJaw system.

Firewall Rules

The FourJaw MachineLinks and tablets need outbound access to the internet over the following ports/protocols.

Port	Protocol	Description
53	TCP and UDP	DNS (Domain Name Resolution) using internet-based DNS servers
123	TCP and UDP	NTP (Network Time Protocol) using internet-based NTP servers
443	TCP and UDP	Sending outbound data to the FourJaw platform
1194	TCP and UDP	Sending outbound data to the FourJaw platform (alternative configuration via VPN)

ACTION: Please modify the firewall rules on your chosen network (if necessary) to be compatible with the table above.

Domain Filtering and Packet Inspection

In cases where there is additional network security which inspects packets or filters based on destination domain names, the FourJaw MachineLinks and tablets will need unrestricted access to all external subdomains, URLs and endpoints on the public internet.

ACTION: Please ensure there is no blocking of traffic based upon domain filtering or packet inspection.

Network Authentication

To enable a plug-and-play installation, FourJaw configures all MachineLinks and tablets with Wi-Fi credentials prior to shipping them. To ensure a smooth installation, accurate Wi-Fi details should be provided at the point of purchase. Both SSID and password (by password we mean pre-shared key, PSK) are case-sensitive.

The MachineLinks and tablets both use WPA/WPA2 authentication using an SSID/password combination. The MachineLinks and tablets are not able to connect to networks that use an access control portal (or a guest registration portal) such as those found in hotel/airport guest Wi-Fi networks.

ACTION: Please ensure the FourJaw team has accurate credentials for your Wi-Fi network prior to shipment of the MachineLinks and tablets.

MAC Addresses and Ethernet

If MAC address filtering is used on your network, then please let the FourJaw team know at the earliest opportunity so we can provide the MAC addresses to you ahead of your installation date.

If requested, the FourJaw team will record MAC addresses when we first ship the MachineLink/tablet hardware. We are unable to provide these details after the shipment has been dispatched.

The FourJaw MachineLinks and tablets are designed to connect to a Wi-Fi network, and we encourage customers not to use wired (Ethernet) connections as routing cables can be difficult, preventing a plug-and-play installation.

Where a hard-wired/Ethernet connection is the only option, please communicate this as early as possible to the FourJaw team as we will work with you to enable a hard-wired connection.

ACTION: Please ensure the FourJaw team has been informed if you are using MAC address filtering or Ethernet connections.

DHCP and Static IPs

Both the FourJaw MachineLinks and tablets will pick up a dynamic IP address from your DHCP server. There is no capability for static IP addresses on either the MachineLinks or the tablets.

ACTION: Please ensure there is a DHCP server in place for the MachineLinks and tablets to pick up an IP address.