

Technical Data Sheet **Thermo Scientific™ DeviceLink™ Network Requirements** Thermo Fisher Scientific, Asheville, North Carolina

Applicable Laboratory Equipment Series

Thermo Scientific™ TSX Series, Thermo Scientific™ Advanced Series, Thermo Scientific™ STP Series*
 Ultra-Low Temperature (ULT) Freezers



Connection / Network Requirements

Connection Type	Wi-Fi only
Network Type	WPA2PSK, WPA2PEAP (PEAP)
Network Validation	Certificate validation supported
Wi-Fi SSID	Identifiable network (can't be hidden connection)
Wireless Network Supported Protocol	2.4GHz; IEEE 802.11B, IEEE802.11G, IEEE 802.11N
Open Ports Required	123 and 443
RSSI (Wireless Network Strength)	>-60 dBm (recommended), >-67 dBm (minimum)
Internet Data Access/Transfer Rate	1 Mbps (minimum)

Wi-Fi System Specifications

Wi-Fi Range	Up to 30 meters
Telemetry Transmission Rates	5-minute intervals (temperature) / Real-time (alarms/events)
Network Password	ASCII pre-shared keys (8-63 ASCII characters)
Compatibility	64 character hexadecimal passwords

UNSUPPORTED Connections / Networks

Connection Type	Ethernet
Network Type	WPA, WPA2, Captive networks, Local or proxy servers
Cellular Hotspots	4G Hotspots not fully tested/supported
Ports	80 (OTA updates)

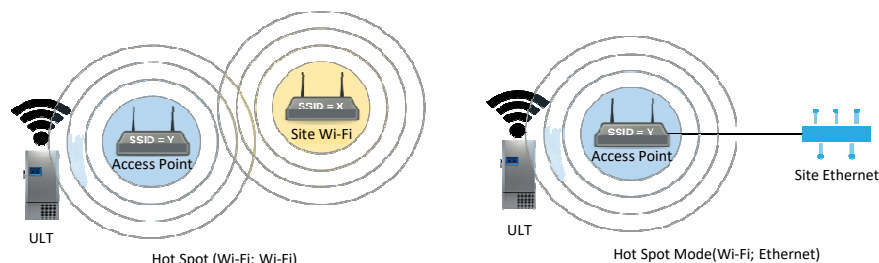
Network and Wi-Fi Definitions

WPA2PSK Network	Personal or home type network. <i>Example: This could be a home based network where the user selects a broadcasted network name (SSID) and enters the network password to gain access.</i>
WPA2PEAP Network	Enterprise network which requires login with SSID, username, and password.
WPA, WPA2 Networks	Personal or home type network but the network (SSID) is not broadcasted. Under a standard network search, these networks would not appear. To access this type of network, manual entry of the network SSID would be required.
Web Page Network (Captive Network)	Wi-Fi networks that require signing in or accepting terms of use/additional credentials through a web page are considered a captive network. <i>Example: A hotel network where the user has to enter a room number and last name in a browser window to gain access to the internet would be a captive network.</i>

PRACTICAL CONSIDERATIONS

If the installation site's Wi-Fi signal strength is less than -67dBm or if the signal strength varies by more than 4dbm (±2 dbm) per minute, we recommend configuring a Wi-Fi access point in Hot Spot mode to allow for stronger (and more stable) signal strength for the unit, as suggested below.

Wi-Fi Access Point (Recommendation)



* DeviceLink Wi-Fi capability is available on STP ultra-low temperature freezer models that have the built-in UI34567H user interface.

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