

Mini Field Agent™ (MFA)

(ICMFA000000, ICMFA001US0, ICMFA001US1, ICMFA001EU0, ICMFA001EU1, ICMFA001AE0, ICMFA001AE1, ICMFA001AU0, ICMFA001AU1, ICMFA001UM0, ICMFA001UM1)



Overview

General Description	This release corrects periodic issues with cellular connectivity.
Product Documentation	<ol style="list-style-type: none"> 1. Mini Field Agent Installation and Maintenance Requirements (GFK-2998B) 2. Field Agents Users Guide (GFK-2993G) 3. Mini Field Agent Upgrade Guide (GFK-3017C) 4. Field Agents Secure Deployment Guide (GFK-3009K) <p>User manuals, product updates, and other information are available on the Emerson Customer Care support website, https://www.emerson.com/Industrial-Automation-Controls/support.</p>

Firmware Updates/Upgrades

Upgrade Strategy	Application software and configuration are updated using EdgeManager. The MFA firmware is updated using the Field Agent Updater page in the Predix Machine Web Console. Instructions are provided in GFK-2993 Field Agent Users Guide.
Upgrade Kit	<p>Upgrade Kit - 41G2032-MS10-000-A0. Only MFAs running Release 1.1.0 or 1.1.1 can be upgraded to Release 1.3.2. Older MFAs must first be upgraded to Release 1.1.0. Then they can be upgraded to Release 1.3.2.</p> <p>MFA-specific upgrade packages can be found here: https://www.emerson.com/Industrial-Automation-Controls/support.</p> <p>Offline OS Update File: GE_MFA_Y32D_AA_2019_01_28_163623.MAX Application Template: MfaPm17.2.3AppTemplate1.0.zip Configuration Template: MfaPm17.2.3ConfigTemplate1.0.zip</p>

Release History

Catalog Number	Date	Firmware Version	Comments
ICMFA000000-ADAD ICMFA001AU0-ABAA ICMFA001AU1-ABAA ICMFA001EU0-ABAB ICMFA001EU1-ABAB ICMFA001US0-ABAB ICMFA001US1-ABAB ICMFA002US0-ABAB ICMFA002EU0-ABAB	Sep 2019	1.3.2	Following Emerson's acquisition of this product, changes have been made to apply appropriate branding and registration of the product with required certification agencies. No changes to material, process, form, fit or functionality.
ICMFA000000-ACAE, ICMFA001US0-AAAC, ICMFA001US1-AAAC, ICMFA001EU0-AAAC, ICMFA001EU1-AAAC, ICMFA001AE0-AAAB, ICMFA001AE1-AAAB, ICMFA001AU0-AAAB, ICMFA001AU1-AAAB, ICMFA001UM0-AAAB, ICMFA001UM1-AAAB, ICMFA002US0-AAAC, ICMFA002EU0-AAAC	Mar 2019	1.3.2	Corrects periodic issues with cellular connectivity. (Web upgrade kit release only)
ICMFA000000-ACAD	Feb 2019	1.3.0	Korea cretication obtained

Catalog Number	Date	Firmware Version	Comments
ICMFA000000-ABAD, ICMFA001US0-AAAB, ICMFA001US1-AAAB, ICMFA001EU0-AAAB, ICMFA001EU1-AAAB, ICMFA001AE0-AAAA, ICMFA001AE1-AAAA ICMFA001AU0-AAAA, ICMFA001AU1-AAAA ICMFA001UM0-AAAA, ICMFA001UM1-AAAA ICMFA002US0-AAAB, ICMFA002EU0-AAAB	May 2018	1.3.0	Upgrade to Predix Machine 17.2.3. Added models for Oman, UAE, and Australia/New Zealand.
ICMFA000000-ABAC, ICMFA001US0-AAAA, ICMFA001US1-AAAA, ICMFA001EU0-AAAA, ICMFA001EU1-AAAA, ICMFA002US0-AAAA, ICMFA002EU0-AAAA	Aug 2017	1.1.1	Web only update of Application and Configuration Templates to Predix Machine 17.1.3
ICMFA000000-ABAC, ICMFA001US0-AAAA, ICMFA001US1-AAAA, ICMFA001EU0-AAAA, ICMFA001EU1-AAAA, ICMFA002US0-AAAA, ICMFA002EU0-AAAA	June 2017	1.1.0	Adds support for 4G LTE cellular modem, Wi-Fi hotspot, 800 MHz processor, and Predix Machine 17.1
ICMFA000000-AAAB	Oct 2016	1.0.1	Corrects a validation error when attempting to save a correctly formatted Proxy Server setting in Chrome V53
ICMFA000000-AAAA	Aug 2016	1.0.0	Initial release

New Features and Product Enhancements

New Features in this Revision 1.3.0

Subject	Description
New Country Certifications	New MFA models have been released that are certified for use in Australia, New Zealand, Oman, and UAE. For Australia & New Zealand, use ICMFA001AU0 and ICMFA001AU1. For Oman, use ICMFA001UM0 and ICMFA001UM1. For UAE, use ICMFA001AE0 and ICMFA001AE1.
Predix Machine 17.2.3	Predix Machine 17.2.3 includes support for the following: <ul style="list-style-type: none"> Default Edge Manager polling interval changed from 30 seconds to 5 minutes. Replaced the H2 store and forward database. The MFA now uses the Tape package for store and forward. Information regarding user configuration of Edge Manager polling interval and improved store & forward performance can be found in the Field Agent Users Guide, GFK-2993.
On-Demand Events	Added a VPN client that can connect to Edge Manager so that Edge Manager commands can be sent to the MFA without waiting for a polling interval to expire.
Vodafone compatibility	The MFA can now be used on the Vodafone cellular network, in addition to the AT&T network

New Features in Revision 1.1.1

Subject	Description
Predix Machine 17.1.3	<p>Predix Machine 17.1.3 includes support for the following:</p> <ul style="list-style-type: none"> New (optional) configuration property in <code>com.ge.dspmicro.machineadapter.modbus-0.config</code> to allow Modbus Adapter to read a block of tags, or nodes, from the server in a single request instead of a request per tag. New (optional) configuration property in <code>com.ge.dspmicro.hoover.spillway0.config</code> to set the length of time, in seconds, the Spillway waits for a response from Data River.

New Features in Revision 1.1.0

Subject	Description
4G LTE Cellular Modem	Mini Field Agent catalog numbers ICMFA001US1, ICMFA001US0, ICMFA001EU1, and ICMFA001EU0 include a 4G LTE cellular modem for cloud connectivity. The following regions are supported: U.S., Canada, and EU. An AT&T SIM card and data plan is available, or a customer provided SIM card can be installed
Provisioning using iPhone® app and Wi-Fi Hotspot	Enroll the Mini Field Agent in Predix EdgeManager, deploy configurations, and view diagnostic information from the GE Energy Connections Field Agent Manager iPhone app for GE employees.
Predix Machine 17.1	Supports Predix Machine 17.1 and the US West and other AWS-based data centers.
800 MHz Processor	The processor has been upgraded from 600 MHz to 800 MHz.

Issues Resolved

Issues Resolved in Revision 1.3.2

Subject	Description
<p>MFA periodically loses cellular connectivity</p> <p>DE3513 DE3663</p>	<p>The MFA may pull incorrect DNS addresses over cellular connection causing failure in resolving addresses. Issue has been resolved with OS Update package <code>GE_MFA_Y32D_AA_2019_01_28_163623</code>. NOTE: Minimum MFA Predix Machine 17.2 supported for this update. Older PM versions must first be upgraded to minimum 17.2. See section 5.8 of the Field Agents User Guide for OS upgrade process and the Field Agents Upgrade Guide for PM upgrade process.</p>

Issues Resolved in Revision 1.3.0

Subject	Description
DE4346: CAN transmissions on boot	Previously, the MFA would transmit invalid data on the CAN bus for several seconds when the MFA powered-up. In this release, the MFA will transmit for only a few milliseconds on power-up. NOTE: This problem is resolved only in units shipped directly from the factory. Units that are field upgraded to Release 1.3.0 will continue to exhibit this problem.

Issues Resolved in Revision 1.1.1

Subject	Description
DE4100: Web Socket River config file references a tag augmentation feature that is not functional as of PM 17.1.2	If the optional parameter <code>com.ge.dspmicro.websocketriver.send.tag.augment</code> is set true, it would previously cause an exception in the Predix Machine <code>machine.log</code> file

Issues Resolved in Revision 1.1.0

Subject	Description
DE3630: Validation Error Appears While Attempting to Save Correctly-Formatted Proxy Server Setting in Chrome Version 5	When configuring a proxy server using Chrome version 53, a validation error appears after clicking Save even when the field is properly formatted. This issue may also be seen in certain versions of other web browsers. This release allows the field validation to succeed on affected web browsers.
US17759: Time synchronization changes	Improved reliability of NTP time synchronization; fixed HTTPS option to periodically update the time
DE3566: The "Query Current Status" button in the Predix Machine Web Console Network Configuration page fails when interface is disconnected	If you click the "Query Current Status" button for the WAN or LAN when there is no network connection (e.g. they are unplugged) previously you would get no dialog. With this update, you will see the status dialog is opened showing blank values to indicate there is no network connection.
DE3575: Static DNS overwritten with values from DHCP server when interface has DHCP enabled	Static DNS settings were lost if "Obtain an IP address automatically" was selected.
DE3630: Valid proxy value shows as invalid in new versions of Chrome	In the Network Configuration screen, valid Proxy Host values that included a colon were rejected when using Chrome versions 53 and later.
US18194: Cloud Connected LED does not detect enrollment	When successfully enrolled, the Cloud Connected LED (Blue LED) will stop blinking and remain ON, previously could continue blinking.

Functional Compatibility

Subject	Description
Downgrade to prior firmware version disallowed	The Mini Field Agent cannot be downgraded to a prior firmware version once updated to version 2018_05_16_000000 (rel 1.3.0)
Cellular Networks	The MFA has been tested on the AT&T and Vodafone networks. Users wishing to connect the MFA to other cellular networks are responsible for any certifications required by the carrier.
EGD Machine Adapter	This version of the MFA (1.3.0) requires a newer version of the machine adapter, which is not yet available. The prior version's web pages will not operate correctly. Beginning in this release, the EGD port is open by default. The user is not required to edit any files to open the port.

Restrictions and Open Issues

Subject	ID Code	Description
Items not available in the current release	N/A	<ul style="list-style-type: none"> Bluetooth connectivity is not available in the current release. RS-232, RS-458, CAN, discrete input, and output relay interfaces are present and functional for applications to leverage, but these interfaces do not have built-in protocol stacks in the current release. USB and microSD are not supported in the current release
MFA does not support ZIP files created with Mac OS X built-in compression tools	DE3416	<p>The MFA does not support the standard zip utilities in the Mac OS. The following applications may be used to create ZIP archives that will unzip on the MFA:</p> <ul style="list-style-type: none"> - WinZip Mac Edition - http://www.winzip.com/mac/en/winzip.html - Stuffit - http://my.smithmicro.com/stuffit-deluxe-mac.html
Only one adapter may be configured for DHCP	DE3498	The user should not configure two network adapters for DHCP. If both are configured for DHCP, then the MFA will not be accessible from outside its own subnet.
Additional LEDs Blink Once on Startup	DE4093	Only the green LED is intended to blink while Predix Machine starts. However, in most cases, an additional LED blinks in addition to the green

Subject	ID Code	Description
		LED (usually blue, sometimes all three). After this initial incorrect blink pattern, the LED behavior is as expected.
HTTPS Time Synchronization does not work through a prox	DE3861	The HTTPS Server option on the Time Sync Configuration page of the Web Console does not work with a URL that requires passing through a network proxy to reach. Select a URL that does not require a network proxy to reach.
WAN activity LED	DE4104	When upgrading a MFA from release 1.0.0 to 1.1.0 using a WAN cloud connection, after the upgrade the MFA reboots itself if the WAN cable is unplugged, the green WAN Ethernet activity LED on the RJ-45 port may remain solid green. This can be corrected by power-cycling the MFA.
Modbus/TCP adapter fails to read multiple coils	DE4634	When using the Modbus/TCP machine adapter and have multiple coils in a subscription, only the first one succeeds. The remaining coils will fail.
Cellular modem logging	DE4096	The cellular modem driver creates an entry in the Predix log every time it successfully receives or transmits a data packet.

Operational Notes

Subject	ID Code	Description
Error in Predix Machine Web Console following Field Agent update.	DE4108	Following an update of the Field Agent from the Predix Machine Web Console the Field Agent will reboot itself if required. When this occurs, a timeout or error message may appear in the browser. The Predix Machine Web Console must be logged into again after the Field Agent is rebooted
Ethernet interfaces configured on the same subnet	DE3486	When the WAN, LAN, and WLAN network interfaces are configured with different IP addresses but under same subnet mask (192.168.2.0/24), a single physical Ethernet connection from a PC can ping all interfaces.
OPCUA subscription rate	DE3491	Some OPCUA Servers may negotiate a different interval at the time of the connection if the configured PublishInterval does not match its available subscription intervals. It is recommended to confirm that the OPCUA Server to which the Mini Field Agent is connected can serve data at the requested interval.
Cellular modem watchdog time	N/A	If the cellular modem is enabled but not connected to the network, the cellular watchdog will reset the modem after 10 minutes. This will occur if the cellular modem is enabled with no SIM present, or if the SIM is inactive or has reached its data limit, or if the cellular signal strength is too weak to connect to the network
CAN Bus Default Baud Rate	N/A	Beginning with Release 1.3.0, the default CAN baud rate is 250,000. Previously, it was 115,200.
Store & Forward Configuratio	N/A	Beginning with Release 1.3.0, Edge Manager configuration packages based on Predix Machine 17.2.3 or later will overwrite the store & forward configuration file that was previously installed. In earlier releases, the store & forward configuration in a configuration package was ignored. This file is com.ge.dspmicro.storeforward-0.config. This change is necessary to successfully upgrade from Predix Machine 17.1 to 17.2.

Technical Support & Contact Information:

Home link: <http://www.Emerson.com/Industrial-Automation-Controls>

Knowledge Base: <https://www.emerson.com/Industrial-Automation-Controls/support>

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