



FMM880

Simple and small water-resistant tracker

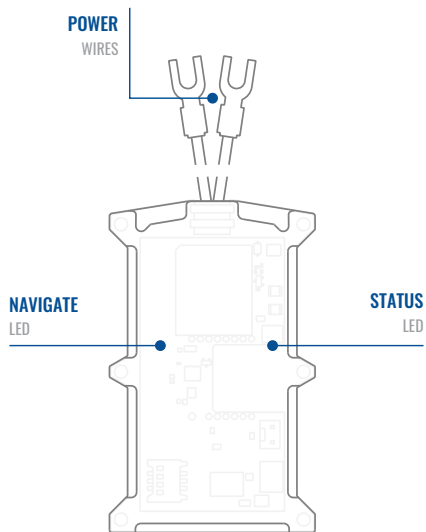
Quick Manual v2.2

CONTENT

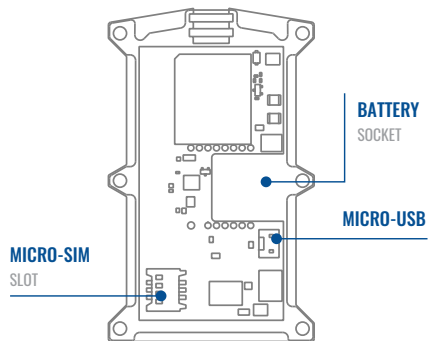
| | |
|--|----|
| Know your device..... | 3 |
| Pinout | 4 |
| Set up your device | 5 |
| PC Connection (Windows)..... | 6 |
| How to install USB drivers (Windows) | 6 |
| Configuration..... | 7 |
| Quick SMS configuration..... | 9 |
| Mounting recommendations..... | 11 |
| Basic characteristics | 12 |
| LED indications..... | 12 |
| Safety information | 15 |
| Certification and Approvals | 16 |
| Warranty | 18 |
| Warranty disclaimer..... | 18 |

KNOW YOUR DEVICE

TOP VIEW

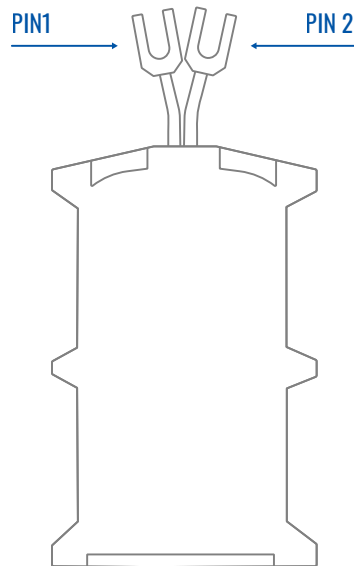


TOP VIEW (WITHOUT COVER)



PINOUT

| PIN NUMBER | PIN NAME | DESCRIPTION |
|------------|---------------------|-------------------------------------|
| 1 | VCC (10-30)V DC (+) | (RED) Power supply (+10-30 V DC) |
| 3 | GND (-) | Ground |



FMM880 pinout

SET UP YOUR DEVICE

HOW TO INSERT MICRO-SIM CARD AND CONNECT THE BATTERY



1 UNSCREW SCREWS

Unscrew **6 screws** counter clockwise.



2 COVER REMOVAL

Remove the **cover**.



3 MICRO-SIM CARD INSERT

Insert **Micro-SIM** card as shown with **PIN request disabled** or read our Wiki how to enter it later with [Teltonika Configurator](https://wiki.teltonika-gps.com/view/Teltonika_Configurator)¹. Make sure that Micro-SIM card **cut-off corner** is pointing forward to slot.



4 BATTERY CONNECTION

Connect the battery as shown to device. Position the battery in place where it does not obstruct other components.



5 ATTACHING COVER BACK

After configuration, see "PC Connection (Windows)", attach device cover back and screw in all screws.



6 DEVICE IS READY

Device is ready to be mounted.

¹wiki.teltonika-gps.com/view/Teltonika_Configurator

PC CONNECTION (WINDOWS)

1. Power-up FMM880 with **DC voltage (10 – 30 V)** power supply using **supplied power cable**. LED's should start blinking, see "**LED indications**".
2. Connect device to computer using **Micro-USB cable** or **Bluetooth®** connection:
 - Using **Micro-USB cable**
 - You will need to install USB drivers, see "**How to install USB drivers (Windows)**"¹
 - Using **Bluetooth® wireless technology**
 - **FMM880 Bluetooth® wireless technology** is enabled by default. Turn on **Bluetooth®** connection on your PC, then select **Add Bluetooth or other device > Bluetooth**. Choose your device named – "**FMM880_last_7_imei_digits**", without **LE** in the end. Enter default password **5555**, press **Connect** and then select **Done**.
3. You are now ready to use the device on your computer.

¹wiki.teltonika-gps.com/view/FMC880_LED_status

²Page 6, "How to install USB drivers"

HOW TO INSTALL USB DRIVERS (WINDOWS)

1. Please download COM port drivers from [here](#)¹.
2. Extract and run **TeltonikaCOMDriver.exe**.
3. Click **Next** in driver installation window.
4. In the following window click **Install** button.
5. Setup will continue installing the driver and eventually the confirmation window will appear. Click **Finish** to complete the setup.

¹wiki.teltonika-gps.com/images/d/d0/TeltonikaCOMDriver.zip

CONFIGURATION

At first FMM880 device will have default factory settings set. These settings should be changed according to the users needs. Main configuration can be performed via [Teltonika Configurator](#)¹ software. Get the latest **Configurator** version from [here](#)². Configurator operates on **Microsoft Windows OS** and uses prerequisite **MS .NET Framework**. Make sure you have the correct version installed.

¹ wiki.teltonika-gps.com/view/Teltonika_Configurator


² wiki.teltonika-gps.com/view/Teltonika_Configurator_versions

MS .NET REQUIREMENTS

| Operating system | MS .NET Framework version | Version | Links |
|------------------|---------------------------|---------------|---|
| Windows Vista | MS .NET Framework 4.6.2 | 32 and 64 bit | www.microsoft.com ¹ |
| Windows 7 | | | |
| Windows 8.1 | | | |
| Windows 10 | | | |

¹ dotnet.microsoft.com/en-us/download/dotnet-framework/net462



Downloaded Configurator will be in compressed archive. Extract it and launch Configurator.exe. After launch software language can be changed by clicking  in the right bottom corner.











Configuration process begins by pressing on connected device.



After connection to Configurator **Status window** will be displayed.

Various **Status window**¹ tabs display information about **GNSS**², **GSM**³, **I/O**⁴, **Maintenance**⁵ and etc. FMM880 has one user editable profile, which can be loaded and saved to the device. After any modification of configuration the changes need to be saved to device using **Save to device** button. Main buttons offer following functionality:

-  **Load from device** – loads configuration from device.
-  **Save to device** – saves configuration to device.
-  **Load from file** – loads configuration from file.
-  **Save to file** – saves configuration to file.
-  **Update firmware** – updates firmware on device.
-  **Read records** – reads records from the device.
-  **Reboot device** – restarts device.
-  **Reset configuration** – sets device configuration to default.

Most important configurator section is **GPRS** – where all your server and **GPRS settings**⁶ can be configured and **Data Acquisition**⁷ – where data acquiring parameters can be configured. More details about FMM003 configuration using Configurator can be found in our **Wiki**⁸.

¹wiki.teltonika-gps.com/view/FMM880_Status_info

²wiki.teltonika-gps.com/view/FMM880_Status_info#GNSS_Info

³wiki.teltonika-gps.com/view/FMM880_Status_info#GSM_Info

⁴wiki.teltonika-gps.com/view/FMM880_Status_info#I2FO_Info

⁵wiki.teltonika-gps.com/view/FMM880_Status_info#Maintenance

⁶wiki.teltonika-gps.com/view/FMM880_GPRS_settings

⁷wiki.teltonika-gps.com/view/FMM880_Data_acquisition_settings

⁸wiki.teltonika-gps.com/view/FMM880_Configuration

QUICK SMS CONFIGURATION

Default configuration has optimal parameters present to ensure best performance of track quality and data usage.

Quickly set up your device by sending this SMS command to it:

```
« setparam 2001:APN;2002:APN_username;2003:APN_password;2004:Domain;2005:Port;2006:0»
```

1

2

3

4

5

6

Note: Before SMS text, two space symbols should be inserted.

GPRS SETTINGS:

- 1 2001 – APN
- 2 2002 – APN username (if there are no APN username, empty field should be left)
- 3 2003 – APN password (if there are no APN password, empty field should be left)

SERVER SETTINGS:

- 4 2004 – Domain
- 5 2005 – Port
- 6 2006 – Data sending protocol (0 – TCP, 1 – UDP)



DEFAULT CONFIGURATION SETTINGS

MOVEMENT AND IGNITION DETECTION:



VEHICLE MOVEMENT
will be detected by
accelerometer



IGNITION
will be detected by
vehicle power voltage
between 13,2 – 30 V



PASSES
300 seconds



VEHICLE DRIVES
100 meters



VEHICLE TURNS
10 degrees



SPEED DIFFERENCE
between last coordinate
and current position is
greater than 10 km/h

DEVICE MAKES A RECORD ON STOP IF:



1 HOUR PASSES
while vehicle is
stationary and
ignition is off



EVERY 120 SECOND
it is sent to the server
If device has made a
record

RECORDS SENDING TO SERVER:

After successful SMS configuration, FMM880 device will synchronize time and update records to configured server. Time intervals and default I/O elements can be changed by using [Teltonika Configurator](#)¹ or [SMS parameters](#)².

¹ wiki.teltonika-gps.com/view/Teltonika_Configurator

² wiki.teltonika-gps.com/view/Template:FMB_Device_Family_Parameter_list

MOUNTING RECOMMENDATIONS

DEVICE FASTENING

- Locate the battery in your vehicle. If present remove the battery cover to access the battery.

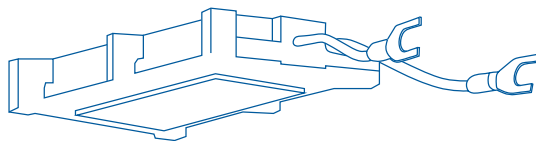
- There is a double sided tape on the back of the device (**Double sided tape on the back**), use it to attach the device on the battery, so that the GNSS antenna and LEDs indicators are facing up (**Example of device mounting**).

CONNECTING POWER WIRE

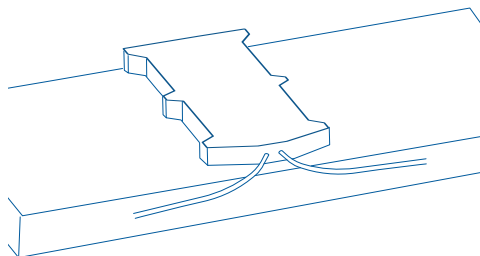
- Device power wire is designed to be directly connected to the positive terminal fastener of the vehicle battery (**Example of device mounting**).

CONNECTING GROUND WIRE

- Device ground wire is designed to be directly connected to the negative terminal fastener of the vehicle battery (**Example of device mounting**).



1 DOUBLE SIDED TAPE ON THE BACK



2 EXAMPLE OF DEVICE MOUNTING

LED INDICATIONS

NAVIGATION LED INDICATIONS

| BEHAVIOUR | MEANING |
|--------------------------|---|
| Permanently switched on | GNSS signal is not received |
| Blinking every second | Normal mode, GNSS is working |
| Off | GNSS is turned off because: Device is not working or Device is in sleep mode |
| Blinking fast constantly | Device firmware is being flashed |

STATUS LED INDICATIONS

| BEHAVIOUR | MEANING |
|--------------------------------|---|
| Blinking every second | Normal mode |
| Blinking every two seconds | Sleep mode |
| Blinking fast for a short time | Modem activity |
| Off | Device is not working or Device is in boot mode |

BASIC CHARACTERISTICS

MODULE

| | |
|------------|---------------------------------------|
| Name | Q3AB0: Quectel BG95-M3 with AG3335 |
| Technology | LTE CAT 1/GSM/GPRS/GNSS/BLUETOOTH® LE |

GNSS

| | |
|----------------------|---|
| GNSS | L1: GPS, GLONASS, GALILEO, BEIDOU, SBAS*, QZSS* L5: GPS, GALILEO, BEIDOU |
| Receiver | L1: 75 channel L5: 60 channel |
| Tracking sensitivity | -165 dBm |
| Position Accuracy | < 1.8 m CEP |
| Velocity Accuracy | < 0.1 m/s (within +/- 15% error) |
| Hot start | < 1 s |
| Warm start | < 25 s |
| Cold start | < 35 s |

*Optional modes available with custom firmware applications, for more information contact your sales manager

CELLUAR

| | |
|----------|------------------|
| 2G bands | GSM: B2/B3/B5/B8 |
|----------|------------------|

| | |
|----------------|---|
| 4G bands | LTE FDD (CAT M1): B1/B2/B3/B4/B5/ B8/B12/B13/B18/B19/B20/B25/B26/ B27/B28/B66/B85 LTE-TDD (CAT NB2): B1/B2/B3/B4/ B5/B8/B12/B13/B18/B19/B20/B25/ B28/B66/B71/B85 |
| Data transfer | LTE FDD (CAT M1): Max. 588 Kbps (DL) / Max. 1119 Kbps (UL) LTE TDD (CAT NB2): Max. 127 Kbps (DL) / Max. 158.5 Kbps (UL) GSM (GPRS): Max. 107 Kbps (DL) / Max. 85.6 Kbps (UL) |
| Transmit power | Class 4 for GSM850/900: 33±2dBm Class 1 for GSM1800/1900: 30±2dBm Class 3 for LTE-TDD: 20±2dBm Class 3 for LTE-FDD: 20±2dBm Bluetooth: 4.57±2dBm Bluetooth LE: -4.83±2dBm |
| Data support | SMS (TEXT, PDU), Network protocols (TCP, UDP, TLS, MQTT) |

POWER

| | |
|---------------------|---|
| Input voltage range | 10 - 30 V DC with overvoltage protection |
| Back-up battery | 170 mAh Li-Po battery 3.7 V |
| Internal fuse | 3A, 125V |

| | |
|-------------------|---|
| Power consumption | At 12V < 5.5 mA (Ultra Deep Sleep) At 12V < 6.5 mA (Deep sleep) At 12V < 14 mA (Online Deep Sleep) At 12V < 16 mA (GPS Sleep) At 12V < 45 mA (nominal with no load) At 12V < 90 mA (with full Load / Peak) |
|-------------------|---|

BLUETOOTH® TECHNOLOGY

| | |
|-----------------------|--|
| Specification | 4.0 + LE |
| Supported peripherals | EYE beacon and sensor¹ , OBDII dongle, Inateck Barcode Scanner, Universal Bluetooth® LE sensors support |

INTERFACE

| | |
|----------------|-----------------------------|
| GNSS antenna | Internal High Gain |
| GSM antenna | Internal High Gain |
| USB | 2.0 USB Micro B |
| LED indication | 2 status LED lights |
| SIM | Micro-SIM |
| Memory | 128MB internal flash memory |

¹ teltonika-gps.com/products/accessories/sensors-beacons

PHYSICAL SPECIFICATION

| | |
|------------|---------------------------------|
| Dimensions | 92.5 x 57.6 x 14 mm (L x W x H) |
| Weight | 63 g |

OPERATING ENVIRONMENT

| | |
|---|---|
| Operating temperature (without battery) | -40 °C to +85 °C |
| Storage temperature (without battery) | -40 °C to +85 °C |
| Operating temperature (with battery) | 0 °C to +40 °C |
| Storage temperature (with battery) | -20 °C to +45 °C |
| Operating humidity | 5% to 95% non-condensing |
| Operating temperature (with battery): | -20 °C to +40 °C |
| Ingress Protection Rating | IP65 |
| Battery charge temperature | 0 °C to +45 °C |
| Battery discharge temperature | -20 °C to +60 °C |
| Battery storage temperature | -20 °C to +45 °C for 1 month -20 °C to +35 °C for 6 months |

FEATURES

| | |
|-----------------------------------|--|
| Sensors | Accelerometer |
| Scenarios | Green Driving, Over Speeding detection, Jamming detection, GNSS Fuel Counter, Excessive Idling detection, Unplug detection, Towing detection, Crash detection, Auto Geofence, Manual Geofence, Trip² |
| Sleep modes | GPS Sleep, Online Deep Sleep, Deep Sleep, Ultra Deep Sleep³ |
| Configuration and firmware update | FOTA Web⁴, Teltonika Configurator⁵ (USB, Bluetooth® wireless technology) |
| SMS | Configuration, Events, Debug |
| GPRS commands | Configuration, Debug |
| Time Synchronization | GPS, NITZ, NTP |
| Ignition detection | Accelerometer, External Power Voltage |

²wiki.teltonika-gps.com/view/FMM880_Features_settings

³wiki.teltonika-gps.com/view/FMM880_Sleep_modes#Deep_Sleep_mode

⁴wiki.teltonika-gps.com/view/FOTA_WEB

⁵wiki.teltonika-gps.com/view/Teltonika_Configurator

SAFETY INFORMATION

This message contains information on how to operate FMM003 safely. By following these requirements and recommendations, you will avoid dangerous situations. You must read these instructions carefully and follow them strictly before operating the device!

- The device uses SELV limited power source. The nominal voltage is +12 V DC. The allowed voltage range is +10...+30 V DC.
- To avoid mechanical damage, it is advised to transport the device in an impact-proof package. Before usage, the device should be placed so that its LED indicators are visible. They show the status of device operation.
- Before unmounting the device from vehicle, ignition **MUST be OFF.**



Do not disassemble the device. If the device is damaged, the power supply cables are not isolated or the isolation is damaged, **DO NOT** touch the device before unplugging the power supply.



All wireless data transferring devices produce interference that may affect other devices which are placed nearby.



Please consult representatives of your vehicle model regarding OBDII location on your vehicle. In case you are not sure about proper connection, please consult qualified personnel.



The programming must be performed using a PC with autonomic power supply.



Installation and/or handling during a lightning storm is prohibited.



The device is susceptible to water and humidity.



Teltonika is not responsible for any harm caused by wrong cables used for connection between PC and FMM880



Battery should not be disposed of with general household waste. Bring damaged or worn-out batteries to your local recycling center or dispose them to battery recycle bin found in stores.

CERTIFICATION AND APPROVALS



This sign on the package means that it is necessary to read the User's Manual before your start using the device. Full User's Manual version can be found in our [Wiki](#)¹.

¹ wiki.teltonika-gps.com/view/FMM880



Hereby, Teltonika declare under our sole responsibility that the above described product is in conformity with the relevant Community harmonization: European Directive 2014/53/EU (RED).



Para maiores informações, consulte o site da ANATEL www.anatel.gov.br
Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.

For more information, see the ANATEL website www.anatel.gov.br

This equipment is not entitled to protection against harmful interference and must not cause interference in duly authorized systems.



REACH addresses the production and use of chemical substances, and their potential impacts on both human health and the environment. Its 849 pages took seven years to pass, and it has been described as the most complex legislation in the Union's history and the most important in 20 years. It is the strictest law to date regulating chemical substances and will affect industries throughout the world.



The Australian Standard AS/NZS 4417.1 and AS/NZS 4417.2 Marking of electrical products to indicate compliance with regulations – General rules for use of the mark provides general requirements for the use of the RCM including location of the marking on the equipment and its dimensional requirements.



UK Conformity Assessed (UKCA) marking is a conformity mark that indicates conformity with the applicable requirements for above described products sold within Great Britain.



This sign on the package means that all used electronic and electric equipment should not be mixed with general household waste.



E-Mark and e-Mark are the European conformity marks issued by the transport sector, indicating that the products comply with relevant laws and regulations or directives. Vehicles and related products need to go through the E-Mark certification process to be legally sold in Europe.



The **RoHS**¹ is a directive regulating the manufacture, import and distribution of Electronics and Electrical Equipment (EEE) within the EU, which bans from use 10 different hazardous materials (to date).

¹ wiki.teltonika-gps.com/view/FMM880_RoHS



The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by UAB Teltonika Telematics is under license. Other trademarks and trade names are those of their respective owners.

DECLARATION OF IMEI ASSIGNMENT

The IMEI number is used by a GSM network to identify valid devices and therefore can be used for stopping a stolen phone from accessing that network. For example, if a mobile phone is stolen, the owner can call their network provider and instruct them to blacklist the phone using its IMEI number. This renders the phone useless on that network and sometimes other networks too, whether or not the phone's subscriber identity module (SIM) is changed.



FCC ID: 2A3HUFMM880

- 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.
- 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.
- Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. To comply with FCC RF Exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for the transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.



IC NOTICE

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. this device may not cause interference, and
2. this device must accept any interference, including interference that may cause undesired operation of the device.

This Class B digital apparatus complies with Canadian ICES-003.

IC: 28804-FMM880

This equipment complies with ISSED radiation exposure limits set forth for an uncontrolled environment. To comply with RSS-102 RF Exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for the transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

REMARQUE IC

Cet appareil est conforme aux Normes RSS d'Industry Canada. Son utilisation est soumise à deux conditions:

3. Ce dispositif ne peut pas provoquer d'interférences, et
4. Ce dispositif doit accepter toutes les interférences reçues, y compris les interférences susceptibles de provoquer un fonctionnement non souhaité.

Cet appareil de classe B est conforme à la norme canadienne ICES-003.

IC: 28804-FMM880

Cet équipement est conforme aux limites d'exposition aux rayonnements ISSED établies pour un environnement non contrôlé. Pour se conformer aux exigences de conformité d'exposition aux radiofréquences RSS-102, cette subvention s'applique uniquement aux configurations mobiles. Les antennes utilisées pour l'émetteur doivent être installées pour fournir une distance de séparation d'au moins 20cm de toutes les personnes et ne doivent pas être co-localisées ou fonctionner en conjonction avec une autre antenne ou émetteur.

CHECK ALL CERTIFICATES

All newest certificates may be found in our [Wiki?](#).

² wiki.teltonika-gps.com/view/FMM880_Certification_%26_Approvals

WARRANTY

We guarantee our products 24-month warranty¹ period.

All batteries carry a 6-month warranty period.

Post-warranty repair service for products is not provided.

If a product stops operating within this specific warranty time, the product can be:

- Repaired
- Replaced with a new product
- Replaced with an equivalent repaired product fulfilling the same functionality
- Replaced with a different product fulfilling the same functionality in case of EOL for the original product

¹ Additional agreement for an extended warranty period can be agreed upon separately.

WARRANTY DISCLAIMER

- Customers are only allowed to return products as a result of the product being defective, due to order assembly or manufacturing fault.
- Products are intended to be used by personnel with training and experience.
- Warranty does not cover defects or malfunctions caused by accidents, misuse, abuse, catastrophes, improper maintenance or inadequate installation – not following operating instructions (including failure to heed warnings) or use with equipment with which it is not intended to be used.
- Warranty does not apply to any consequential damages.
- Warranty is not applicable for supplementary product equipment (i. e. PSU, power cables, antennas) unless the accessory is defective on arrival.
- [More information on what is RMA¹](#)

¹ wiki.teltonika-gps.com/view/RMA_guidelines