

القسم الثامن: المخططات ومواصفات الأداء
لعقود الخدمات غير الاستشارية

أنواع أجهزة GPS

| الموديل | نوع الجهاز | ت |
|----------|------------|----|
| 829 | CCTR | 1 |
| LMU-2630 | CALAMP | 2 |
| LMU-2720 | CALAMP | 3 |
| FMB120 | TELTONIKA | 4 |
| FMB202 | TELTONIKA | 5 |
| FMB130 | TELTONIKA | 6 |
| FMB920 | TELTONIKA | 7 |
| 906 | ST | 8 |
| 901A | ST | 9 |
| 2 | WETRACK | 10 |
| light | WETRACK | 11 |
| GT06N | GT06N | 12 |
| FMC 130 | TELTONIKA | 13 |

جدول رقم 2

Radar Yours Speed Sign

-With Digital face

-With messages

THANK YOU
&
SLOWDOWN

-Arabic and English

With

-Red Circle Warning Light

With

- Modem and Remote Access



Technical Spedfication

| | |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimension | Size : 70*205*15.5cm |
| Weight | 52Kg |
| Body Material | Aluminum black and white color Electrostatic powder coated |
| Battery | Internal 12 volt, 68 Ah, sealed lead acid |
| Solar power | 200 Watts , Life time more than 20 years |
| Display model | 2 digit with 7 segment LED board + Emoji Face +Arabic and English Message Circle Red warning light |
| LED quantity | 196pcs Red + 196pcs Green + 2048pcs SMD two color emoji +2048pcs SMD Arabic and English message +60pcs 8mm Red Circle warning light |
| Emoji Face display | 64*32 pixel SMD two color |
| Message display | 64*32 pixel SMD two color Arabic and English message |
| Red Circle Warning Light | 64pcs 8mm LED |
| LED Life | More than 100,000 Hours |
| Light luminous | 8000mcd |
| Modem | Access to simcard |
| Remote access | Online Monitoring battery voltage Online Switch ON/OFF Online Time setting Online average speed of passing vehicles Online counting vehicles passing |

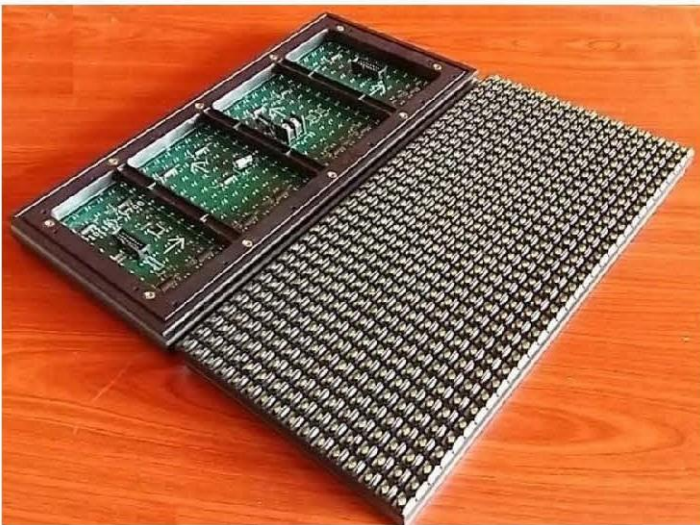
| | |
|--------------------------------|---------------------------------------------------|
| Radar | CW Doppler device operating in the K-Band (24GHz) |
| Speed Detection Rang | 1km/h - 99km/h |
| Detection distance | 150m |
| Response Time | 5ms |
| Working time after full charge | 4 days |
| Visible distance | More than 100m |
| Angle | 100 Degree |
| Reflective sheet | 3M |

LED



Total numbers of LEDs:
196pcs Red
+ 196pcs Green
+ 2048pcs multi color emoji
+ 2048 Arabic and English message
+60pcs 8mm Red Circle warning light

Face and message Display Module



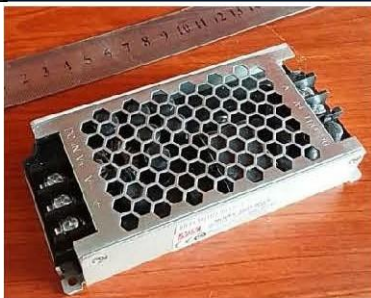
LED Module is made by fiberglass electronic printed board with the size of 16*32 cm has 512 pixels, Distance between each pixel is 10mm. Its rear is covered by green isolated coating and front with black isolation coating in for prevent of any water and dust.

Battery



Sealed Lead Acid batteries of 68Ah (4x12v-17Ah), having desired life of 5 years.

Inverter



We used DC to DC converter for preparing of 5 volt from 12 volt to supplying LED display modules. This is manufactured by Meanwell company.

Solar Panel



SILICON SOLAR PV MODULE

| | |
|--------------------|--------------------------------|
| Model | SA-10P |
| Pm | 100watt |
| Vmp | 18V |
| Imp | 5.6A |
| Voc | 21.24V |
| Isc | 5.9A |
| Dimension | 100*60*3.5cm |
| Max System Voltage | 1000V |
| Test Condition | AM1.51000W/m ² 25°C |

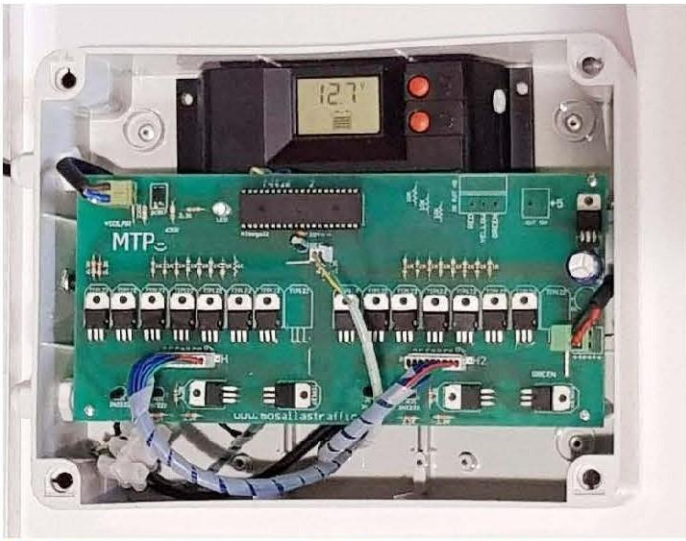
Solar panel are 200watt,
(2 pes 100W, 18v 5.5A), with efficiency
of %16.

Mechanical Specification



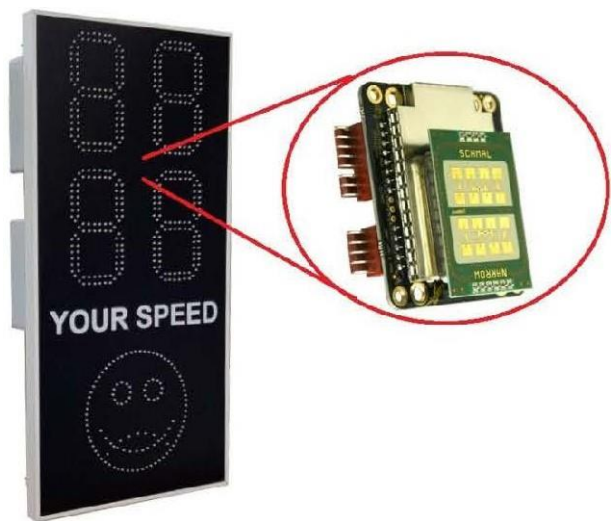
- . Body material: Aluminum sheet 1.2mm
- . Frame: Aluminum profile with special design
- . Frame size: 2* 15.5*0.2cm
- . Color quality: Electrostatic Powder Coating
- . Color: Black Matte
- . Front sheet material: Composite with special finishing to preventing sky light reflection
- . Front sheet Thickness: 4mm

Intelligent Microcontroller System



- Processing data from Radar (and Camera optional),
- Synchronizing Radar with Camera as optional,
- Taking violator vehicle picture on specific area as optional,
- Arranging Time, Date, Location of violation as optional,
- Sending picture and data to Control Room Center through WIFI or simcard internet as optional,
- Measuring voltage of battery, solar panel, charge current and related measuring,
- Light Regulation and optimization of consumption, according to charge current (environmental light),
- Neutralizing of change effects of battery voltage in light illumination,
- Preventing of battery over charge and undesired discharge of battery and neutralizing effect of heat,
- Using modulation of PWM for adjustment of light illumination,
- Flexible performance according to client orders (Software and hardware),
- Working time with full charge is almost 4 days, and 8 days on cloudy climate,
- Charging time for empty battery is 18 hours in case of performing operation, and 14 hours without any operation,
- Maximum light intensity (day) vs. its minimum (night) is 5 to 1 and it is changeable as required,

Radar



CW Doppler device operating in the K-Band (24GHz)

Other Spare Parts

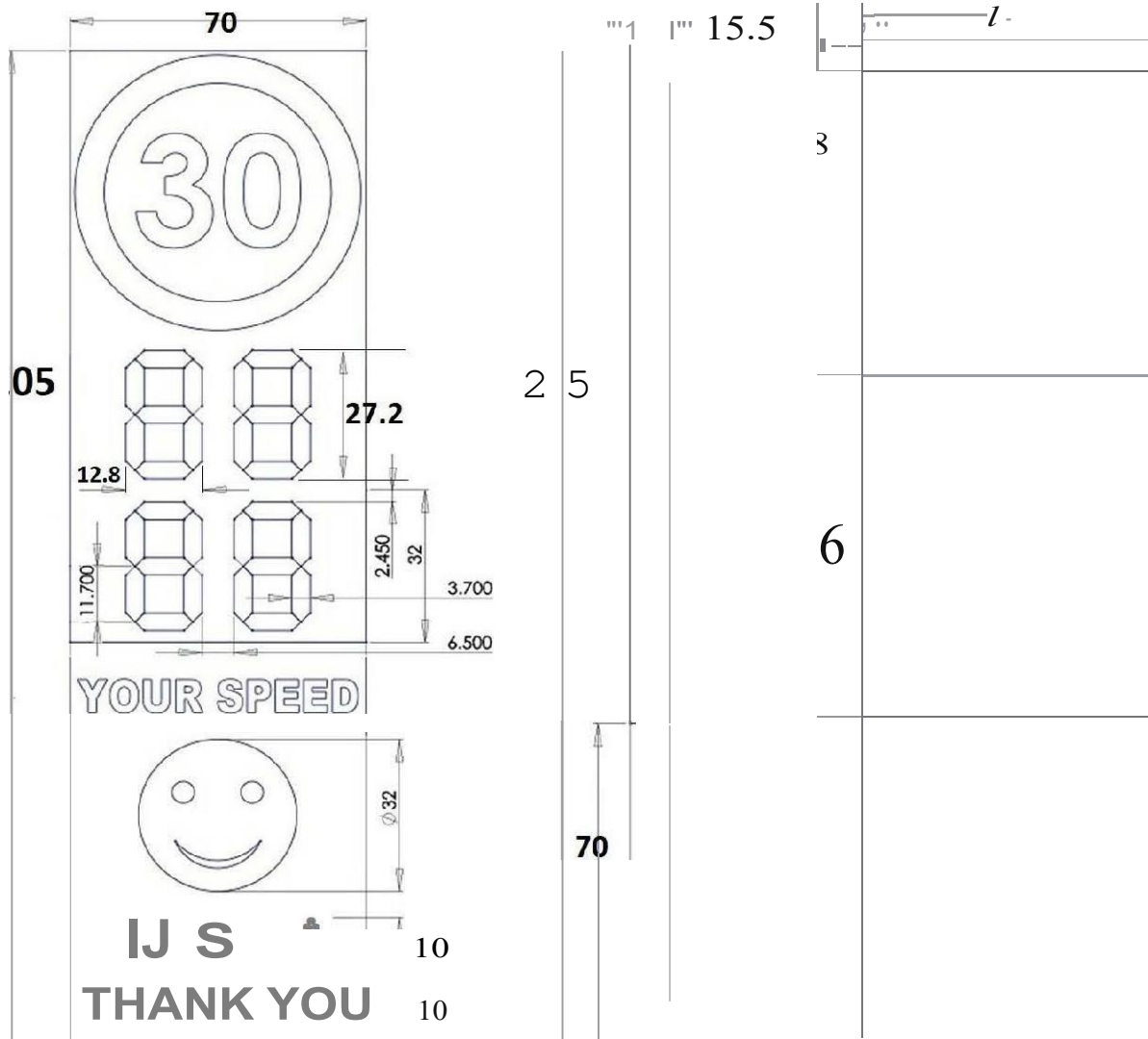


6 inch hose clips



4.5 inch Stainless Steel U Clamp

Dimension





FMC130

ADVANCED LTE TERMINAL WITH FLEXIBLE INPUTS CONFIGURATION

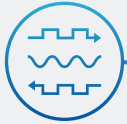
FMC130 is small and professional real-time tracking terminal with GNSS and LTE/3G/GSM connectivity and backup battery. Device equipped with GNSS/Bluetooth and LTE modules, internal GNSS, LTE antennas, configurable digital, analogue inputs and digital outputs, negative input, impulse inputs. It is perfectly suitable for applications where location acquirement of remote objects is needed: fleet management, car rental companies, taxi companies, public transport, logistics companies, personal cars and so on.



Reliable 4G connection with fallback to 3G network



Allows device to work without external power source



Configurable DIN/AIN for flexible remote monitoring and control.



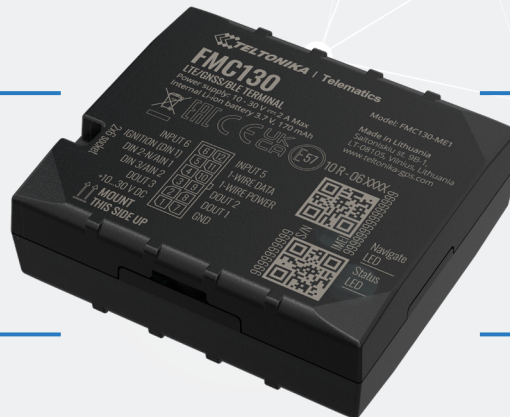
Negative input will allow easier installation of accessories



CAN data reading from vehicles and specialized transport



Impulse inputs for fuel flow meters data reading



USE CASES



LIGHT VEHICLES



HEAVY DUTY TRANSPORT



TRAILER TRACKING



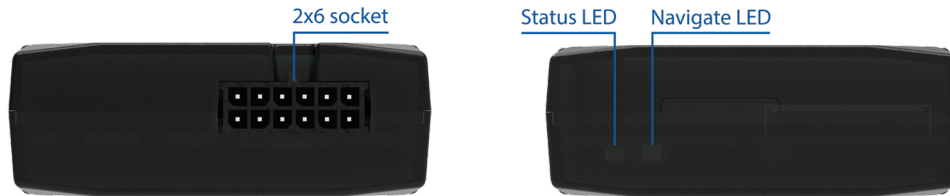
REFRIGERATED TRANSPORT



INTERNATIONAL LOGISTICS



CAR SHARING



Module

| | |
|------------|--------------------------------------------------------------------------------------------------------------------|
| Name | MeiG SLM320-E, MeiG SLM320-LA, Quectel EC21-EC, Quectel EC21-AU, Quectel EC21-J, Quectel EC21-KL, Teltonika TM2500 |
| Technology | LTE(CaT1)/3G(UMTS/HSPA)/2G(GSM/GPRS)/GNSS/BLUETOOTH |

GNSS

| | |
|----------------------|-------------------------------------------|
| GNSS | GPS, GLONASS, GALILEO, BEIDOU, QZSS, AGPS |
| Receiver | Tracking: 33 |
| Tracking sensitivity | -165 dBm |
| Position Accuracy | < 2.5 CEP |
| Velocity Accuracy | < 0.1 m/s (within +/- 15% error) |
| Hot start | < 1 s |
| Warm start | < 25 s |
| Cold start | < 35 s |

Cellular

| | |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technology | LTE Cat 1, UMTS, GSM |
| 2G bands (SLM320) | FMC130-ME1: GSM: B2/B3/B5/B8 FMC130-ME3: GSM: B2/B3/B5/B8 FMC130-ML1: GSM: B2/B3/B5/B8 |
| 2G bands (EC21) | EC21-EC: GSM: B3/B8 EC21-AU: GSM: B2/B3/B5/B8 |
| 3G bands (EC21) | EC21-AU: WCDMA: B1/B2/B5/B8 EC21-EC: WCDMA: B1/B8 |
| 4G bands (SLM320) | FMC130-ME1: LTE FDD: B1/B3/B5/B7/B8/B20 LTE-TDD:B38/B40/B41 FMC130-ME3: LTE FDD: B1/B3/B7/B8/B20/B28 LTE-TDD:B38/B40/B41 FMC130-ML1: LTE FDD: B1/B2/B3/B4/B5/B7/B8/B20/B28 LTE-TDD:B40 |
| 4G bands (EC21) | EC21-EC: LTE FDD: B1/B3/B7/B8/B20/B28A EC21-AU: LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28/ LTE TDD: B40 EC21-J: LTE FDD: B1/B3/B8/B18/B19/B26 EC21-KL: LTE FDD: B1/B3/B8/B18/B19/B26 |
| Data transfer (SLM320) | LTE: LTE FDD: Max 10Mbps (DL)/Max 5Mbps (UL) LTE TDD: Max 8Mbps (DL)/Max 2Mbps (UL) GSM: GPRS: Max 85.6Kbps (DL)/Max 85.6Kbps (UL) |
| Data transfer (EC21) | LTE: LTE FDD: Max 10Mbps (DL)/Max 5Mbps (UL) LTE TDD: Max 8.96Mbps (DL)/Max 3.1Mbps (UL) UMTS: WCDMA: Max 384Kbps (DL)/Max 384Kbps (UL) GSM: GPRS: Max 107Kbps (DL)/Max 85.6Kbps (UL) |
| 3 A, 125 V | Class 4 for GSM850/900: 23±2dBm Class 1 for GSM1800/1900: 20±2dBm Class 3 for LTE-TDD: 23±2.7dBm Class 3 for LTE-FDD: 23±2.7dBm |
| Data support | SMS (text/data) |

Power

| | |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input voltage range | 10 - 30 V DC with overvoltage protection |
| Internal Back-up battery | 170 mAh Li-Ion battery 3.7 V (0.63 Wh) |
| Internal fuse | 3 A, 125 V |
| Power consumption | At 12V < 3 mA (Ultra Deep Sleep) At 12V < 5 mA (Deep Sleep) At 12V < 16 mA (Online Deep Sleep) At 12V < 18 mA (GPS Sleep) At 12V < 33 mA (nominal with no load) At 12V < 2A Max. (with full Load / Peak) |

Bluetooth

| | |
|-----------------------|-------------------------------------------------------------------------------------------------------|
| Specification | 4.0 + LE |
| Supported peripherals | Temperature and Humidity sensor, OBDII dongle, Inateck Barcode Scanner, Universal BLE sensors support |

Physical specification

| | |
|------------|---------------------------------|
| Dimensions | 65 x 56,6 x 20,6 mm (L x W x H) |
| Weight | 55 g |

Operating environment

| | |
|-----------------------------------------|---------------------------------------------------------------|
| Operating temperature (without battery) | -20 °C to +85°C |
| Storage temperature (without battery) | -20 °C to +85 °C |
| Operating temperature (with battery) | -20 °C to +40 °C |
| Storage temperature (with battery) | -20 °C to +45 °C |
| Operating humidity | 5% to 95% non-condensing |
| Ingress Protection Rating | IP41 |
| 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 |

Interface

| | |
|--------------------|--------------------------------------|
| Digital Inputs | 3 |
| Negative Inputs | 1 (Digital Input 2) |
| Impulse Inputs | 2 (Digital Input 1, Digital Input 2) |
| Digital Outputs | 3 |
| Analog Inputs | 2 |
| CAN Adapter Inputs | 1 |
| 1-Wire | 1 |
| GNSS antenna | Internal High Gain |
| Cellular antenna | Internal High Gain |
| USB | 2.0 Micro-USB |
| LED indication | 2 status LED lights |
| SIM | Micro-SIM + eSIM |
| Memory | 128MB internal flash memory |

Features

| | |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sensors | Accelerometer |
| Scenarios | Green Driving, Over Speeding detection, GNSS Fuel Counter, DOUT Control Via Call, Excessive Idling detection, Immobilizer, iButton Read Notification, Unplug detection, Towing detection, Crash detection, Auto Geofence, Manual Geofence, Trip, Jamming detection* |
| Sleep modes | GPS Sleep, Online Deep Sleep, Deep Sleep, Ultra Deep Sleep |
| Configuration and firmware update | FOTA Web, FOTA, Teltonika Configurator (USB, Bluetooth), FMBT mobile application (Configuration) |
| SMS | Configuration, Events, DOUT control, Debug |
| GPRS commands | Configuration, DOUT control, Debug |
| Time Synchronization | GNSS, NITZ, NTP |
| Fuel monitoring | LLS (Analog), LV-CAN200, ALL-CAN300, CAN-CONTROL, OBDII dongle |
| Ignition detection | Digital Input 1, Accelerometer, External Power Voltage, Engine RPM (CAN Adapters, OBDII dongle) |

Certification & Approvals

| | |
|------------|----------------------------------------------------|
| Regulatory | CE/RED, E-mark, RCM, TELEC, JATE, EAC, REACH, RoHS |
|------------|----------------------------------------------------|

*Jamming detection supported with SLM320-E and SLM320-LA modules.

