

ITMC Introduction

Iranian Telecommunication Manufacturing Company was established as a public joint-stock company in Shiraz in 1967, in an area of 100,000 Square meters as the first and the greatest manufacturer of fixed and mobile phones in Iran and Middle East by participation of Siemens Company, Germany to manufacture necessary equipment for national telecommunication network.

Some facts about ITMC:

- Approved by Communication Regulatory Authority (CRA) of Iran.
- Selected as the best domestic producing company in Iran in 2019.
- Recognized as the largest knowledge-based manufacturing company in Islamic Republic of Iran.
- **ITMC** is mainly engaged in designing, developing, producing and marketing of Telecom products such as Indoor & Outdoor telecommunication racks, 48VDC Rectifiers, Outdoor DC air conditioners, AC/DC PDBs, equipment of Fiber Transmission / FTTX, different kinds of towers, different types of telecommunication containers and IoT products.
- Providing solutions and products for Telecom industries, Data Center and Railways.
- **ITMC** has provided professional services to domestic customers and is well-prepared to support the international market as well.
- Up to 8 regional Offices in main cities of Iran.
- Achieving ISO 9001:2015, ISO 45001:2018 and ISO 14001:2015.





کارخانجات مخابراتی ایران (سهامی عامه)
Iranian Telecommunication Manufacturing Co. (public Joint-Stock)

Technical, Engineering Services

As a Knowledge based company, ITMC benefits from technical specialists in several fields such as designing, production, implementation, maintenance and support in all areas of electronic, mechanic and software domains using the cutting edge technologies and industrial machines, which enables the company to render the customer's demand from idea to final product by offering professional services including designing, manufacturing, installation, implementation, maintenance and support in telecommunication, IT and ICT fields by the best quality within a short period of time.

Designing and Making Various Active and Passive Productions:

- IoT based industrial and agricultural productions
- Power equipment's
- Building different indoor/outdoor communicational racks
- Industrial and communicational cooling systems
- FTTX network equipment's
- Different software for control and monitoring
- Implementation of different interactive portals
- Telecommunication masts and towers

Telecommunication Networks Support and Maintenance:

- Design, installation and maintenance of mobile data offloading
- Design, implementation and support for optical networks
- Maintenance of telecommunication infrastructure networks
- Support and maintenance of ITMC products

Repair, Reinstallation

- Repairing telecommunication boards
- Repairing telecommunication interfaces

Equipment supplying and trading

- Supplying telecommunication equipment
- Supplying the industrial equipment and all of the related commercial affairs
- IoT solution provider





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Smart Irrigation Planning System

IoTAS

Real-Time Crop Management Software

IoTAS is advanced real-time crop management software providing growers with their farms' status at a glance. Integrated with IoTDLA & IoTDLB, a cutting-edge solution comprised of diverse sensors and RF-based wireless communications, IoTAS continuously collects data from the field.

The software provides user-friendly tools for field monitoring and status:

- Dynamic dashboard
- Graphic tool with real-time crop management and decision support system (DSS)
- Dynamic map to get field status at a glance
- Navigation panel with online information, and simple access to any farm's device

Benefits & Features:

- Remote view and access to/from any unit
- Low-power, long-lasting battery
- Broad array of sensors for soil, hydraulic, weather and plant's
- Real-time in-field monitoring
- Traceability of Water usage
- Anywhere, anytime connectivity
- Web and mobile access



Specifications:

Temperature	Units °C
Range	-40°C to +120°C
Resolution	0.01°C
Accuracy	±0.3°C
Excitation Voltage	3.3 V
Humidity	Units RH%
Range	0-100%
Resolution	0.02%
Accuracy	±4%
Excitation Voltage	3.3 V
Soil Moisture	Units RH%
Range	0-100%
Resolution	0.02%
Accuracy	±4%
Excitation Voltage	3.3 V

IoTDL (IoTDLA & IoTDLB) DataLogger Of Soil Moisture Sensor With Weather Temperature, Humidity Sensor

OverView

The IoTDL profile RF connection is a data logger of soil moisture and weather temperature, humidity sensor that is fully integrated with IoTDL crop management software. The easy-to-install cases delivers a complete data package via RF connection to the grower system to improve irrigation planning and strategic decision-making.

Features & Functionality

- IoTDLA have Soil moisture sensors from 6 depths (10cm to 150cm), IoTDLB have more additional weather temperature, humidity data measurement sensor.
- Continuous data collection via IoTDL probe.
- Standalone installation with solar panel support.
- More than 1km RF support distance.





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Smart Irrigation Planning System

Introducing IoT-SIPS

IoT-SIPS monitoring and management systems include solution comprised of diverse sensors and a wireless communications system based on advanced radio frequency technology.

Monitoring all soil, weather, crop, environmental conditions, IoT-SIPS continuously collects data via the sensors to present a clear, real-time view of a farm's status. IoT-SIPS's comprehensive monitoring and management systems improve growers' planning and decision making, leading to optimized farm resource and water utilization. IoT-SIPS according to the needs of the plant, it automatically irrigates it and will make the plant grow better.



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Features:

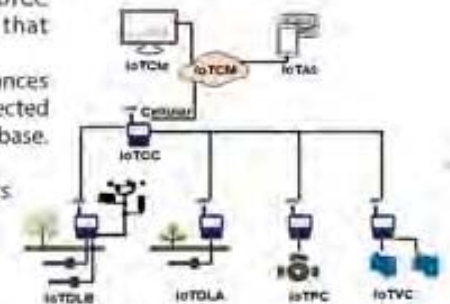
- Wide range of sensors include:
 - Soil moisture and air temperature, humidity sensors
 - More Sense Options (EC, PH, wind speed, wind direction sensors)
- Easy installation.
- Calculate needed irrigation volume and manage irrigation term automatically when run in smart irrigation model
- If your irrigation system runs on a clock timer, it can be easy to "set it and forget it."
- Smart controllers adjust watering schedules to actual site conditions, based on local weather data; some sensors that can detect rain or soil moisture to avoid unnecessary watering.
- View charts of temperature, soil moisture, environment temperature, Irrigation periods.
- Irrigation strategy based on EC calculation and actual soil moisture sensor data, as well as expert farmers.
- Easy to read irrigation result, amount of water usage, next irrigation term, frostbite forecast, irrigated zone and many more information
- 7" color Touch LCD Screen.
- Irrigation will perform on the proper times of 24 hours based on the season.
- Mobile and web remote control via internet.

System Architecture

The remote IoTDL site is connected to the IoTCC base via an embedded cellular modem that connects to the IoTCM server.

If radio reception is low or there are far distances between sites, the remote IoTDL site is connected to the mid site, which connects to the IoTCC base.

Note: The customer is responsible for cellular network set-up and operational costs (e.g. SIM card, data package)





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Automatic Weather Station

Specifications:

Temperature	Units °C
Range	-40°C to +120°C
Resolution	0.01°C
Accuracy	+/- 0.3°C
Excitation Voltage	3.5 V

Humidity	Units RH%
Range	0-100%
Resolution	0.05%
Accuracy	± 4%
Excitation Voltage	3.5 V

Solar Radiation	Units W m2
Range	0-1750 W m2
Resolution	1 w m2
Accuracy	1 w m2
Excitation Voltage	Excitation Voltage None Passive

Wind Direction	Units Degrees (°)
Range	0 to 360°
Resolution	1° (0 to 355°)
Accuracy	8°
Excitation Voltage	Excitation Voltage None Passive

Wind Speed	Units m/s or km/hr
Range	0-58 m/s (0-209 km/hr)
Resolution	0.45 m/s (1.6 km/hr)
Accuracy	+/- 7%
Excitation Voltage	Excitation Voltage None Passive

Rainfall	Units mm
Range	0-500 mm/hr
Resolution	0.2 mm
Accuracy	+/- 3%
Excitation Voltage	Voltage 3.5 V

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Power	
Internal Battery Specifications	7.2Ah Lithium Polymer, 13.5 Volts fully charged
Solar Panel	18 Watt , 0.8 A
External Power Source	220 V AC





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Automatic Weather Station

ITMC IoT Weather Monitoring Systems for meteorology, hydrology, Industry & agriculture

Introducing IoT-WS100

Our newest weather station provides online accurate and reliable weather monitoring in a self-contained and easy to install system, IoT-WS100 gives you all the weather data you need and sends data wirelessly to your cellphone app via central management server anywhere. You will see current weather conditions; atmospheric temperature, relative humidity, wind speed & direction, solar radiation and rainfall.

Features:

1. Easy installation
2. Anemometer
3. Support Temperature/Relative Humidity, Wind Speed and Direction, Soil moisture, Solar radiation, rainfall sensors.
5. Simultaneously Solar Panel and 220 V AC input power.
6. Easy to read data and collect information from generated chart.
7. 7" Color LCD touch Screen with access to any current & Historical Data
9. IoT base data logger communicate with dedicated sensor module over LoRa wan network solution.
10. Energy saving and power usage management system make battery saving up to 3 consecutive days.
11. Main data logger collect, save and process 20,000,000 record data internally and send to central server simultaneously.
12. Capability to cooperate with any new sensor package based on customer order.
13. Online technical support and auto upgrade via online support server .
14. Calculate dew point, accumulate insect degree days to calculate right pesticide date.





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Outdoor Telecommunication Power Supply-Mini Cabinet

To Provide Power Supply and Battery Backup
for Outdoor Telecommunication Sites

Rectifier Characteristics:

- AC Input Range: 85VAC ~ 300VAC / 45~65HZ
- DC Output Voltage: 43.2VDC ~ 57.6VDC
- Output Power: 9KW (3x3KW)
- Efficiency: 95.5%
- Power Factor: ≥ 0.99
- Hot Plug
- Operating Temperature: -40 to +70°C

Battery Cabinet Cooling Characteristics:

- Power Supply: 48VDC
- Cooling Capacity: 500W

Transmission Cabinet Cooling Characteristics:

- Power Supply: 48VDC
- Cooling Capacity: 700W

Alarm Storage Capacity: Up to 8000 Logs
Communication Ports: LAN, USB
Communication Protocol: SNMP, TCPIP
Free Spaces for Telecom Equipment: 10 Unit
LVBD & LVLD 300A Contactor
Battery: 4x12V/200Ah (2Rows)
AC & DC Distribution Panel
Protection Class: IP55
Cabinet Dimension: 60x65x180cm





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Rectifier 48V 3000W HE

To Provide 48VDC to Telecommunication Equipment

General Characteristics:

- The ability to Place Seven Rectifier Modules and a Controller in 2U Shelf
- Standards: IEC60950 –EN61000
- Operating Temperature: -40 to +70 °C
- Dimensions: 10x4x32cm
- Weight: 2Kg

Electrical Characteristics:

AC Input

- Voltage: 85 – 300VAC
- Frequency: 45 to 66Hz
- Maximum Current: 19.2ARMS

DC Output

- Voltage: 53.5VDC (adj. range: 43.2 to 57.6VDC)
- Output Power: 3000W
- Maximum Current: 62.5Amps @ 48VDC
- Efficiency: 95.5% @ 25 to 75% Load



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کارخانجات مخابراتی ایران (سهامی عامه)
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DC Powered Air Conditioner

To Cool Outdoor Telecommunication Sites

General Characteristics:

- Power Supply: 48VDC
- DC Input Range: 45VDC ~ 58VDC
- Output Power: refer to table
- Operating Temperature: -40 to +60°C
- Fan and Compressor Speed Control
- Temperature adj. Range: +15 to +50°C
- Communication Port: RS485
- 2*14 Characters LCD
- Keypad Panel
- Protection Class: IP55
- Standard: IEC61000-4

Alarms:

- Fan Fail
- Compressor Fault
- High Temperature
- Evaporator Frost

Model	Cooler 300W	Cooler 500W	Cooler 700W	Cooler 1250W
Height-mm	400	450	620	830
Width-mm	330	330	340	440
Depth-mm	150	170	190	190
Weight-kg	7	15	18	30
Mounting	Door Mounted	Door Mounted	Door Mounted	Door Mounted
Working Temp Range-°c	-40~+60	-40~+60	-40~+60	-40~+60
IP Protection Level	IP55	IP55	IP55	IP55
Refrigerant	R134a	R134a	R134a	R134a
Cooling Capacity@L35/L35-W	300	500	700	1250
Heating(Optional)-W	300	500	500	500
Power Consumption@L35/L35-W	120	160	200	345
Current@L35/L35-A	2.5	3.34	4.2	7.2
Internal Airflow-m ³ /h	100	150	180	380
Voltage-V,DC	-48	-48	-48	-48





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Outdoor Telecommunication Power Supply Cabinet Side by Side

To Provide Power Supply and Battery Backup
for Outdoor Telecommunication Sites

Rectifier Characteristics:

- AC Input Range: 85VAC ~ 300VAC / 45~65HZ
- DC Output Voltage: 43.2VDC ~ 57.6VDC
- Output Power: 21KW (7×3KW)
- Efficiency: 95.5%
- Power Factor: ≥ 0.99
- Hot Plug
- Operating Temperature: -40 to +70°C

Battery Cabinet Cooling Characteristics:

- Power Supply: 48VDC
- Cooling Capacity: 1000W

Transmission Cabinet Cooling Characteristics:

- Power Supply: 48VDC
- Cooling Capacity: 2500W

Alarm Storage Capacity: Up to 8000 Logs
Communication Ports: LAN, USB
Communication Protocol: SNMP, TCPIP
Free Spaces for Telecom Equipment: 12 Unit
Battery: 4×12V/200Ah (3Rows)
AC & DC Distribution Panel
Protection Class: IP55
Cabinet Dimension: 135×90×175cm



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Outdoor AC Power Distribution Box

To Distribute Electricity for Outdoor
Telecommunication Sites

General Characteristics:

- Dimensions: 40 x 20 x 55cm
- Protection Class: IP55
- Color Type: Electrostatic

Contain:

- Line Electricity / Diesel Generator Selector Switch
- AC Outlet
- Input / Output Miniature Circuit Breaker
- Surge Protection Device 275V Class C
- Input / Output Cable Gland



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Indoor Telecommunication Power Supply Cabinet

To Provide Power Supply & Battery Backup
for Indoor Telecommunication Sites

Rectifier Characteristics:

- AC Input Range: 85VAC ~ 300VAC / 45~65HZ
- DC Output Voltage: 43.2VDC ~ 57.6VDC
- Output Power: 24KW (8×3KW)
- Efficiency: 95.5%
- Power Factor: ≥ 0.99
- Hot Plug
- Operating Temperature: -40 to +70°C

Cooling Characteristics:

- Rectifier Internal Fan

Alarm Storage Capacity: Up to 8000 Logs
Communication Ports: LAN, USB
Communication Protocol: SNMP, TCP/IP
LVBD & LVLD 300A Contactor
Battery: 4×12V/200Ah (3Rows)
AC & DC Distribution Panel
Rack Dimension: 70×70×170cm





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Indoor Telecommunication Battery Backup Cabinet

To Storage Battery in Telecommunication
Indoor Sites

General Characteristics:

- 4PCs Battery 12V-200Ah (4Rows) in Each Cabinet

Monitoring:

- Cell Voltage
- String Current
- String Temperature
- Battery Capacity

Alarms:

- High/Low Voltage
- High/Low Temperature
- Battery Fail
- Battery Disconnect
- Charge Fail

Alarm Storage Capacity: Up to 8000 Logs
Communication Ports: LAN
Communication Protocol: SNMP, TCPIP
LVBD 300A Contactor
DC Distribution Panel
4x200A MCBs in Each Cabinet
Cabinet Dimension: 60x60x170cm

