

MKP MICROCONTROLLER LED

TECHNICAL SPECIFICATIONS OF MKP MICROCONTROLLER LCD

INPUT

Input Voltage	220 V to 3*380 V AC
Input Frequency	50Hz
Input Current	0.5A to 40 A
Input Tolerance	-10% to +10%
Efficiency	> 90%

OUTPUT

Output Voltage	6V, 12V, 24V, 36V, 48V, 72V, 80V, 96V, 110V
Output Current	5A to 300A

PROTECTIONS

Input	C Series w-automatic fuse
Output	NH-Type Blade Fuse
Electronic Card	Glass Tube Fuse

GENERAL

On - Off	Illuminated On-Off Switch
Mounting Type	Mountable on the floors and walls
Color	Grey, yellow, red, orange
S. Rec. Dimensions	36cm - 26cm - 32cm
M. Rec. Dimensions	41cm - 31cm - 38cm
L. Rec. Dimensions	51cm - 51cm - 43cm
Weight	1.5 Kg up to 140 Kg
Operating Temperature	-40 C to 50 C
Cooling	Air (By-Pass)
Display (LCD)	Possibility to monitor Cell Voltage - Current Drawn - Charging Duration - Ah (Ampere Hour) loaded to the battery on the screen constantly

OPERATING FEATURES

Operating system of the unit is set as a Microcontroller.
It runs with the WA Charge Principle (DIN 41774).
Charging time is between 10 and 12 hours.
Charging is monitored through the LCD and Led.
The electronic card is compatible with the batteries in the range of 6V and 110V.
Automatic Start is with 5 sec delay.
During charging, fill rate of the battery can be monitored as the cell voltage on the LCD screen.
Detects the high or low voltage batteries and warns with a message on the screen (whether a high or low voltage battery is connected).
(Voltmeter) Cell voltage of the battery can be monitored on the screen continuously.
(Ammeter) The ampere drawn by the battery can be monitored on the screen continuously.
(Time) Charging time can be seen on the screen from the beginning of charging.
(Ampere-Hour) Ah loaded to the battery can be monitored on the screen constantly from the beginning of charging.
When charging is completed, (unless you disconnect the battery from the rectifier) we can read the maximum value of the cell voltage, the final value of the drawn current, total Ah (ampere/hour) loaded to the battery and total charging time on the screen alternately.
Features trickle charging of the batteries
In the long-term holds, it stands by the batteries ready for service.



BATTERY CHARGERS





General Features of the IU/A Charging System:

This charging model is a 3-phase current limiting system. Its cost is approximately 40% higher.

The first phase is reaching the limit of 2.4 V with a constant current. At this stage, the current is taken as the reference and constant current is supplied continuously. In the second phase, voltage is taken as the reference. The voltage is fixed at the level of 2.40 V and 25% decrease of the current is waited. In this phase, drop of the current from 100% to 25% is ensured. The third phase provides increase of the voltage to the level of 2.65 V with a constant current of 25% and active charging is terminated. The greatest advantage of this charging model is that the rectifier does not need a voltage level adjustment according to the mains voltage. It is not affected by the low or high voltage of the mains. Because there is a current limiting control, output currents are constant. The electrolytic levels of the battery are sufficient to balance at the end of 2-3 charges. Duration of this charging system is average 7-9 hours depending on the Battery Quality and Environmental

Design Details of MKP Rectifiers

- Our most important principle in the design, production and development of MKP Rectifiers is the minimum failure and maximum safety of the battery. The rectifier is intended to be designed to work in any condition (high or low mains voltage, high ambient temperature, excessive humidity, excessive dust, etc.).

-All MKP Rectifiers are designed as Microcontrollers. In short, we can say a digital data evaluation. From the beginning of the active charging until the end of the passive charging, it monitors the charge in very short periods such as 1/10 sec.

- As per the program loaded on the rectifier, in the errors or failures caused by it or the mains, it evaluates the initiative as continuing to charge non-stop. However, if the error or failure is detected on the battery, it terminates charging immediately and informs the user on the panel.

- The spare parts (w-automat, contactor, fuse, terminal, etc.) that are used in the internal installation of the rectifier are selected to be supplied from any electrician shop. Thus, no spare part problem will be experienced in the emergencies. Moreover, thanks to the simple and different-color coded installation, intervention in the cases of failure is very simple.

- All manufactured devices

General features of the WA charging system

The most important feature of the WA Charging System is having a ruled characteristic (DIN 41774). In the traction battery charging, it is the world's most preferred system. It is approximately 90% and above. The first reason of its preference is the hassle-free operation due to its simple structure. The charging time is compatible with the average charging time of a traction battery. Within the framework of the compatibility of the rectifier and the battery, this period is average 9-11 hours. Thanks to the charging time and charge-end current, it keeps the battery maintenance at the average levels. It will be sufficient to balance electrolytic levels of the battery in every 3-5 charges.

Usage Areas of the WA Charging Unit

It is the most common product model used for traction battery charging. The simple and plain internal unit design allows a seamless and trouble-free operation. Because of its ruled charging characteristic, it generally has standard internal units. The advantage of this standardization for the user is compatibility of the spare parts with all rectifier brands in general. Because the WA charging unit is a general system with a norm, it is used in all machines running on traction batteries (Battery-operated forklift, battery-powered cleaning machines, golf carts, etc.)

General Features of the ECO-WA Charging System

The most prominent feature of the Eco-Wa charging system is the low cost. It features a long charging time, i.e. average 13-15 hours. It charges with a low charging current. However, charging can be tracked by extending the time-voltage control. In general, its character complies with the Wa charging principle. The most significant benefit is minimizing the battery maintenance. It would be sufficient to balance the electrolytic levels of the battery at weekly intervals.

General Features of the STAGE Charging System (Wo-Wa)

Stage charging system has a two-stage structure. Its cost is about 20% higher than the other units. In each stage, it has a different current characteristic. The first stage is designed to load high current. The second stage is designed to load low current. The first part of charging starts with high current, then, in the second part, the current is reduced to avoid overheating and water loss of the battery. The purpose of stage charging characteristic is speeding up charging by optimizing the battery maintenance. In this charging characteristic, balancing the electrolytic levels of the battery at the end of 2-3 charges is sufficient. The most important feature that distinguishes the stage charging system from the others is the short charging time, which is average 7-9 hours.

General Features of the IMPACK Charging System (Wo-Wp)

Impack charging system is a half-fixed and half-pulse charging model. Its cost is about 20% higher. The most important feature that differentiates this system from the others is switching to the pulse charging in the second stage. In the pulse charging stage, high current pulses are applied at certain intervals. General purpose of the Impack charging characteristic is to shorten the charging time as much as possible. Depending on the battery quality and environmental conditions, the charging time of this system is average 7-9 hours. Battery control is important in this charging system. Electrolytic balance must be made at the end of every charge.

