

Product description

LED Display systems, based on the RG96 module

1. Fields of application

The goal of the development was the creation of an LED module, with a freely scalable structure of three-coloured display systems, predominantly for alphanumeric information in sports result service. The resolution should be sufficient to display characters of 20 cm in height and to present graphics in the way of logos for advertising and short animations. Purely static operation, small power consumption, little weight and simply to assemble up to every size of boards, these are most important features especially for mobile use at competitions.

For indoor use the highlights of the system are the extremely large viewing angle and the even color blending of red and green to yellow, already from a small viewing distance. Limited dimensions in indoor sports and very diagonal positions of audience to the scoreboard require these great demands to provide high quality information service. Bicolore, diffuse cutted LED's carry out exactly these features and they offer sufficient brightness for indoor application also in the case of bright, direct spotlight.



The products resulting from module RG96 are attractive and efficient replacements of:

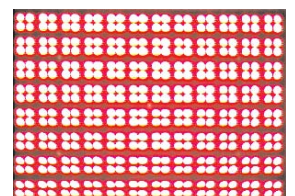
- bistable 7-segment scoreboards,
- mono- and three-coloured alphanumeric LED displays and
- multisport scoreboards

The RG96 system is not designed for applications of almost high resolution graphics and full colour live-video.

2. Basic module RG96

The basic module RG96 is a printed circuit board with 96 as 12 x 8 matrix arranged Quad LED pixels, which can present 2 characters of 20 cm height in the text mode.

Matrix	12 x 8 pixels LED matrix
Pixel	4 LED's per pixel, red/green 5mm, 160 degree viewing angle
LED's	384 pcs.
Pixel distance	30 mm
LED distance	15 mm
Size	351 x 244 mm
Character height	20, 28 and 40 cm
Power supply	5 V



The module RG96 was also especially designed for installations in indoor pools. Due to the use of completely chemically gilded printed circuit board, the module is corrosion- and chlorine-resistant.

High mechanical and impact resistance is reached by the installation of a plate into a 30 mm deep case of special plastic material.

The RG96 module is CE certificated.

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3. Scoreboard systems

Mechanical units for the production of large display systems are frameworks of coated aluminum form profiles. They are manufactured as lines and segments in different standard sizes. The smallest line segment with the dimensions 1440 x 240 x 80 mm is equipped with four RG96 modules. It supplies a scoreboard line with 8 characters of 20 cm height.

The standard segment with approx. 1,5 m² has 16 modules in an arrangement 4 x 4. The plastic cases with the RG96 module are installed from the front side on the segments and maintenance can also be made from the front side of the scoreboard.

The weight of one 1.5 m² - segment is about 38 kg (completely installed with power supply and controller).

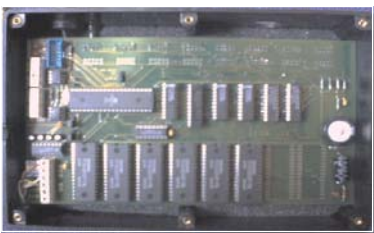
The depth of the display system is only 8 - 10 cm, depending on the use of sun slats. This also applies to scoreboards up to 40 m²!

For the construction of large display systems the appropriate formed segments are put together and anchored. The installation is done within a short time at the venue or installation place regardless whether it is a fixed or a mobile construction. Fixed installed scoreboards are easy extendable by more segments without additional electronic and mechanical expenditure.



4. Control device and software

The control of the display systems takes place via serial data stream by means of RS232 and/or RS422-Interface with maximum Baud rate of 115.2 kBaud. A clear set of sequences of instructions makes it possible to create own applications, additionally to the comprehensive software, delivered with the displays. In character mode an international ASCII character set with 20, 28 and 40 cm in height is integrated.



Apart from the control by a host PC with serial transfer of 115.200, 8, N, 1 also control devices for a direct data transfer from timing systems are available.

Systems like ARES 21 and OGM 5005/TL 5005 are supported.

With the supplied software for text and graphics all functions of the scoreboard can be served from a user-friendly surface:

- Text writing and transfer
- Picture conversion into display format
- showing pictures directly or loading into the board memory
- creating sequences and time-scheduled operation

