

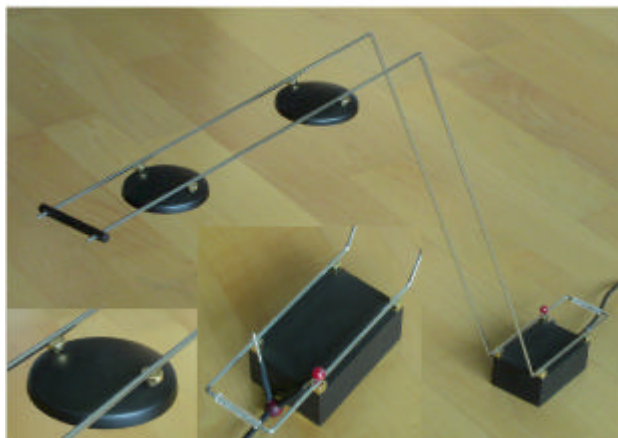
Patented Magnetic Assembling+Contacting:

## LED Lighting Systems with Supermagnets for Electro-Mechanical Connections

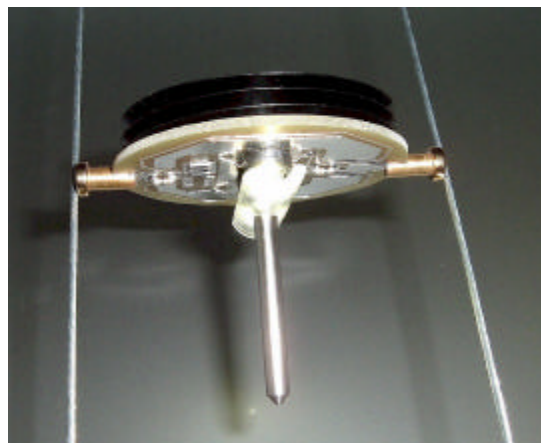
Combining light emitting diodes (LEDs) with design-integrated miniature supermagnets for mechanical fastening and electrical contacting offers new design opportunities for unique lighting solutions. The patented electro-mechanical connections use small magnets of NdFeB type (Neodym-Iron-Boron) with a holding force typically 1000 times greater than their weight. These powerful little magnets have become inexpensive compared to LEDs. They can be used at the same time for fastening the different parts of lighting structures together and for providing the electrical connections. This includes design-integrated switching on and off. The lightness and small footprint of LEDs, combined with miniature supermagnets, allows to design innovative lighting structures consisting of thin bars, ultralight profiles, wires or cables. Magnetic fastening and contacting opens the way for unprecedented flexibility in the design and function of commercial and residential lighting systems.

We offer luminaires manufacturers the opportunity to exploit the potential of our patented electro-mechanical connections for innovative LED lighting solutions.

Figures:

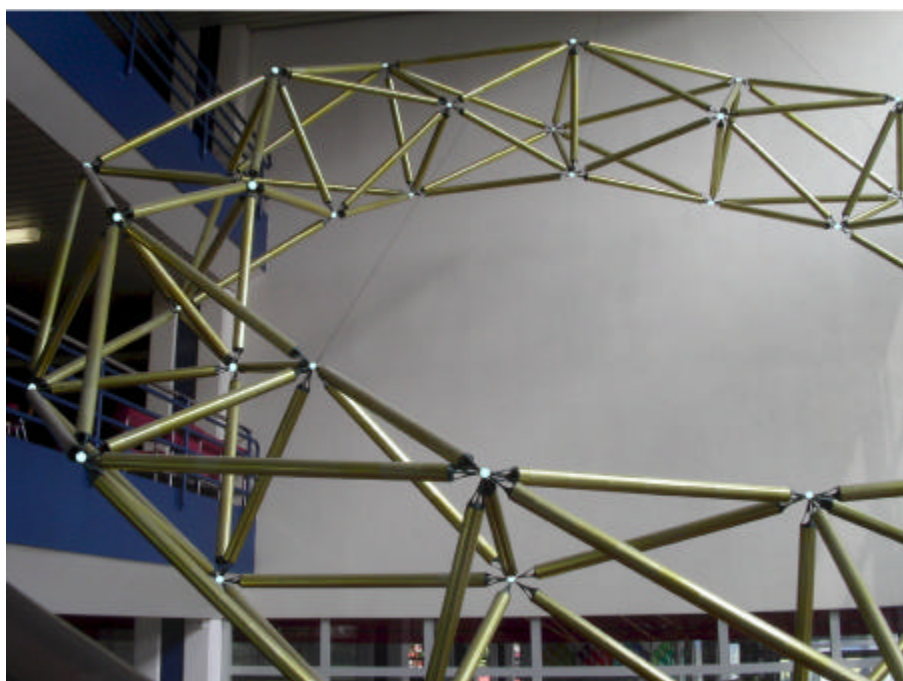


*Desk lamp with two LED units, magnetically connected to slender steel rods and these to a small base block.*



*Functional demonstrator for an ultralight LED lamp, magnetically connected with two thin steel cables.*

*Space frame structure made from ultralight aluminum bamboo with magnetically connected LEDs.*



Walter Janach  
Meggenhornstr. 20  
CH-6045 Meggen  
Tel: 0041 41 377 16 52  
[wjanach@gmx.ch](mailto:wjanach@gmx.ch)

CIRCLE MOTOR AG  
Markus Lindegger  
Tannackerstr. 25  
CH-3073 Gümliigen  
Tel: 0041 31 952 52 52  
[info@circlemotor.ch](mailto:info@circlemotor.ch)  
[www.circlemotor.com](http://www.circlemotor.com)