

Title (en)

Light emitting diode clusters for display signs.

Title (de)

Leuchtdioden-Gruppen für Anzeigesignalgeber.

Title (fr)

Groupes de diodes électroluminescentes pour panneaux de signalisation.

Publication

**EP 0390479 A2 19901003 (EN)**

Application

**EP 90303218 A 19900327**

Priority

US 33139089 A 19890331

Abstract (en)

A light emitting diode cluster unit (10) suitable for use in outdoor display signs. A cluster (14) of LEDs on a circuit board (22) is housed in a first socket (26) open to its front and nested in an outer connector socket (16). Electrical connections (29, 30) are made from the rear of the first socket (26) via the connector socket (16) to a source of electricity. The connector socket (16) provides weather proofing and protects the circuit board (22) from torque. Moreover, the driver circuits of a display board into which the unit is connected may be shielded from ultraviolet rays. A tubular visor (12) may be provided to the front.

IPC 1-7

**F21Q 3/00**

IPC 8 full level

**F21K 7/00** (2006.01); **F21K 99/00** (2010.01); **F21S 8/00** (2006.01); **G09F 9/33** (2006.01); **G09F 13/22** (2006.01); **G09F 13/04** (2006.01)

CPC (source: EP US)

**F21K 9/20** (2016.07 - EP US); **G09F 9/33** (2013.01 - EP); **G09F 13/0472** (2021.05 - EP); **G09F 13/22** (2013.01 - EP); **G09F 27/008** (2013.01 - EP US); **F21V 31/04** (2013.01 - EP); **F21W 2111/02** (2013.01 - EP); **F21Y 2105/10** (2016.07 - EP US); **F21Y 2105/12** (2016.07 - EP US); **F21Y 2115/10** (2016.07 - EP US); **G09F 2013/222** (2013.01 - EP)

Cited by

EP2181354A4; EP0522248A1; US5521587A; EP0858064A1; FR2759476A1; FR2699647A1; AU725815B2; US8106923B2; US8363038B2; US7358929B2; US7180252B2; US8552928B2; KR100507710B1; KR100679763B1; WO9744612A1; WO9744613A1; WO9744614A1; WO9744615A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

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