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(71) Applicant: **Isbak Istanbul Ulasim Haberlesme Ve Guvenlik Teknolojileri Sanayi Ve Ticaret Anonim Sirketi**
80360 Istanbul (TR)

(72) Inventors:
- **Alyuruk, Muhammed**
  80360 Itanbul (TR)
- **Baloglu, Alper**
  80360 Istanbul (TR)

(74) Representative: **Iskender, Ibrahim**
Destek Patent, Inc.
Lefkose Cad. NM Ofis Park
B Block No: 36/5 Besevler
16110 Bursa (TR)

(54) Traffic control light with lcd panel

(57) A traffic control light which comprises an operating system based LCD display control and management card, a full industrial outdoor LCD panel, industrial PC based traffic sensor, crossroad content management center software and crossroad content management field software and which is used for such purposes as reducing negative effects of city traffic on drivers, encouraging them to comply with traffic rules, and transferring financial, meteorological, information etc. to the drivers during red light stops.

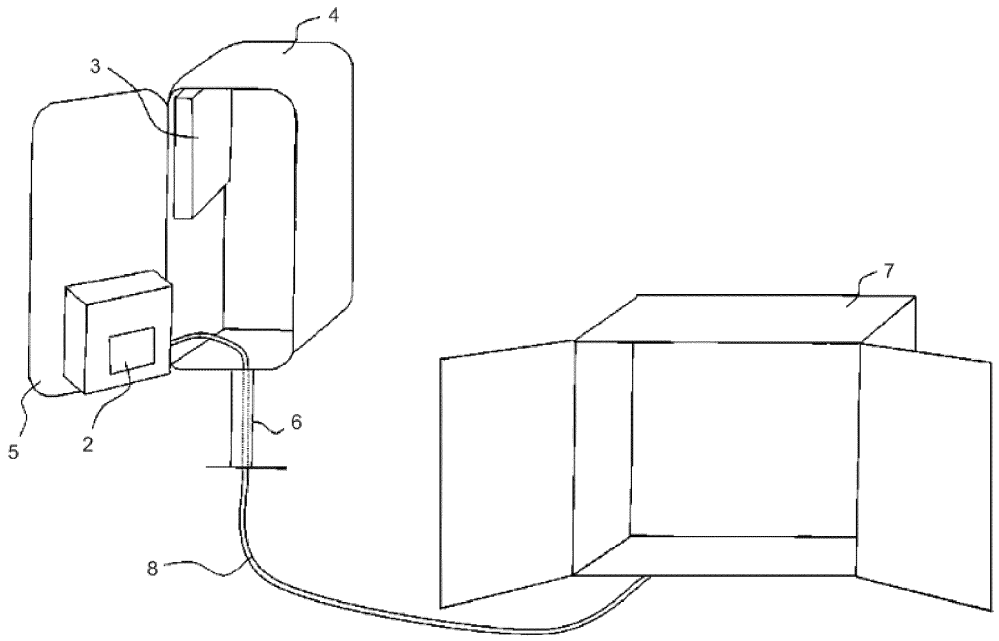

Figure 2

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Description

TECHNICAL FIELD

[0001] The present invention relates to traffic control lights used in traffic signalization comprised within the scope of intelligent transportation systems.

[0002] The invention, in particular, relates to a traffic control light which comprises an operating system based LCD display control and management card, a full industrial outdoor LCD display, numerical controller (industrial PCs, microprocessors, PLCs, etc.) based traffic sensor (i.e. crossroad control device), crossroad content management center software and crossroad content management field software and which is used for such purposes as reducing negative effects of city traffic on drivers, encouraging them to comply with traffic rules, and transferring financial, meteorological, information etc. to the drivers during red light stops.

BACKGROUND OF THE INVENTION

[0003] In existing traffic light applications, only traffic signalization colors, i.e. red, yellow and green, are displayed. Apart from this, current signalization system does not provide any information flow for drivers and pedestrians (e.g. traffic density information, information on accidents and roadwork, parking information-direction, etc.). Therefore, current traffic lights function only as traffic lights, and yet it is not possible, with the current traffic lights, to share important information in terms of traffic management during the time the drivers await.

[0004] One of the works carried out to eliminate these disadvantages is the patent document numbered TR 1998 00723 disclosing a down counter for changing times of signal transmitting traffic lights, without any Data entry.

[0005] Other works in this regard include intelligent LED traffic lights disclosed in patents numbered TR 2002 00366 and TR 2002 00582.

[0006] However, the traffic signal lights disclosed in the above applications numbered TR 2002 00366 and TR 2002 00582 comprise an indicator of LEDs instead of LCD display, which limits the functions of the light to signal transmitter, flasher, or blinker.

[0007] Hence, unlike intelligent traffic lights existing in the state of the art, a multi-functional traffic control light having much more advantages than its counterparts will meet important technical requirements.

OBJECT OF THE INVENTION

[0008] The main object of the present invention is to develop a traffic control light configuration of which the drivers will make use during stops at traffic lights, and to eliminate the current technical disadvantages.

[0009] Within this framework, the object of the invention is to introduce a configuration providing information for the drivers during red light stops, thereby turning negative effects of traffic lights on the drivers into positive.

[0010] Thus, it is made possible for the drivers to reach to the place they want to get to more easily thanks to the traffic information obtained, without making any effort or experiencing traffic stress.

[0011] The traffic control light according to the invention directs the drivers from intense traffic flow roads to alternative roads with less traffic flow in line with the traffic information given, and helps to save time in traffic jam.

[0012] The traffic control light according to the invention results in less fuel consumption since it saves time, as well as permitting a drive which is both economical and environment-friendly.

[0013] The traffic control light according to the invention allows for a trouble-free use in environments with various climates since it comprises a solid (with high radiant power and resistant to rain, water, wind and impacts) LCD display suitable for outdoor places.

[0014] Another object of the traffic control light according to the invention is to change the vision of the city by forming a digital information platform and provide the desired traffic controls thanks to its technology.

[0015] In order to achieve the above mentioned objects, the present invention is a traffic control light with a main body used in traffic signalization comprised within the scope of intelligent transportation systems, characterized by comprising;

- an outdoor LCD display located on the said main body,
- display control and management card located inside the main body for managing the said display,
- a numerical controller based traffic sensor located in the field in accordance with the said display control and management card and which is in contact with the said card via a connection wire,
- center software located in the said traffic sensor for managing crossroad diagram flow; and

[0016] field software defining crossroad condition diagram, being located in the said display control and management card.

[0017] In a preferred embodiment of the invention, a connecting means is comprised for fixing the main body to the field.

[0018] In order to achieve the above mentioned objects, the invention is a traffic control light use method, characterized by comprising the process steps of transferring the information obtained from traffic sensor functioning with center software to the display control and management card; and reflecting the transferred information on the LCD display.

FIGURES FOR A BETTER UNDERSTANDING OF THE INVENTION

[0019] The structural and characteristic aspects and all the advantages of the present invention will be more clearly understood by means of following figures and the detailed description written with reference to these figures; therefore, these figures and the detailed description should be taken into account while making an evaluation.

Fig. 1 is a front schematic view of a preferred embodiment of the traffic control light according to the invention.

Fig. 2 is a schematic view of the components and traffic sensor in a preferred embodiment of the traffic control light according to the invention.

REFERENCE NUMERALS

[0020]

1. Full Industrial Outdoor LCD Display
2. LCD Display Control and Management Card
3. Power Source
4. Main Body
5. Cover
6. Connecting Means
7. Traffic Sensor
8. Connecting Wire

DETAILED DESCRIPTION OF THE INVENTION

[0021] In this detailed description, the traffic control light according to the invention will be explained in order for the invention to be better understood, without any limitations.

[0022] In Fig. 1, a front schematic view of a preferred embodiment of the traffic control light according to the invention is given. Accordingly, the light comprises an outdoor display (1) configured on a main body (4). The said display (1) is composed of a full industrial LCD panel. In addition to having a high radiant power, it also has a structure resistant to rain, water, wind and impacts. A connecting means (6) is provided in order to fix the main body (4) to any place in the field. Many visuals can be comprised within the LCD traffic light, some of which are listed below:

- Traffic Intensity Information
- Road Condition Information including Accidents, Road Construction Works, etc.
- Key Parts of Vehicle Use
- Parking Information and Direction
- Online News Information
- Online Weather Forecast Information
- Online Financial Information
- Nearest Hospital Information
- Various Warning Signs (Please Do Not Honk Your Horn, etc.)
- Night-Pharmacy Information at Nights
- Digital Ads If Requested.

[0023] In Fig. 2, a schematic view of the components and traffic sensor in a preferred embodiment of the traffic control light according to the invention is given. Here, main body (4) is an electronic card which will reflect the information obtained from traffic sensor (7) of operating system based LCD display control and management card, seen as located in the cover (5) when it is opened. Numerical controller (industrial PCs/microprocessors/PLCs, etc.) based traffic sensor (7) is PC based in accordance with display control and management card (2). The said traffic sensor (7) is in contact with the card (2) by means of connecting wire (8). Center software manages crossroad diagram flow while management field software defines crossroad condition diagram. Thus, center software in the traffic sensor (7) sends the information to be shown on the display (1) from the center to the field software. Field software, on the other hand, enables display control and management card (2) to operate.

[0024] In practice, the information (traffic signalization times and other visual contents formed on the basis of these times) that are formed online in numerical controller (industrial PCs, microprocessors, PLCs, etc.) based traffic sensor (7) are transferred to operating system based LCD display control card (2) and the information is made to be shown on the display. The information (signal color and time) formed on numerical controller (industrial PCs/microprocessors/PLCs, etc.) based traffic sensor (7) is transferred to operating system based LCD display control and management card (2) via communication port. The connection between operating system based LCD display control and management card (2) and outdoor LCD display (1) is provided through display outlets (vga/dvi/hdmi etc.). Some of the critical features of outdoor LCD display (1) are listed as below:

- IP 65 Protection Class
- High Brightness Value
- Readability Under Sun
- Special Air Conditioning System
- Automatic Brightness Adjustment System
- Anti-Vandal Glass (Tempered Glass)

[0025] The functions performed by the system are listed below:

A. Transferring the information obtained from numerical controller (industrial PCs, microprocessors, PLCs) based traffic sensor (7) to operating system based LCD display control and management card (2),

B. Reflecting the transferred information on the display (1).

Claims

1. The invention is a traffic control light with a main body (4) used in traffic signalization comprised within the scope of intelligent transportation systems, **characterized in** comprising;

   - an outdoor LCD display (1) located on the said main body (4),
   - display control and management card (2) located inside the main body (4) for managing the said display (1),
   - a numerical controller based traffic sensor (7) located in the field in accordance with the said display control and management card (2) and which is in contact with the said card (2) via a connection wire (8),
   - center software located in the said traffic sensor (7) for managing crossroad diagram flow; and
   - field software defining crossroad condition diagram, being located in the said display control and management card (2).

2. A traffic control light according to Claim 1; **characterized in** comprising a connecting means (6) for fixing the main body (4) to the field.

3. A traffic control light use method; **characterized in** comprising the process steps of transferring the information obtained from traffic sensor (7) functioning with center software to the display control and management card (2); and reflecting the transferred information on the LCD display (1).

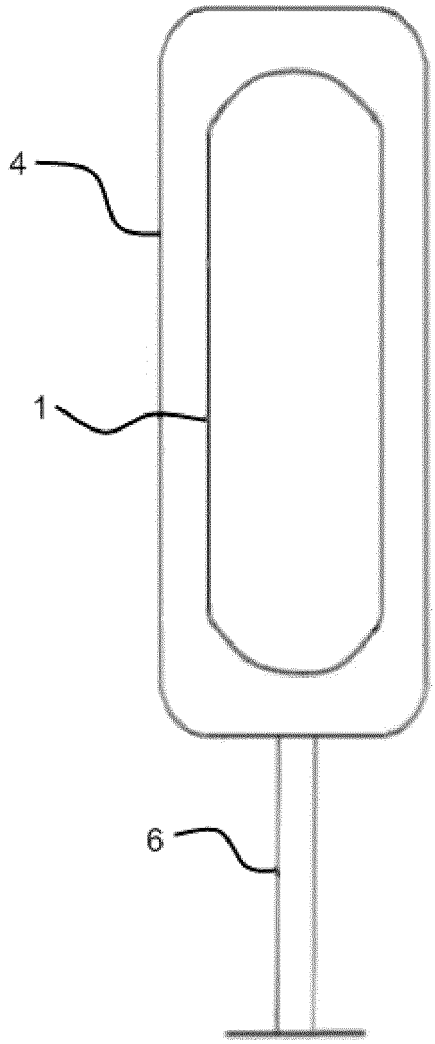

Figure 1

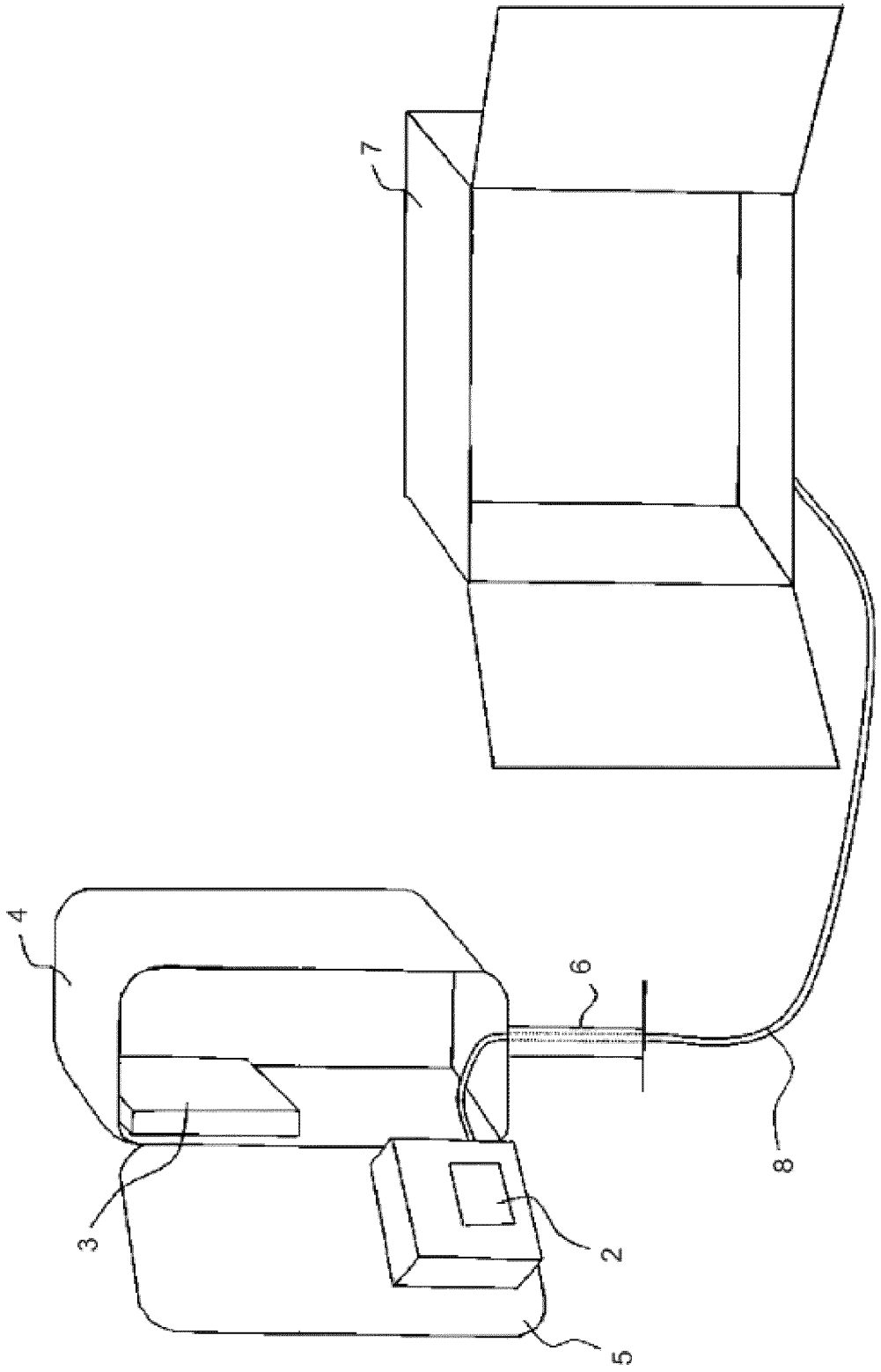

Figure 2

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- TR 199800723 **[0004]**
- TR 200200366 **[0005] [0006]**
- TR 200200582 **[0005] [0006]**