

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1006

DATE: JANUARY 1, 2021

PROJECT DP0222

The following classification changes will be effected by this Notice of Changes:

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
DEFINITIONS:		
Definitions New:	H05B	45/14, 45/18, 45/20, 45/24, 45/30, 45/305, 45/31, 45/315, 45/32, 45/327, 45/347, 45/35, 45/357, 45/3575, 45/3578, 45/3725, 45/382, 45/397, 45/40, 45/42, 45/50, 45/52, 45/54
	H05B	47/115, 47/12, 47/125, 47/135, 47/14, 47/155, 47/16, 47/165, 47/17, 47/18, 47/19, 47/195, 47/20
Definitions Modified:	H05B	33/08
	H05B	45/00, 45/44, 45/46, 45/48
	H05B	47/00

No other subclasses/groups are impacted by this Notice of Changes.

This Notice of Changes includes the following [Check the ones included]:

1. CLASSIFICATION SCHEME CHANGES

- A. New, Modified or Deleted Group(s)
- B. New, Modified or Deleted Warning(s)
- C. New, Modified or Deleted Note(s)
- D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

- A. New or Modified Definitions (Full definition template)
- B. Modified or Deleted Definitions (Definitions Quick Fix)

3. REVISION CONCORDANCE LIST (RCL)

4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

5. CHANGES TO THE CROSS-REFERENCE LIST (CRL)

2. A. DEFINITIONS (new)

H05B 45/14

Definition statement

This place covers:

Controlling the intensity of the light using electrical feedback from LEDs or from LED-modules, e.g. involving detection of electric parameters.

H05B 45/18

Definition statement

This place covers:

Controlling the intensity of the light in response to the signal of a temperature sensor, e.g. for derating.

H05B 45/20

Definition statement

This place covers:

Transformations or calculations in a colour space, e.g. in the CIE colour space, to control the colour of the emitted light.

H05B 45/24

Definition statement

This place covers:

Controlling the colour of the light using electrical feedback from LEDs or from LED-modules, e.g. involving detection of load characteristics.

H05B 45/30

Definition statement

This place covers:

Circuits for supplying driving voltages or currents to LEDs, e.g. impedance circuits or active circuits.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

DC/DC or AC/DC conversion	H02M
Light or sound activated switches	H03K17/94

H05B45/305

Definition statement

This place covers:

Circuits for supplying driving voltage or driving current of LEDs by controlling the operating frequency of a switching device.

H05B 45/31

Definition statement

This place covers:

Details of circuits providing leading edge phase control, e.g. triac circuits.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Bleeder circuits or dummy loads	H05B45/3575
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H05B 45/315

Definition statement

This place covers:

Details of circuits providing trailing edge phase control, e.g. AC switch circuits.

Synonyms and Keywords

Reverse phase control	Trailing edge phase control
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H05B45/32

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

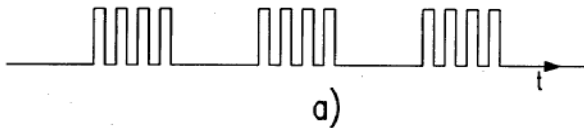
Power conversion	H02M3/00
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H05B 45/327

Definition statement

This place covers:

Driver circuits generating bursts of pulses, e.g. interrupted pulse trains, for dimming.



H05B 45/347

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Dynamic Headroom Control [DHC]	The term Dynamic Headroom Control refers to the dynamic adjustment of a LED power supply voltage to the lowest level that is sufficient to maintain correct operation of the current sources that supply the LED(s), thereby minimising wasteful power dissipation in the current sources.
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H05B 45/35

Definition statement

This place covers:

Circuits for equalising the currents through a plurality of LEDs or strings of LEDs arranged in parallel.

DATE: JANUARY 1, 2021

PROJECT DP0222

H05B 45/357

Definition statement

This place covers:

Driver circuits for LED retrofit light sources, i.e. LED light sources that directly replace incandescent bulbs and discharge lamps.

H05B 45/3575

Definition statement

This place covers:

Circuits to maintain dimmer operation by the use of bleeder circuits or dummy loads.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Phase control circuits	H05B45/31
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H05B 45/3578

Definition statement

This place covers:

Emulating the electrical or functional characteristics of discharge lamps, e.g. emulating the presence of a discharge lamp by emulating filament resistance, ignition or lamp impedance.

H05B 45/3725

Definition statement

This place covers:

Cuk or SEPIC – converter structures

H05B 45/382

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Circuits containing an inverter bridge	H05B45/39
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H05B 45/397

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Balancing circuits	H05B45/35
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H05B 45/40

Definition statement

This place covers:

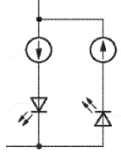
LED load circuits without active control in the LED matrix, other than in anti-parallel arrangements.

H05B 45/42

Definition statement

This place covers:

LED load circuits without active control in the LED matrix, in antiparallel arrangements



H05B 45/50

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Monitoring vehicle lamps	B60Q11/00
Changing to a reserve source of current	H02J9/00
Circuit arrangements responsive to malfunctions of light sources or light sources life in general; Protective circuits of light sources in general	H05B47/20

H05B 45/52

Definition statement

This place covers:

Circuits preventing general failure in case of a short circuit of at least one element of the array.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

LED matrixes disposed in parallel lines	H05B45/46
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H05B 45/54

Definition statement

This place covers:

Circuits preventing general failure in case of an open circuit of at least one element of the array.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

LED matrixes organized in strings and incorporating parallel shunting devices	H05B45/48
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H05B 47/115

Definition statement

This place covers:

Controlling the light source in response to the presence or movement of objects or living beings, e.g. by radar or ultrasound.

H05B 47/12

Definition statement

This place covers:

Controlling the light source in response to the presence or movement of objects or living beings by detecting audible sound, e.g. speech or voice commands.

H05B 47/125

Definition statement

This place covers:

Controlling the light source in response to the presence or movement of objects or living beings using a camera, e.g. for gesture or traffic recognition.

H05B 47/135

Definition statement

This place covers:

Recognition of the type of lamp by determining non-electrical parameters, e.g. reading a lamp type identifier or label.

References

Limiting references

This place does not cover:

Electrical parameters of light source being controlled	H05B 47/14
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H05B 47/14

Definition statement

This place covers:

Controlling the light source by determining electrical characteristics of the light source, e.g. voltage, current or power; e.g. universal ballast.

H05B 47/155

Definition statement

This place covers:

Dynamic and interrelated control of two or more light sources, e.g. of their on/off pattern; e.g. gaming lighting.

H05B 47/16

Definition statement

This place covers:

Controlling the light source by timing means, e.g. circadian lights, timed lights or burglary deterrent circuits.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Time-controlled switching in general	G04, H01H, H03K
Identifying, scaring or incapacitating burglars	G08B15/00

H05B 47/165

Definition statement

This place covers:

Controlling the light source on the basis of stored or streamed data, in e.g. theatre lighting or ambilight.

H05B 47/17

Definition statement

This place covers:

- Controlling operational modes of a light source, e.g. switching between manual and automatic modes
- Selectively permitting or prohibiting operations according to circumstances, e.g. preventing a street lamp from being lit during daylight, or a flashlamp from operating when there is sufficient light

H05B 47/18

Definition statement

This place covers:

Controlling the light source via data-bus transmission, e.g. DALI or DMX.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Current supply arrangements for data switching networks, e.g. power over Ethernet	H04L12/10
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Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

DALI	Digital Addressable Lighting Interface
DMX	Digital Multiplex
PoE	Power over Ethernet

H05B 47/19

Definition statement

This place covers:

Controlling the light source via wireless transmission, e.g. RF or ZigBee.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

RF	Radio Frequency
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H05B 47/195

Definition statement

This place covers:

Controlling the light source via wireless transmission using visible or infrared light, e.g. Li-Fi

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

LIFI or Li-Fi	Light Fidelity
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H05B 47/20

Definition statement

This place covers:

- Monitoring for malfunctions such as earth faults.
- Protection of circuits when malfunctions of light sources occur, e.g. short circuits or open circuits.
- Control circuits and techniques responsive to ageing or degradation of the light source.

CPC NOTICE OF CHANGES 1006

DATE: JANUARY 1, 2021

PROJECT DP0222

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Monitoring vehicle lamps	B60Q11/00
Circuit arrangements for emergency or stand-by power supply, e.g. changing to a reserve source of current	H02J9/00

2. A. DEFINITIONS (modified)

H05B45/00

Definition statement

This place covers:

Insert: The following new bullet point below the existing Definition statement:

- Circuit arrangements for operating organic or inorganic light emitting diodes.

Insert: The following new Relationships with other classification places section and text.

Relationships with other classification places

Circuit arrangements specially adapted or designed for operating light emitting diodes are classified in H05B45/00, whereas circuit arrangements for operating light sources in general, i.e. where the type of the light source is not relevant, are classified in H05B47/00, which is the corresponding function-oriented place.

References:

Informative references:

Insert: The following new rows to the Informative references table:

Attention is drawn to the following places, which may be of interest for search:

Arrangements or circuits for vehicle lighting devices	B60Q
Arrangements or circuits for control of indicating devices using static means to present variable information	G09G
Control arrangements or circuits for displays using light-emitting diodes [LED]	G09G 3/32
Control arrangements or circuits for displays using organic light-emitting diodes [OLED]	G09G 3/3208

Arrangements or circuits for control of laser diodes not provided for lighting	H01S 5/00
Solid state devices specially adapted for light emission including an organic material in the active part of the devices, e.g. organic light-emitting diodes [OLED]	H01L 51/50

H05B45/44

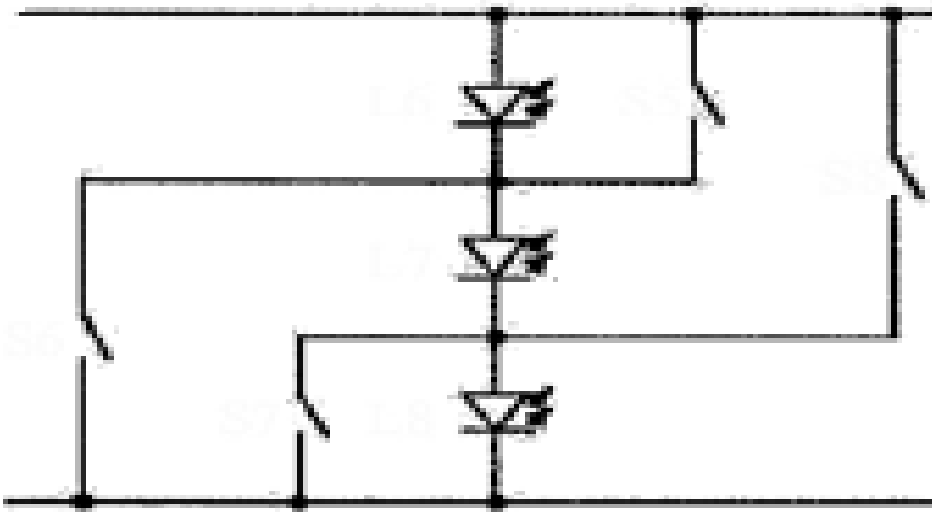
Definition statement

This place covers:

Replace: The existing Definition statement text with the new text below:

LED load circuits with active control inside the LED matrix, wherein the control switches are active devices.

Insert: The following new image in between the two existing images.



Glossary of terms

Insert: New Glossary of terms section and table.

In this place, the following terms or expressions are used with the meaning indicated:

LED matrix with active control	An arrangement of LEDs and switches, whereby some of the LEDs may be switched into a series or a parallel configuration.
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H05B45/46

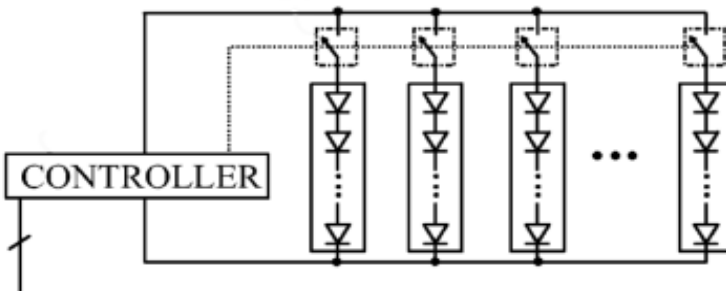
Definition statement

Replace: The first paragraph in the Definition statement with the new one and new image shown below:

This place covers:

LED load circuits having a plurality of LED branches disposed in parallel with respect a power source, each branch comprising at least one LED and one control element arranged in series.

Example:



Special rules of classification

Replace: The term "CCI" in the first paragraph with "INV" and in the second paragraph, replace "CCA" with "ADD" as shown below:

This symbol should be given as INV when the invention relates to the load configuration.

DATE: JANUARY 1, 2021

PROJECT DP0222

This symbol should be given as ADD when a load matching the definition can be observed in the document, but it is not the subject-matter of the invention or no details of it are provided.

H05B45/48

Definition statement

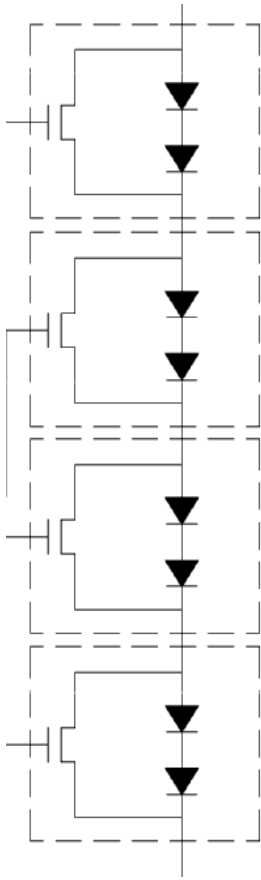
Replace: Existing first paragraph of the Definition statement with the modified one shown below.

Insert: New image above the existing image

This place covers:

LED load circuits having a plurality of LEDs units arranged in series with respect to a power source, each unit composed by at least one LED and one control element connected in parallel to the LEDs, e.g. a switch, transistor, MOSFET, Zener diode or resistor.

Examples:



Special rules of classification

Replace: In the first paragraph the term “CCI” with “INV” and in the second paragraph, the term “CCA” with “ADD” as shown below:

This symbol should be given as INV when the invention relates to the load configuration.

This symbol should be given as ADD when a load matching the definition can be observed in the document, but it is not the subject matter of the invention or no details of it are provided.

H05B47/00

Definition statement

DATE: JANUARY 1, 2021

PROJECT DP0222

Replace: Existing Definition statement with the new one below:

- The Internet of Things (IoT) applied to lighting
- The response to the presence or movement of objects or living beings
- The response to the environment luminance
- Program control or Logic control
- Remote control
- The response to malfunctions
- The monitoring of light source life
- The protection circuits or methods

Relationships with other classification places

Insert: New Relationships with other classification places section and text

Relative to the application-oriented places H05B39/00, H05B41/00, H05B45/00 and H05B46/00, H05B47/00 is the function-oriented place, where the type of the light source is not relevant or it is in common use.

References:

Application-oriented references

Insert: New Application-oriented references section and table

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Circuit arrangements or apparatus for operating incandescent light sources and not adapted to a particular application	H05B39/00
Circuit arrangements or apparatus for igniting or operating discharge lamps	H05B41/00
Circuit arrangements for operating light emitting diodes [LED]	H05B45/00
Circuit arrangements for light sources using a charge of combustible material	H05B46/00

DATE: JANUARY 1, 2021

PROJECT DP0222

Special rules of classification

Insert: New Special rules of classification section and text

In this group, multiple classification is applied, so that subject matter characterized by aspects covered by more than one of its subgroups, which is considered to represent information of interest for search, may also be classified in each of those subgroups.

CPC NOTICE OF CHANGES 1006

DATE: JANUARY 1, 2021

PROJECT DP0222

2. B. DEFINITIONS QUICK FIX

<u>Symbol</u>	<u>Location of change</u> (e.g., section title)	<u>Existing reference symbol or text</u>	<u>Action; New symbol; New text</u>
H05B33/08	Informative References		Insert the following new reference: Control arrangements or circuits for electroluminescent panels G09G3/30

NOTES:

- The table above is used for corrections or modifications to existing definitions, e.g. delete an entire definition or part thereof; propose new wording or modify wording of a section, change the symbol the definition is associated with, change or delete a reference symbol, etc.
- Do not delete (F) symbol definitions.