COOPERATIVE PATENT CLASSIFICATION

PERFORMING OPERATIONS; TRANSPORTING

TRANSPORTING

VEHICLES IN GENERAL

ARRANGEMENT OF SIGNALLING OR LIGHTING DEVICES, THE MOUNTING OR SUPPORTING THEREOF OR CIRCUITS THEREFOR, FOR VEHICLES IN GENERAL

NOTES
1. This subclass also covers the operation and control of lighting devices, for example:
   • arrangement or adaptation of lighting switches or signal-initiating means for vehicles.
   • control of lighting devices in relation to the vehicle as a whole, e.g. for levelling, swivelling or aiming.
2. This subclass does not cover optical, mechanical, thermal or electrical arrangement of elements within lighting devices, which are covered by groups F21S 41/00 – F21S 45/00.
3. Attention is drawn to the Note following the title of class B60.
4. Attention is drawn to the following places:
5. B60K 28/00 Safety devices, e.g. sleeping driver
   B60R 25/00 Anti-theft
   B62D Driving assistance
   B62D 15/02 Steering aids
   B62K 31/0008 Cruise control
   G01S Infrared night vision
   G01S 13/931 Anti-collision
   G05D 1/00 Automatic pilot
   G06K 9/00 Pattern recognition
   G06T 3/00 Image transformation
   G06T 5/00 Image enhancement
   G06T 7/00 Image analysis
   G08B 21/00 Alarms in general
   G08G Traffic control
   G08G 1/16 Anti-collision systems
   H04N Television systems

WARNING
The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

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Arrangements or adaptations of optical signalling or lighting devices (for lighting vehicle interior B60Q 3/00; circuit arrangements for electric light sources in general H05B 37/00)

1/00 1/0017 Devices integrating an element dedicated to another function
1/0023 the element being a sensor, e.g. distance sensor, camera
1/0029 Spatial arrangement
1/0035 relative to the vehicle
1/0041 of several lamps in relation to each other
1/0047 Signalling unit mounted on a headlamp unit
1/0052 concentric
1/0058 Stacked, i.e. one lamp located behind the other in the optical axis direction

1/005 Arrangements or adaptations of optical signalling or lighting devices (for lighting vehicle interior B60Q 3/00; circuit arrangements for electric light sources in general H05B 37/00)

1/0005 Devices preventing the lights from becoming dirty or damaged (protecting lighting devices from damage in general F21V 15/00), e.g. protection grids (fastening of grids or protective cages in general F21V 17/00), cleaning by air flow (windshield wipers for cleaning optical devices of vehicles B60S 1/04)

1/0011 with light guides for distributing the light between several lighting or signalling devices (using light guides inside a single device F21S 8/00, light guides per se G02B 6/0001)
environments the way ahead or to illuminate other areas of way or the devices being primarily intended to illuminate the light bulb (swivel arrangements B60Q 1/0425; fastening of covers F21S 41/30; changing light sources in general F21V 19/04; fastening of light sources or lamp holders F21S 41/19, F21S 43/19))

1/076 . . . . . . . (Switches therefor (B60Q 1/1446, B60Q 1/343, B60Q 1/40) take precedence, arrangements or fitting of control knobs on dashboard B60K 37/06)

1/082 . . . . . . . [mounted on the steering wheel]

1/008 . . . . . . . [Details of electrical connections (B60Q 1/305 takes precedence; electrical connectors in general H01R; electrical connection of the light source itself F21S 41/192, F21S 43/195)]

1/009 . . . . . . . [Arrangement of electronic circuits separated from the light source (e.g. mounting of housings for starter circuits for discharge lamps, circuits per se H05B, arrangements being part of the light source holder F21V 17/06, F21S 41/192, F21S 43/195)]

1/02 . . . . . . . the devices being primarily intended to illuminate the way ahead or to illuminate other areas of way or environments

1/04 . . . . . . . the devices being headlights

1/040 . . . . . . . {built into the vehicle body, e.g. details concerning the mounting of the headlamps on the vehicle body (B60Q 1/0491, B60Q 1/05 take precedence, integrated front ends B62D 25/00)}

1/041 . . . . . . . [the housing being mounted on the vehicle body using rails]

1/045 . . . . . . . [the housing being swivel mounted on the vehicle body]

1/043 . . . . . . . [the housing being fastened onto the vehicle body using screws (adjustable headlamp by rotation of a screw B60Q 1/0683)]

1/044 . . . . . . . [the housing being fastened onto the vehicle body using means other than screws]

1/045 . . . . . . . [with provision for adjusting the alignment of the headlamp housing with respect to the vehicle body (adjusting the light beam B60Q 1/06)]

1/0458 . . . . . . . [the front cover being directly mounted onto the vehicle body (mounting the cover on the housing F21S 41/50)]

1/0466 . . . . . . . [with arrangement for sealing the headlamp with respect to the vehicle body, or for concealing gaps between the headlamp and the vehicle body]

1/0475 . . . . . . . [with provisions for pre-mounting, for temporary holding the headlamp before or during final mounting]

1/0483 . . . . . . . [mounted on a bracket, e.g. details concerning the mounting of the lamps on the vehicle body]

1/0491 . . . . . . . [Shock absorbing devices therefor (resilient mounting of lighting devices in general F21V 15/04; shock absorbing devices in general F16F 15/04)]

1/05 . . . . . . . retractable

1/06 . . . . . . . adjustable, e.g. remotely controlled from inside vehicle (B60Q 1/05 takes precedence; controlling the distribution of the light emitted by adjustment of elements F21V 14/00)

1/064 . . . . . . . by fluid means

1/068 . . . . . . . by mechanical means

1/0683 . . . . . . . [Adjustable by rotation of a screw]

1/0686 . . . . . . . [using a position indicator mounted on the headlight and permanently attached thereto]

1/072 . . . . . . . comprising a flexible element, e.g. chain

1/076 . . . . . . . by electrical means [including means to transmit the movements, e.g. shafts or joints]

1/08 . . . . . . . automatically

1/085 . . . . . . . [due to special conditions, e.g. adverse weather, type of road, badly illuminated road signs or potential dangers (B60Q 1/10, B60Q 1/12, B60Q 1/1423 take precedence)]

1/10 . . . . . . . due to vehicle inclination, e.g. due to load distribution

1/105 . . . . . . . by fluid means

1/11 . . . . . . . by mechanical means

1/115 . . . . . . . by electric means [(details of the electric drive components, e.g. motors, shafts, ball joints B60Q 1/076)]

1/12 . . . . . . . due to steering position

1/121 . . . . . . . [with fluid actuating means]

1/122 . . . . . . . [with electrical actuating means (details of the electric drive components, e.g. motors, shafts, ball joints B60Q 1/076)]

1/124 . . . . . . . by mechanical means

1/14 . . . . . . . having dimming means [(lighting power supply circuits in general H05B)]

1/1407 . . . . . . . [General lighting circuits comprising dimming circuits (dimming circuits per se B60Q 1/1415)]

1/1415 . . . . . . . [Dimming circuits]

1/1423 . . . . . . . [Automatic dimming circuits, i.e. switching between high beam and low beam due to change of ambient light or light level in road traffic]

1/143 . . . . . . . [combined with another condition, e.g. using vehicle recognition from camera images or activation of wipers]

1/1438 . . . . . . . [Actuating means for dimming masks or screens (adjustable screens per se F21V 11/04)]

1/1446 . . . . . . . [controlled by mechanically actuated switches]

1/1453 . . . . . . . [Hand actuated switches]

1/1461 . . . . . . . [Multifunction switches for dimming headlights and controlling additional devices, e.g. for controlling direction indicating lights]

1/1469 . . . . . . . [controlled by or attached to a single lever, e.g. steering column stalk switches]

1/1476 . . . . . . . [comprising switch controlling means located near the free end of the lever, e.g. press buttons, rotatable rings]

1/1484 . . . . . . . [mounted on the steering wheel]

1/1492 . . . . . . . [Foot actuated switches]

1/16 . . . . . . . illuminating the way asymmetrically

1/18 . . . . . . . being additional front lights [(bracket mounted headlights B60Q 1/0483)]

1/20 . . . . . . . Fog lights
1/22  . . . for reverse drive
1/24  . . . for lighting other areas than only the way ahead
1/245  . . . [using spotlights adjustable from within the vehicle (adjustable headlights B60Q 1/06)]
1/26  . the devices being primarily intended to indicate the vehicle, or parts thereof, or to give signals, to other traffic ([means for the lighting or illuminating of aerials, e.g. for purpose of warning H01Q 1/06])
1/2603  . [Attenuation of the light according to ambient luminosity, e.g. for braking or direction indicating lamps]
1/2607  . [comprising at least two indicating lamps]
1/2611  . [Indicating devices mounted on the roof of the vehicle (flashing light sources in general F21S 10/06)]
1/2615  . [mounted on the vehicle body, e.g. with magnets]
1/2619  . [built in the vehicle body]
1/2623  . [Details of the fastening means]
1/2626  . . . . [Screw-nut fasteners]
1/263  . . . . [Snap-in fasteners]
1/2634  . . . . [Fastening by rotating the device housing about its longitudinal axis, e.g. bayonet fasteners]
1/2638  . . . . [Positioning the device housing by indexing means separate from the fastening means, e.g. pins, rails]
1/2642  . . . . [with provision for adjusting the alignment of the device housing with respect to the vehicle body]
1/2646  . . . . [using dowels or expansible elements]
1/2649  . . . . [with provision for pre-mounting or temporary holding the device before or during final mounting]
1/2653  . . . . [with arrangement for sealing the device with respect to the vehicle body, or for concealing gaps between the device and the vehicle body]
1/2657  . . . . [mounted on a shaft, e.g. telescopic (lamps on antennas or powerlines F21S 8/085)]
1/2661  . . . . [mounted on parts having other functions (on wheels B60Q 1/323)]
1/2665  . . . . [on rear-view mirrors (lighting devices for vehicle interior on or for rear-view mirrors B60Q 3/258; rear-view mirror arrangements B60R 1/02; mirror assemblies combined with lamps B60R 1/1207; adaptations or arrangements of mirrors for use on cycles B62J 29/00)]
1/2669  . . . . [on door or boot handles (lighting devices for vehicle interior on door handles B60Q 3/267; vehicle doors B60J 5/00; illuminating devices on or for locks or keys E05B 17/10; keyhole finders E05B 15/08)]
1/2673  . . . . [on parts worn by the driver, e.g. clothes (professional or sporting clothes with reflecting or luminous means A41D 13/01), gloves (protective gloves with reflecting or luminous means A41D 19/0157), or bags, specially adapted to provide auxiliary vehicle signalling]
1/2676  . . . . [Helmets (helmets in general A42B 3/00; helmets with signalling or lighting devices A42B 3/0433)]
1/268  . . . . [on windscreens or windows (B60Q 1/302 takes precedence; lighting devices for vehicle interior on or for windows B60Q 3/208; windows or windscreens in general B60J 1/00)]
1/2684  . . . . [on wipers or windscreen washers (vehicle wipers B60S 1/04; windscreen washers B60S 1/46)]
1/2688  . . . . [on exhaust pipes (exhaust or silencing apparatuses in general F01N)]
1/2692  . . . . [retractable lights (retractable headlights B60Q 1/05)]
1/2696  . . . . [Mounting of devices using LEDs (fastening of LEDs on printed circuits F21V 19/001)]
1/28  . . . . . for indicating front of vehicle
1/30  . . . . . for indicating rear of vehicle, e.g. by means of reflecting surfaces
1/302  . . . . . [mounted in the vicinity, e.g. in the middle, of a rear window]
1/305  . . . . . [Indicating devices for towed vehicles]
1/307  . . . . . [mounted on loading platforms (warning signals on loading platforms B60P 1/4464)]
1/32  . . . . . for indicating vehicle sides (e.g. clearance lights)
1/323  . . . . . [on or for doors or running boards, e.g. to facilitate access to the vehicle (illumination of door locks E05B 17/10)]
1/326  . . . . . [on or for wheels]
1/34  . . . . . for indicating change of drive direction (B60Q 1/22 takes precedence)
1/343  . . . . . [Manually actuated switching arrangements therefor (hand actuated multifunction switches B60Q 1/1461; B60Q 1/40 takes precedence)]
1/346  . . . . . [with automatic actuation]
1/36  . . . . . using movable members, e.g. arms with built-in flashing lamps
1/38  . . . . . using immovable-mounted light sources, e.g. fixed flashing lamps
1/382  . . . . . [Electronic temporisation with semiconductor amplification]
1/385  . . . . . [Electronic temporisation with relay amplification]
1/387  . . . . . [Mechanical temporisation]
1/40  . . . . . having (mechanical, electric or electronic) automatic return to inoperative position
1/42  . . . . . [having mechanical automatic return to inoperative position] due to steering-wheel position (e.g. with roller wheel control)
1/425  . . . . . . . . . . . . . . [using a latching element for resetting a switching element (hand actuated multifunction switches B60Q 1/1461)]
1/44  . . . . . for indicating braking action or preparation for braking (e.g. by detection of the foot approaching the brake pedal)
1/441  . . . . . [Electric switches operable by the driver’s pedals (electric switches in general H01H)]
1/442  . . . . . [visible on the front side of the vehicle, e.g. for pedestrians]
1/444  . . . . . [with indication of the braking strength or speed changes, e.g. by changing shape or intensity of the indication (B60Q 1/1407, B60Q 1/442, B60Q 1/447 take precedence)]
1/445  . . . . . [controlled by inertial devices]
Arrangement of lighting devices for vehicle interiors; Lighting devices specially adapted for vehicle interiors

3/10  for dashboards
3/12  lighting onto the surface to be illuminated
3/14  lighting through the surface to be illuminated
3/16  Circuits; Control arrangements
3/18  for varying the light intensity
3/20  for lighting specific fittings of passenger or driving compartments; mounted on specific fittings of passenger or driving compartments (lighting for dashboards B60Q 3/10)

3/208  Sun roofs; Windows
3/217  Doors, e.g. door sills; Steps
3/225  Small compartments, e.g. glove compartments
3/233  Seats; Arm rests; Head rests
3/242  Safety belts; Body harnesses
3/252  Sun visors
3/258  Rear-view mirrors
3/267  Door handles; Hand grips
3/275  Smoking-related fittings, e.g. cigarette lighters or ashtrays
3/283  Steering wheels; Gear levers
3/292  Ignition locks
3/30  for compartments other than passenger or driving compartments, e.g. luggage or engine compartments

3/35  Portable lighting devices
3/40  specially adapted for specific vehicle types
3/41  for mass transit vehicles, e.g. buses
3/43  General lighting
3/44  Spotlighting, e.g. reading lamps
3/46  Emergency lighting, e.g. for escape routes
3/47  Circuits; Control arrangements
3/49  for vehicles with non-fixed roofs, e.g. convertibles
3/50  Mounting arrangements (for compartments other than passenger or driving compartments B60Q 3/30; specially adapted for specific vehicle types B60Q 3/40)
3/51  for mounting lighting devices onto vehicle interior, e.g. onto ceiling or floor
3/53  Modular mounting systems, e.g. using tracks, rails or multiple plugs
3/54  Lighting devices embedded in interior trim, e.g. in roof liners
3/56  Lighting devices mounted on elongate supports, e.g. on flexible arms
3/57  Retractable or concealable lighting devices
3/59  Lighting devices mounted in the vehicle interior and adapted for portability
3/60  characterised by optical aspects
3/62  using light guides
3/64  for a single lighting device
3/66  for distributing light among several lighting devices
3/68  using ultra-violet light
3/70  characterised by the purpose
3/72  for preventing the driver from being dazzled
3/74  for overall compartment lighting; for overall compartment lighting in combination with specific lighting, e.g. room lamps with reading lamps (general lighting mounted on specific fittings B60Q 3/20; general lighting for mass transit vehicles B60Q 3/43)
3/745  (using lighting panels or mats, e.g. electro-luminescent panels, LED mats)
3/76  for spotlighting, e.g. reading lamps (spotlighting on or for specific fittings B60Q 3/20; spotlighting in mass transit vehicles B60Q 3/44)
3/78  for generating luminous strips, e.g. for marking trim component edges
3/80  Circuits; Control arrangements (for dashboards B60Q 3/16; for mass transit vehicles B60Q 3/47)
3/82  Switches specially adapted for vehicle interior lighting, e.g. switching by tilting the lens
3/85  for manual control of the light, e.g. of colour, orientation or intensity
3/88  Means for plugging to the electrical power supply of the vehicle, e.g. by using cigarette lighter sockets

Arrangements or adaptations of acoustic signal devices (sound producing devices in general G10K)

5/00  [Switches therefor]
5/001  [mounted on the steering wheel]
5/005  [automatically actuated]
headlamps or automatically dimmable headlamps

Indexing codes for automatically adjustable headlamps

Special features or arrangements of vehicle headlamps

Conjoint adjustments, i.e. a mechanical link allows conjoint adjustment of several units

Automatic calibration of motor-driven means for adjusting headlamps, i.e. when switching on the headlamps, not during mounting at factories

Special conditions, e.g. pedestrians, road signs or other road users

Variable non-standard intensity, i.e. emission of various beam intensities different from standard intensities, e.g. continuous or stepped transitions of intensity

Special anti-blinding beams, e.g. a standard beam is chopped or moved in order not to blind

Indexing codes relating to particular vehicle conditions

Linear movements of the vehicle

Vehicle speed

Vehicle acceleration or deceleration

Vehicle at a stop

Steering parameters

Steering angle

Steering speed

Hysteresis behavior based on steering

Steering dead zone

Attribute of the vehicle body

Pitch

Yaw

Roll

Other vehicle conditions

Turn signal actuation

Rearward ratio actuation

Abnormalities, e.g. fail-safe

Indexing codes relating to the driver or the passengers

Manual control

Seat occupation

Driver's line of sight

Indexing codes relating to the vehicle environment

Calendar date or clock time

Atmospheric conditions

Adverse weather

Ambient light

Road surface or travel path

Road curvature

Road inclination, e.g. uphill or downhill

Driving situation

characterised by the driving side, e.g. on the left or right hand side

city roads

detection of streetlights

on suburban or country roads

on motorways

Number or size of road lanes

Crossings

Tunnels or bridges

Overtaking

Indexing codes relating to other road users or special conditions

preceding vehicle

oncoming vehicle

following vehicle

Special conditions, e.g. pedestrians, road signs or potential dangers
Direct command from other road users, i.e. the command for switching or changing the beam is sent by other vehicles or road devices

**2400/00** Special features or arrangements of exterior signal lamps for vehicles

- **2400/10** Electroluminescent surfaces, i.e. signalling by way of electroluminescent strips or panels
- **2400/20** Multi-color single source or LED matrix, e.g. yellow blinker and red brake lamp generated by single lamp
- **2400/30** Daytime running lights [DRL], e.g. circuits or arrangements thereof
- **2400/40** Welcome lights, i.e. specific or existing exterior lamps to assist leaving or approaching the vehicle
- **2400/50** Projected signs, i.e. symbol or information is projected onto the road

**2500/00** Special features or arrangements of vehicle interior lamps

- **2500/10** Embedded in interior trim, e.g. integrated in headliner layers
- **2500/20** Associated with air conditioning arrangements

**2900/00** Features of lamps not covered by other groups in B60Q

- **2900/10** Retrofit arrangements
- **2900/20** Arrangements for easy recycling, e.g. for easy dismantling or use of special materials
- **2900/30** Lamps commanded by wireless transmissions