electric drive unit comprising electric motor 20. The electric drive device I-VIII, i.e. housing with electric motor 20 and according to a variant transmission configuration, is according to a preferred embodiment and as shown in fig. 1 transverse to the direction of travel of the vehicle such that a cardan shaft is not required.

The electric motor 20 has an essentially circular cylindrical shape. The electric motor 20 has a jacket surface 21. The electric motor 20 when arranged in the vehicle 1 for drive of the vehicle has an upper jacket surface area 20a and a lower jacket surface area 20b.

The electric drive device I-VIII comprises a drive shaft element 5 connected to said housing 30,; 130; 230; 330; 430; 530; 630; 730 and wherein bending stresses in the drive shaft element 5 are transferable to said housing 30; 130; 230; 330; 430; 530; 630; 730. Hub members 6a, 6b are arranged at the respective end of the drive shaft element 5. The hub members 6a, 6b are according to a variant constituted by hub reductions 6a, 6b. The hub members are according to an alternative variant constituted by drive wheels for tracked vehicles, which according to a variant comprise hub reduction gears. Ground engaging members 7a, 7b are arranged at the respective hub reduction 6a, 6b for propulsion of the vehicle 1. The ground engaging members 7a, 7b are according to a variant constituted by wheels. According to an alternative variant the ground engaging members 7a, 7b are constituted by tracks.

Said drive shaft element 5 is arranged to run essentially transversal to the longitudinal direction of the vehicle 1 intended to be propelled by means of the electric drive device I-VIII. Said drive shaft element 5 is according to an embodiment arranged essentially coaxially to said electric motor 20, i.e. aligned with the drive shaft of the electric motor. Hereby efficient drive of the vehicle 1is obtained. According to an alternative embodiment said drive shaft element 5 is arranged radially displaced relative to said electric motor, said drive shaft element according to a variant being displaced relative to the

electric motor such that the ground engaging members are displaced forward in the longitudinal direction of the vehicle such that among others handling of obstacles is improved.

The housing 30; 130; 230; 330; 430; 530; 630; 730 of the electric drive device is configured in such a way and attached to the frame construction of the vehicle body such that transfer of outer load to electric motor 20 is minimized such that essentially all loads ~~is~~ are absorbed by the housing 30; 130; 230; 330; 430; 530; 630; 730 wherein the housing due to bending of outer loads while bending of the electric motor 20 essentially is avoided such that stator and rotor of the electric motor 20 are not brought into contact with each other such that the electric motor 20 is destroyed.

The electric drive device is according to a variant intended to drive heavy vehicles such as work vehicles. The electric dive device is according to a variant intended to deliver relatively high output torques and having a relatively high output speed. According to a variant the electric drive device comprising said hub reductions 6a, 6b configured to deliver output torque in the magnitude of 200 kNm, for the electric drive unit excluding the hub reduction the corresponding torque is in the magnitude of 10-20 kNm, according to this embodiment, and having a maximal output sped closer to 100 rpm, for the electric drive unit excluding the hub reduction the corresponding speed is closer to 2000 rpm.

The housing 30; 130; 230; 330; 430; 530; 630; 730 is configured to be load carrying and constructed to withstand heavy loads, according to a variant loads in the magnitude of 100-400 tonnes. The housing 30 is arranged to support said outer loads at said attachment. The housing 30 is configured such that outer loads, e.g. from the sides via e.g. hub reduction are transferred up in the structure of the housing 30; 130; 230; 330; 430; 530; 630; 730 such that such loads do not affect transmission configurations or electric motor 20. The housing 30; 130; 230; 330; 430; 530; 630; 730 is arranged to absorb drive torque from the electric motor 20. Such loads

and lubrication means supply of the transmission configuration 50, 60 and electric motor by means of a pump unit not shown. The conduit configuration comprises an uptake conduit 101 for taking up oil from oil sump for pumping via heat exchanger back via the connection unit 100 for supply of electric motor 20 and transmission configurations 50, 60.

The connection unit 100 comprises connection interfaces for said cooling and lubrication conduits 101, ~~101,~~ 102a, 102b, 104a, 104b intended for transport of cooling and lubrication means for cooling and lubrication of electric motor 20 and transmission configurations 50, 60. Said cooling and lubrication conduits are arranged to be led via said transmission configurations 50, 60 for lubrication of gears of the transmission configuration by means of lubrication means and about the jacket surface 21 of the electric motor 20 for cooling of the electric motor 20 by means of cooling means, said lubrication means and cooling means according to an embodiment being constituted by oil from the same source in the form an oil sump O.

Fig. 3 schematically shows a radial cross sectional view of an electric drive device I according to the present invention, comprising a drive unit according to fig. 2. The electric drive device I is described in more detail below with reference to fig. 8a. The electric drive device I comprises the electric motor 20 and a housing 30 in which the electric motor 20 is housed. The housing 30 has a jacket surface 31 and an essentially ring shaped cross section. Said connection unit 100 is attached to the jacket surface 31 of said housing, wherein said media supply is intended to be effected via an opening in said jacket surface 31 of the housing 30. Said jacket surface 31 of the housing 30 has an upper portion 30a and a lower portion 30b, said connection unit 100 being arranged between said uppermost and lowermost portion 30a, 30b. By arranging the connection unit 100 between the uppermost and lowermost portion 30a, 30b ground clearance of the vehicle is not affected by the connection unit 100 and also not the height of the vehicle. Further the connection unit 100 is according to a variant arranged in connection to the

According to an embodiment the connection unit 100 comprises overflow valves, not shown, being arranged to open based on predetermined pressure. Hereby prioritization of supply is arranged to be effected such that transmission configurations, according to a variant planetary gears arranged on the respective side of the electric motor, and differential configuration, firstly are supplied with cooling and lubrication means via a first supply conduit 103a of the set of supply conduits 103a, 103b, 103c, 103d, and thereafter the coil ends of the stator windings of the electric motor are supplied with cooling and lubrication means via a second supply conduit 103b, wherein thereafter a third supply conduit 103c is activated for supplying the rotor of the electric motor with cooling and lubrication means, and thereafter the jacket of the electric motor is supplied with cooling and lubrication means and also bearings. This is e.g. if the performance of the pump unit P is impaired, wherein the traction ability of the vehicle is secured in that the risk of failure of transmission configurations is avoided.

According to a variant cooled oil is consequently intended to be led with high pressure in the inlet conduit 103 into the connection unit 100, be branched in the set of supply conduits 103a, 103b, 103c, 103d with prioritization e.g. according to above. Oil heated by electric motor and transmission configuration is then pumped from oil sump in the bottom of the housing and led via the connection unit 100 and via the pump unit P through the filter F and via the heat exchanger HX for cooling of the oil and then back through the inlet conduit for supply of transmission configuration and electric motor.

The system S further comprises power electronics E arranged to electrically energy-supply the electric motor. Said power electronics E is connected to the electric motor via cables 105 in the form of three-phase line, which cables are connected to the electric motor via the connection unit 100.

According to an embodiment the system also comprises an electronic control unit ECU. The electronic control unit ECU is arranged to receive signals from a signal line configuration 107 via the connection unit 100. The electronic

control unit is arranged to receive signals from not shown sensor members arranged in connection to electric drive unit of electric drive device according to the present invention, where said sensor members may comprise flow sensors for determining of flow rate of cooling and lubrication means, level sensors for determining of level of cooling and lubrication means of sump, pressure sensors for determining pressure of cooling and lubrication means, temperature sensors for determining temperature of electric motor, temperature sensors for determining temperature of cooling and lubrication means such as oil, positions sensor such as resolver/encoder for determining the position of the rotor of the electric motor, rotation sensors for determining the rotational speed of the rotor, particle sensor for determining amount of particles of the cooling and lubrication means such as oil in order to see if the cooling and lubrication means has become mixed up with particles which may indicate wearing of among other gear wheels, wherein the electric control unit ECU is arranged to receive signals form said sensor members representing flow data, level data, pressure data and temperature data.

The electronic control unit ECU is further connected to said power electronics E. The electronic control unit ECU is arranged to send a signal to the power electronic representing control of electric motor based on information from sensor members regarding e.g. the position of the rotor and the temperature of the electric motor.

In fig. 4a the branching of the supply conduit 103 of the branching configuration Y1 is effected in the connection unit 100. The branching of the inlet conduit 103 may be effected by means of any suitable branching configuration. Fig. 4b schematically shows a branching configuration Y2 where a partial branching of the inlet conduit 103 is effected in the connection unit 100, here in two conduits, wherein these conduits then are branched with/downstream of the connection unit 100 in one and two supply conduits 103a', 103b', and 103c', 103d' respectively.

Fig. 5a-b schematically show side views of an electric drive device II; III according to alternative embodiments of the present invention, the placement of the connection unit 100 differing from the placement according to the embodiment illustrated in fig. 2.

Fig. 5a schematically shows a side view of an electric drive device II where the connection unit 100 is arranged at an end area of the axial extension of the jacket surface 131 of the housing 130 in a lower area between the horizontal middle plane and the lower portion 130b of the jacket surface of the housing.

Fig. 5b schematically shows a side view of an electric drive device III where the connection unit 100 in axial direction is arranged essentially in connection to a central portion of the jacket surface 231 of said housing. Further the connection unit 100 is arranged circumferentially of the jacket surface of the housing in connection to a horizontal middle plane of the jacket surface of the housing between the upper portion 230a and the lower portion 230b ~~of the~~ of the jacket surface. The connection unit 100 is consequently arranged centrally on one side of the jacket surface 231.

Fig. 6 schematically shows a side view of an electric drive device IV according to an embodiment of the present invention and fig. 7 schematically shows a radial cross sectional view of the electrical drive device IV according to fig. 6.

The housing 330 of the electric drive device IV according to this embodiment has an opening 314 formed through a port 312 of the jacket surface 331 of the housing 330 arranged in the middle area along a side of the housing 330 in the lower area between the uppermost portion 330a and the lowermost portion 330b of the jacket surface 331 of the housing 330 such that a connection unit according to the present invention may be connected and cables from the electric motor and cooling and lubrication conduits may be led out of the housing 330. According to an embodiment of the present

invention the connection unit 100 is configured to be arranged in connection to said opening ~~313~~314.

Fig. 8a schematically shows an axial cross sectional view of an electric drive device ~~10~~I according to an embodiment of the present invention, the electric drive device being in accordance with the electric drive device in fig. 3, and fig. 8b a view from above of a differential device 40 of the electric drive device ~~10~~I in fig. 8a. The electric drive device ~~10~~I comprises an electric motor 20 and a housing 30 in which the electric motor is housed. The electric drive device is arranged to drive a motor vehicle.

The electric motor 20 comprises a rotor 22 and a stator 24, said rotor 22 being connected to a drive shaft 26 or rotor shaft 26 and being arranged to rotate said drive shaft 26. The drive shaft 26 is arranged to run concentrically relative to the rotor 22, wherein the rotor 22 is arranged to surround the drive shaft 26. The stator 24 is arranged to surround the rotor 22, wherein the rotor shaft and consequently the rotor 22 are arranged concentrically relative to the stator 24. The electric motor 20 and consequently the drive shaft 26 are according to a variant intended to be arranged transversely to the longitudinal extension of the vehicle, wherein the drive shaft is connected and arranged for driving the drive wheels of the vehicle. The drive shaft 26 is arranged to run essentially horizontally. The drive shaft 26 is intended to be connected and drive ground engaging members such as drive wheels or drive tracks. The electric drive device ~~10~~I is consequently arranged to drive ground engaging members such as drive wheels or drive tracks for propulsion of the motor vehicle.

The drive shaft 26 according to this embodiment consequently runs concentrically relative to the imaginary centre axle of the electric motor 20. Hereby a desired space 36 is formed between the electric motor and said housing. Said desired space 36 has a valley-like configuration.

The housing has an essentially ring shaped cross section with an imaginary centre ~~axel~~axle X. According to this embodiment the housing 30 has an essentially circular cross section. The electric motor 20 is arranged eccentrically displaced in the housing 30 in such a way that the drive shaft 26 of the electric motor 20 runs parallel to and at a distance from the centre ~~axel~~axle X of the housing 30 for forming of said desired space 36. The housing 30 is consequently intended to be essentially horizontally arranged such that the imaginary centre ~~axel~~axle X runs essentially horizontally.

The electric motor 20 is according to this embodiment displaced mainly radially upwards in the essentially circular cylindrical housing 30. The housing 30 constitutes a middle part of a supporting structure in the electric drive device ~~10~~. According to a variant the displacement of the drive shaft 26/ imaginary centre axle 26 relative to the imaginary axle of the housing 30 is 20-100 mm, according to a variant about 45 mm. Said displacement may be within any suitable range comprising greater ranges than above. Said desired space consequently runs axially in the lower area of the housing 30.

The won centimetres under the electric motor due to the eccentric placement of the electric motor 20 relative to the drive shaft are utilized for placement of a differential configuration 42a, 42b of the differential device 40 and oil sump O. Further is facilitated to via connection unit in a smooth way taking out the cables from the middle of the housing 30, which is illustrated among other in fig. 6 and 7 and explained in more detail below.

The electric drive device ~~10~~ comprises an output shaft 12 connected to the drive shaft 26. The output shaft 12 is according to this embodiment aligned with the drive shaft 26. The output shaft 12 according to this embodiment extends through said drive shaft 26.

The electric drive device ~~10~~ comprises according to this embodiment differential means arranged in the housing 30. Said differential means comprises a first transmission configuration 50 and a second transmission

configuration 60, the electric motor 20 being arranged between said first and second planetary gear configuration 50, 60.

The first planetary gear configuration 50 comprises planetary gears 52, a sun gear 54, and a ring gear 56. The second planetary gear configuration 60 comprises planetary gears 62, a sun gear 64, and a ring gear 66.

The first and second planetary gear configuration 50, 60 are drivingly connected to each other via said output shaft 12. The output shaft 12 is connected to the sun gear 54, 64 of the respective planetary gear configuration 50, 60.

The differential means comprises the differential device 40 engaged with the ring gear 56 of the first planetary gear configuration 50 and the ring gear 66 of the second planetary gear configuration 60 for provision of differential function of a motor vehicle.

The differential device 40 comprises an axle configuration 42a, 42b which is arranged in the housing 30 between electric motor and housing wall of the housing 30 in the space 36 set free through said displacement of the centre axle 26 of the electric motor 20 relative the centre ~~axel~~axle X of the housing 30.

As is evident from fig. 8b the axle configuration comprises a first differential shaft 42a and a second differential shaft 42b which run essentially parallel along each other in the longitudinal direction of the housing in the space 36. The differential device comprises differential gears 44a, 44b, 46a, 46b, wherein the gear 44a on the first differential shaft 42a is meshed with the ring gear 56 and the gear 44b of the first differential shaft 42b is meshed with the ring gear 66.

The differential device 40 is arranged to shift up output shaft 12 on one side at the same time as the other side is shifted down which is accomplished in

that the ring gears 56, 66 are allowed to rotate reverse to each other by means of the gears 46a, 46b.

The electric motor 20 of the electric drive device ~~10~~l is axially aligned with the output shaft 12 and the axle configuration 42 of the differential device is arranged to run along the jacket surface of the electric motor 20 in space set free due to the displacement of the centre ~~axel~~axle of the electric motor 20 relative to the centre ~~axel~~axle of the housing 30.

By using a cylindrical housing 30 with a circular cross section a rigid housing 30 is obtained which is easy to manufacture. According to an embodiment the construction element for the housing 30 is constituted by a pipe with a circular cross section which is optimal for absorbing load. By arranging the electric motor 20 eccentrically in such a horizontally arranged housing 30 volume uppermost in the housing 30 is utilized, i.e. the electric motor is arranged such that its upper jacket surface runs axially along the internal upper surface of the housing30, at the same time as the axle configuration of the differential device is arranged under the electric motor 20 in the space 36 set free, i.e. the axle configuration is arranged such that it runs axially in the space 36 along the internal lower surface of the housing 30, wherein a compact construction is obtained, at the same time as a circular cylindrical pipe is utilized with the above mentioned advantages.

The electric motor 20 is consequently according to this embodiment placed eccentrically in the circular cylindrical housing 30 arranged horizontally in a vehicle, i.e. the rotational centre of the drive shaft 26 is radially displaced relative to the imaginary centre axle X of the circular cylindrical housing 30, wherein space thereby is given to the axle configuration 42a, 42b of the differential device in the housing in the axially running space 36 below the electric motor 20. The volume made available when the electric motor is displaced is utilized as an oil sump O and as mentioned provides space for the axle configuration 42a, 42b of the differential device 40 and in the prolongation also a not shown differential brake / torque vectoring. Further

the space 36 set free facilitates for collecting connections for lubrication means, cooling means, power supply and sensors etc. and connect these to connection unit according to the present invention.

As the output shaft extends through said drive shaft a motor-in-shaft solution with output shaft 12 via planter gear configuration 50, 60 on the respective side of the electric motor 20 is obtained. A motor-in-shaft-solution does not require any cardan shaft but all power supply is effected via cable. Specific for application according to this embodiment with electric motor 20 eccentrically arranged in the housing 30 with a circular cross section a compact and volume efficient device is obtained, at the same time as the housing 30 maintains a circular cylindrical shape for best strength and rigidity.

The electrics drive device ~~10~~I according to the present invention is intended mainly for medium and heavy special vehicles. Hereby the electric motor 20 is horizontally placed in the vehicle wherein the jacket 21 of the electric motor 20 and the jacket 31 of the housing runs in the transverse direction of the vehicle. The electric motor 20 is further eccentrically placed relative to the circular cylindrical housing 30 arranged in the vehicle, wherein at the same time coaxiality is maintained between drive shaft and output shaft and consequently drive wheels.

Fig. 9a-d schematically show radial cross sectional views of an electric drive device V; VI; VII; VIII according to different embodiments of the present invention, where according to the embodiments in fig. 9a-c the housing 430; ~~430~~530; 630 has different ring shaped cross section with electric motor 20 eccentrically placed relative the housing, and where according to the embodiment in fig. 9d the housing 730 has a circular cross section wit electric motor 20 concentrically placed relative to the housing 730.

All embodiments according to fig. 9a-d have a connection unit 100 for media supply comprising supply of electric energy to the electric motor 20 and

supply of cooling and lubrication means to electric motor 20 and transmission configuration, the connection unit 100 being arranged in connection to the jacket surface 21 of the electric motor 20, wherein said media supply is arranged to be effected via the connection unit 100.

The connection unit 100 is connected to the housing 430; ~~430~~530; 630; 730, wherein an opening of the housing 430; ~~430~~530; 630; 730 allows feeding from said connection unit to the drive unit for cables for feeding of electric energy to the electric motor 20 and cooling and lubrication conduits for cooling and lubrication of electric motor and transmission configurations. Said opening may in said embodiments of housing be arranged on any suitable place on the housing in accordance with what has been described above.

Above an electric drive device I; IV with a housing 30; 330 for housing an electric motor 20, where the housing 30; 330 has an essentially circular cross section with an imaginary centre axle X has been described.

According to an alternative embodiment illustrated in fig. 9a the electric drive device ~~III~~ V has a housing ~~330~~ 430 with an essentially elliptic cross section with a centre axle X, wherein the electric motor 20 is eccentrically displaced in the housing 430 in such a way that the drive shaft 26/ centre axle 26 of the electric motor 20 runs parallel to and at a distance from the centre axle of the housing 430.

According to an alternative embodiment illustrated in fig. 9b the electric drive device ~~IV~~ VI has a housing 530 with an essentially egg shaped cross section with a centre axle X, wherein the electric motor 20 is arranged eccentrically displaced in the housing 530 in such a way that the drive shaft 26/ centre axle 26 of the electric motor 20 runs parallel to and at a distance from the centre ~~axel~~axle X of the housing 530.

According to an alternative embodiment illustrated in fig. 9c the electric drive device VII has a housing 630 with an essentially elongated cross section with parallel sides and semi circular ends with a centre axle X, wherein the

electric motor 20 is arranged eccentrically displaced in the housing 630 in such a way that the drive shaft 26/ centre axle 26 of the electric motor 20 runs parallel to and at a distance from the centre axle of the housing 630.

Above an electric drive device where the electric motor is eccentrically placed in the housing has been described. According to an alternative embodiment illustrated in fig. 9d the electric drive device VIII has a housing 730 with an essentially circular cross section with a centre axle X, wherein the electric motor 20 is concentrically arranged in the housing 730 in such a way that the drive shaft 26/ centre axle 26 of the electric motor 20 is aligned with the centre axle of the housing 730.

Above an electric drive device with a ring shaped housing and ~~en~~ an electric motor eccentrically placed in the housing, the ring shaped housing being intended to be arranged in essentially horizontally transversal to the longitudinal direction of the vehicle such that the drive shaft of the electric motor for propulsion of the vehicle runs transversal to the longitudinal direction of the vehicle for drive of ground engaging members such as drive wheel or drive tracks.

Alternatively the ring shaped housing of the electric drive device with ring shaped housing and the electric motor placed eccentrically in the housing is intended to be arranged essentially horizontally in the longitudinal direction of the vehicle such that the drive shaft of the electric motor for propulsion of the vehicle runs in the longitudinal direction of the vehicle, wherein a cardan shaft is arranged for transferring drive power from the drive shaft to ground engaging drive wheels or drive tracks.

The foregoing description of the preferred embodiments of the present invention has been provided for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise forms disclosed. Obviously, many modifications and variations will be apparent to practitioners skilled in the art. The embodiments were chosen and described in order to best explain the principles of the invention and its practical

CLAIMS

1. An electric drive device (I-VIII) for driving of a motor vehicle (1) comprising an electric motor (20) arranged to be media supplied, the electric motor (20) having a jacket surface (21) and an essentially ring shaped cross section, ~~**characterized in that**~~wherein said media supply is arranged to be effected via a connection unit (100) arranged in connection to the jacket surface (21) of the electric motor (20), the drive device (I-VIII) further comprising a housing (30; 130; 230; 330; 430; 530; 630; 730) in which the electric motor (20) is housed, which housing has a jacket surface and an essentially ring shaped cross section, wherein said connection unit (100) is applied to the jacket surface of said housing, and wherein said media supply is intended to be effected via an opening in said jacket surface, wherein an oil sump (O) is arranged at the bottom of the housing (30; 130; 230; 330; 430; 530; 630; 730) in a desired space (36) between the electric motor and said housing under the lowermost portion (21b) of the jacket surface (21) of the electric motor (20) for said cooling and lubrication means supply, **characterised in that** the electric drive device (I-VIII) further comprises a differential device (40) with a shaft configuration (42a, 42b) arranged in the housing (30; 130; 230; 330; 430; 530; 630; 730) in the desired space (36) between electric motor (20) and housing.

~~2. An electric drive device according to claim 1, further comprising a housing (30; 130; 230; 330; 430; 530; 630; 730) in which the electric motor (20) is housed, which housing has a jacket surface and an essentially ring shaped cross section, wherein said connection unit (100) is applied to the jacket surface of said housing, and wherein said media supply is intended to be effected via an opening in said jacket surface.~~

~~3.~~2. An electric drive device according to claim ~~2~~1, wherein said connection unit (100) is arranged between the upper and lower portion of jacket surface of said housing (30; 130; 230; 330; 430; 530; 630; 730).

4.3. An electric drive device according to claim 2–1 or 32, wherein said connection unit (100) is axially arranged essentially in connection to a central portion of the jacket surface of said housing.

5.4. An electric drive device according to any of claims 2–41-3, wherein said connection unit (100) circumferentially of the jacket surface of the housing is placed in connection to a horizontal middle plane of the jacket surface of the housing.

6.5. An electric drive device according to any of claims 2–51-4, wherein the horizontal direction of the jacket surface of the housing (30; 130; 230; 330; 430; 530; 630; 730) is running in the transverse direction of the vehicle (1).

7.6. An electric drive device according to any of claims 1-65, wherein said media supply comprises energy supply by means of power electronics and/or cooling and lubrication means supply.

8.7. An electric drive device according to any of claims 1-76, further comprising arrangements for controlling said media supply via said connection unit (100) to an applicable extent.

9.8. An electric drive device according to any of claims 1-87, further comprising arrangements for outputting information relating to drive of the electric drive device via said connection unit.

~~10. An electric drive device according to any of claims 2-9, wherein an oil sump (O) is arranged at the bottom of the housing (30; 130; 230; 330; 430; 530; 630; 730) in a desired space (36) between the electric motor and said housing under the lowermost portion (21b) of the jacket surface (21) of the electric motor (20) for said cooling and lubrication means supply.~~

11.9. An electric drive device according to ~~claim 10~~any of claims 1-8, wherein the electric motor (20) has a stator (24) and a rotor (22) arranged to rotate a drive shaft (26), wherein the electric motor (20) is arranged in the

housing (30; 130; 230; 330; 430; 530; 630) in such a way that the centre of rotation of the drive shaft (26) of the electric motor (20) runs essentially parallel to and at a distance from an imaginary centre axle (X) of the housing (30; 130; 230; 330; 430) for forming said desired space (36).

~~12. An electric drive device according to claim 10 or 11, further comprising a differential device (40) with a shaft configuration (42a, 42b) arranged in the housing (30; 130; 230; 330; 430; 530; 630; 730) in the desired space (36) between electric motor (20) and housing.~~

~~13.~~10. A motor vehicle comprising an electric drive device (10; 110; 210; 310; 410) according to any of claims 1~~12~~9.