



Products	USA Patent Application & Patent Number
Vehicle Exterior Mirror Casing	US9393909; US9663027; US9696000; US10274155; US11110863; US10589683; US20210031694
Vehicle Exterior Mirror Regulating Mechanism	US6899439; US8075146; US8622559; US9200680; US20220258668
Electrochromic Device For Vehicle Mirror	US6768574; US10286845
Vehicle Exterior Mirror Signal Lighting System	US7690823; US7753571; US8882315; US9696000; US10274155; US10738960; US10780819; US20210031694; US10391929; US11333312
Vehicle Exterior Rearview Mirror	US6871970; US9663027; US11110863; US20220258668
Vehicle Rearview Vision Camera System	US10889245; US20210031694; US20220258668; US20220030726; US20220083794
Vehicle Image Display System	US10819917
Vehicle Electrical Wiring Connector	US10103472; US11183821
Vehicle Exterior Mirror Folding Mechanism	US7125127; US7572018; US9758100; US9845054; US9950670; US10035459; US10046704; US10077001; US10953803; US11110863; US11183821; US10703280; US20210046877
Vehicle Gear Shifter Housing	US8122784; US10982754
Vehicle Shift-By-Wire Gear System	US8726756; US10871221; US10927951; US11118676; US10962108; US9139094; US11287029; US11434991
Vehicle Cable Retaining Device	US8997604
Vehicle Gear Shift System	US8757025; US9139094; US10927947; US10030762; US10088042; US11287029; US10941852; US11054487; US10330195; US10982754; US11118676; US20210025493; US11473672
Vehicle Parking Brake System	US7987949; US8215462
Vehicle Antenna System	US8866681; US7511675; US9653787; US10033091; US10224618; US10305162; US10971812; US10903555; US10840586; US11152697; US11152691; US1147563; US11509053; US10541469; US10965011; US10693220; US11043737; US20210192093
V2X Antenna System	US11043737; US20210192093
Antenna Receptacle (Aircraft)	US8836589
Antenna Receptacle (Vehicle)	US11476563; US10965011; US10693220
Vehicle Miniature Antenna System	US7868834; US8866681; US10033091; US10224618
Vehicle Mirror Antenna System	US9343803; US8866681; US9653787; US10903555
Vehicle Sharkfin Antenna System	US10033091; US10224618; US10305162; US10541469; US11431073



Vehicle Camera Washing System	US10532368; US10335806; US11505764; US10144395; US10286877; US11378200; US11208079; US20200370665
Vehicle Lighting Washing System	US7753287; US8671977; US10532368; US10335806; US11208079; US20200370665;
Vehicle Sensor Washing System	US10882495; US10532368; US10335806; US11505164; US10144395; US10286877; US20210009085; US11208079; US20200370665
Vehicle Glass Panel Washing System	US7281671; US8671977; US11208079; US20200370665
Electromagnetic Fluid Valve	US11378200
Object Presence Detection Sensor System For Vehicle Perimeter	US6911642; US7378947; US7463166; US7929048; US8044789; US10596979; US11275375; US20200401818; US11523032
Heated Camera System For Vehicle	US7645961
Vehicle Driver Diagnosis System	US8734359; US9663047
Exterior Rearview Mirror Camera	US7391014; US7392118; US7929048; US11275375; US20200401818; US11523032
Clean / Dirty Camera Detection System For Vehicle	US10922803; US11493440
Vehicle Camera Calibration System	US10902641
Display Panel Error Detection System For Vehicle	US10453367
Vehicle Camera System	US10996544; US20200401818; US11523032; US20210122299; US20210284081
Starting Electric Vehicle	US10160327; US11034244
Electric Vehicle Battery Charger	US10286788; US10632855
Vehicle Seat With Pressure Sensor	US8893564
Vehicle Seat Manufacturing	US9452700
List revised and published January 2023 - For detailed product descriptions and specifications, please visit www.ficosa.com	



Products	EU Patent Application & Patent Number
Vehicle Exterior Mirror Casing	EP2821284; EP2853444; EP3501899; EP3524474; DE60301905; ES2250860; EP1361114; DE112007000230
Vehicle Exterior Mirror Regulating Mechanism	EP1382488; EP1829744; DE602004016063; EP2716927; DE102005050603; ES2254013
Vehicle Exterior Mirror Signal Lighting System	EP1726480; ES2215486; DE112011101860; ES2458428; EP2853444; EP3671018
Vehicle Exterior Rearview Mirror	DE60304385; EP1359053; ES2261897; ES2458428; EP3524474; DE112007000230
Vehicle Rearview Vision Camera System	EP1626290; EP3176037; EP3305597; EP3489087; EP1657568
Vehicle Image Display System	EP3431338
Vehicle Electrical Wiring Connector	EP3539828; FR2871306
Vehicle Exterior Mirror Folding Mechanism	EP1754630; ES2217986; EP2805853; EP2902263; EP3142900; EP3020605; EP3150438; EP3165404; EP3412509; EP3408139; EP3539828; EP3524474; EP2698280; EP3653442; DE602005011133
Vehicle Exterior Rearview Mirror Attachment Device	DE60301905; EP1361114; DE60319597; EP1657456; FR2871121
Vehicle Gear Shifter Housing	DE602006004128; EP1770311; EP3561835; EP3447339
Vehicle Shift-By-Wire Gear System	EP3670968; EP2184517; EP2112408; EP2636926; DE102013216719; EP3091256; EP3379370; EP3453925; EP3478990; ES1168934; EP3657049; EP3670968
Vehicle Cable Retaining Device	EP2568184; ES2528965; ES2537345; EP2857264; EP3273112
Vehicle Gear Shift System	DE602006004128; EP1770311; DE102005058244; EP2515003; EP2532929; EP2636926; EP3128209; EP3306143; EP3379370; EP3478990; EP3483479; EP3495830; EP3561835; EP3645331; ES1168934; EP3447339; EP3657049; EP3670968; EP3653908; EP3779243
Vehicle Parking Brake System	EP1608541; EP1609035; DE102006016497; EP2557003; DE102012208930; EP3835624
Noise Reduction Device For Vehicle Gear Shift System	EP3809021
Vehicle Antenna System	DE602004010089; EP1616368; DE112008001263; EP2833479; EP3128672; EP3142187; EP3174157; EP3270461; EP3432418; EP3474376; EP3503291; EP3512038; EP3582323; EP3584886; EP3588674; EP3588673; EP3700011; EP1769565; DE602005022720; EP2026473; DE602007010135; EP2128841; ES2775074; EP3838684
Antenna Receptacle (Aircraft)	EP2332213
Antenna Receptacle (Vehicle)	EP3432418; EP3588673; EP3700011



Vehicle Miniature Antenna System	DE602004010089; EP1616368; DE112008001263; EP3128672; EP3142187
Vehicle Mirror Antenna System	DE602004010089; EP1616368; DE112008001263; EP2429028; EP2833479; EP3503291; EP1769565; DE602005022720
Vehicle Sharkfin Antenna System	EP3128672; EP3142187; EP3174157; EP3270461
V2X Antenna System	EP3838684
Vehicle Camera Washing System	EP2949520; EP2949521; EP3168094; EP3333026; EP3272596; EP3501920; EP3501921; EP3597491; EP3466774; EP3767142; EP3741631; EP3741632; EP3898350
Vehicle Lighting Washing System	DE10220579; DE10262093; EP1506109; DE60318843; ES2300586; DE112007001761; ES2318980; EP3272596; EP3501920; EP3501921; ES2319374; EP3466774; EP3741631; EP3741632; EP3898350
Vehicle Sensor Washing System	EP2949520; EP2949521; EP3168094; EP3333026; EP3272596; EP3501920; EP3501921; EP3597491; EP3466774; EP3763580; EP3741631; EP3741632; EP3898350
Vehicle Glass Panel Washing System	DE60314447; ES2287551; DE112007001761; ES2318980; ES2319374; EP3466774; EP3741631; EP3741632; EP3898350
Filter For Vehicle Windshield Washer Pump	EP1410966; ES2249579
Electromagnetic Fluid Valve	EP3767142
Object Presence Detection Sensor System For Vehicle Perimeter	EP3148174; EP1626290; EP1542194; ES2328676; DE60232378; EP1729270; DE602004021433; ES2329683; EP1854666; ES2259543; EP3756949; EP3761113
Heated Camera System For Vehicle	DE60333497; ES2349590
Vehicle Driver Diagnosis System	EP3562394; EP2281506; EP2811474
Exterior Rearview Mirror Camera	EP1626290; EP1640215; DE60312394; EP1657568; EP3756949; EP3761113
Clean / Dirty Camera Detection System For Vehicle	EP3489892; EP3584567
Vehicle Camera Calibration System	EP3531376
Display Panel Error Detection System For Vehicle	EP3343541
Vehicle Camera System	DE202019005397; EP3756949; EP3761113; EP3816723; EP3751834; EP3836529; EP3879807
Image-Based Object Recognition Device For Vehicle	DE202015100437; DE112015005258
Starting Electric Vehicle	EP3147679
Electric Vehicle Battery Charger	EP3038226; EP3361271; EP3185406
Electric Current Measuring Device For Electric Vehicle	EP3306325; EP3842814



Electric Current Measuring Device With PFC Circuit	EP3540448
Electric Vehicle Battery Pack Balancing System	EP3323665; EP2757653
Charging Control Device For Electric Vehicle	EP2757653
Battery Connecting System For Electric Vehicle	EP3421287; EP3525225; EP3223341; EP3843222
Diagnostic System For Contactor Of Electric Vehicle	EP3674127; EP2857851
Shunt Resistance Device	EP3527995
Electric Vehicle Battery Pack	EP2631964
Control System For Electromechanical Contactor Of Electric Vehicle	EP3806127
Power Conversion System For Electric Vehicle	EP3819159; EP3819160
Vehicle Seat With Pressure Sensor	EP2374652; EP2555946; EP2851239
Vehicle Seat Manufacturing	DE102013219056; EP3228495; EP3569106; EP3693212
Bowden Cable For Vehicle Seat Adjustment	EP3569106; DE102006009023; DE102004009332; DE102005048659; EP2281715; EP3812207
Air Pump Valve Device For Vehicle Seat Chamber	EP3489512; EP3660306; EP3599128
Support Structure For Vehicle Seat	EP2374652; EP2555946; DE102007034187; EP2170648; DE10329852; EP2394846; EP1493618; EP3228495; EP3569106; EP3575144; DE102005053948; DE102008050550; DE102008064663; EP2261075; EP2851239; EP3693212; EP3812207
Bowden Cable For Vehicle	EP3462047; DE102005040861; DE102005063551; EP2993364; EP3012472
Dynamic Pneumatic Support System For Vehicle Seat	EP3569106; EP3575144; EP3599128
Vehicle Seat Massage Device	EP3599128
Lumbar Support System For Vehicle Seat	EP3569106; EP3575144; DE102005053948; EP2281715; EP3693212; EP3812207
Commercial Vehicle Exterior Mirror Swivel Device	DE102016102508
Commercial Vehicle Exterior Mirror Telescoping Adjustment Device	EP3235686
Commercial Vehicle Exterior Mirror With Camera	DE102009006109
Monitoring System For Commercial Vehicle	DE102009034283; EP1854666; ES2259543
Commercial Vehicle Exterior Mirror Mounting System	DE102008026039
Commercial Vehicle Exterior Mirror Housing System	DE102016105668; EP3225467
List revised and published January 2023 - For detailed product descriptions and specifications, please visit www.ficosa.com	



Products	Asia Patent Application & Patent Number
Vehicle Exterior Mirror Casing	CN104276090; CN104515050; CN109969087; CN110154903; JP2019163031; CN210027212; CN208585176; CN204109897; CN104163138; CN206900251; CN206900253; CN110126737; CN209987831; CN101374692; CN113153878
Vehicle Exterior Mirror Regulating Mechanism	CN101084138; CN101437706; CN102756690; JP5981210; CN103711805; JP6067526; CN203888705; CN101084138
Electrochromic Device For Vehicle Mirror	CN107187388
Vehicle Interior Rearview Mirror	CN105882531; JP6517711; CN108216042
Vehicle Exterior Mirror Signal Lighting System	JP4348461; JP4928243; CN102947131; CN104515050; CN111332191; CN111332189; CN103786650; CN205601708; CN209852171; CN209484481
Vehicle Exterior Rearview Mirror	CN110154903; JP2019163031; CN103786650; CN208585176; CN104163138; CN206900251; CN206900253; CN110126737; CN209987831; CN101374692
Vehicle Rearview Vision Camera System	JP4928243; CN107054222; JP6746480; CN107891811; JP6877311; JP2019094055; JP4423208; CN113135145; CN113135144; CN113320483; CN214874512; CN214874513; JP2021030809
Vehicle Image Display System	CN109286783; JP2019018846
Vehicle Electrical Wiring Connector	CN106104936; JP6546934; CN110254357; JP2019163032; CN210126497; CN110303997; CN112510410
Vehicle Exterior Mirror Folding Mechanism	JP4035504; CN100436195; JP4768721; CN104175961; CN104816673; CN106458099; JP6415601; CN105599685; JP6510385; CN106985752; JP6681818; CN108995595; JP2018203251; CN106985755; CN110254357; JP2019163032; CN110154903; JP2019163031; CN108778839; CN104163141; CN205086793
Vehicle Mirror Lens Adhesion Testing Device	CN203178173
Vehicle Mirror Impact Resistance Testing Device	CN203178059
Vehicle Mirror Deflection Angle Testing Device	CN203178054
Vehicle Mirror Natural Frequency Testing Device	CN203177965; CN203177964
Vehicle Mirror Housing Assembly Attachment Structure	CN211667004
Test System For Vehicle Electrical/Electronic Components	CN211669303



Vehicle Gear Shifter Housing	CN110388457; CN210830413; CN204109799; CN206785991; CN206175639; CN212765949; CN212927386
Vehicle Shift-By-Wire Gear System	JP5653039; JP5652846; JP6867415; CN109424736; CN109469726; CN108626380; JP6948972
Vehicle Gear Shift System	JP5356824; JP5653039; CN107893846; JP2018058580; JP6867415; CN109424736; CN109780193; CN109959331; JP2019089540; JP2019101044; CN110388457; CN110799374; JP2020530145; CN210830413; CN208057921; CN108626380; JP6948972; CN102818004; CN203172433; CN108302198; CN108700185; CN206781623; CN206900244; CN107150630; CN208885941; CN207554774; CN109416118; CN106838303; CN109707842; CN109630675; CN206175639; JP6806653; CN109838551; CN211975847; JP6823209; CN212765949; CN212927386; CN113007333; CN111637218; CN112984103; JP2021095997; CN213598560; CN214500005
Vehicle Parking Brake System	CN101132955; CN204109799
Noise Reduction Device For Vehicle Gear Shift System	CN203892522; CN210839184; CN112728061
Vehicle Gearshift Testing Device	CN203216653; CN203216721
Vehicle Brake Cable Testing Device	CN203216711
Vehicle Antenna System	KR100821453; CN101682107; JP5033237; CN109672018; JP2019075788; CN109273867; KR100871233
Antenna Receptacle (Vehicle)	CN109273867
Vehicle Miniature Antenna System	KR100821453; CN101682107; JP5033237; KR100871233
Vehicle Mirror Antenna System	KR100821453; CN101682107; JP5033237; KR100871233
Vehicle Sharkfin Antenna System	CN111828453
Vehicle Camera Washing System	CN105128825; JP6584145; CN105128826; JP6576686; CN107930889; CN108058676; CN107640132; CN110733469; CN107930889; CN106694425; JP6902850; CN112240395; CN111959440; CN111981159; CN113195316
Vehicle Lighting Washing System	CN107930889; CN108058676; CN107640132; CN107930889; CN111959440; CN111981159; CN113195316
Vehicle Sensor Washing System	CN105128825; JP6584145; CN105128826; JP6576686; CN107930889; CN108058676; CN107640132; CN110733469;



	CN107930889; CN106694425; JP6902850; CN112193209; CN111959440; CN111981159; CN113195316
Electromagnetic Fluid Valve	CN112240395
Vehicle Glass Panel Washing System	CN111959440; CN111981159; CN113195316
Object Presence Detection Sensor System For Vehicle Perimeter	CN106973256; JP6856338; JP4423208; JP2007522999; JP4751894; JP2021000984; CN112135089; CN112238813; JP2021010165
Heated Camera System For Vehicle	JP4252959
Exterior Rearview Mirror Camera	JP4271149; JP4423208; JP2021000984; CN112135089; CN112238813; JP2021010165; CN113135145; CN113135144; CN113320483; CN214874512; CN214874513
Clean / Dirty Camera Detection System For Vehicle	CN109840911; JP2019096320
Vehicle Camera Calibration System	CN110176038; JP2019169942
Display Panel Error Detection System For Vehicle	CN108269514; JP2018112738
Vehicle Camera System	CN111193847; JP2021000984; CN112135089; CN112238813; JP2021010165; JP2021067950; JP2021092782; JP2020088861; CN113395420; JP2021145334; CN113135145; CN113135144; CN113320483; CN214874512; CN214874513; JP2021030809
Starting Electric Vehicle	CN106926703
Electric Vehicle Battery Charger	CN106915264; CN108398598; JP6959161
Electric Current Measuring Device For Electric Vehicle	CN107918105; CN113030714
Electric Current Measuring Device With PFC Circuit	CN110277903
Electric Vehicle Battery Pack Balancing System	CN108068653
Charging Control Device For Electric Vehicle	CN209904535
Battery Connecting System For Electric Vehicle	CN109130893; CN110126622
Diagnostic System For Contactor Of Electric Vehicle	CN111381155
Shunt Resistance Device	CN110174540
Control System For Electromechanical Contactor Of Electric Vehicle	CN112631362
Power Conversion System For Electric Vehicle	CN112776632; CN112776631
Bowden Cable For Vehicle Seat Adjustment	CN101400547
Screw Endurance Experiment Rack	CN203894038
Vehicle Cooling Pot Aeration Test	CN203178078
Kettle Test Device For Air Tightness	CN202693214
Kettle Welding Device	CN202685316
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