

| Symbol | Typ | Titel |
|------------------|-----------------------|---|
| F | Sektion | MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING |
| F02 | Klasse | COMBUSTION ENGINES; HOT-GAS OR COMBUSTION-PRODUCT ENGINE PLANTS |
| F02P | Unterkategorie | IGNITION, OTHER THAN COMPRESSION IGNITION, FOR INTERNAL-COMBUSTION ENGINES ; TESTING OF IGNITION TIMING IN COMPRESSION-IGNITION ENGINES (specially adapted for rotary-piston or oscillating-piston engines F02B 53/12; ignition of combustion apparatus in general, glowing plugs F23Q; measuring of physical variables in general G01; controlling in general G05; data processing in general G06; electrical components in general, <u>see section H</u>; sparking plugs H01T) |
| | | <u>Electric spark ignition installations characterised by the type of ignition power generation or storage</u> |
| F02P 1/00 | Hauptgruppe | Installations having electric ignition energy generated by magneto- or dynamo-electric generators without subsequent storage [1, 2006.01] |
| F02P 1/02 | 1-Punkt Untergruppe | . the generator rotor being characterised by forming part of the engine flywheel [1, 2006.01] |
| F02P 1/04 | 1-Punkt Untergruppe | . the generator being specially adapted for use with specific engine types, e.g. engines with V-arrangement of cylinders [1, 2006.01] |
| F02P 1/06 | 1-Punkt Untergruppe | . Generator drives, e.g. having snap couplings [1, 2006.01] |
| F02P 1/08 | 1-Punkt Untergruppe | . Layout of circuits [1, 2006.01] |
| F02P 3/00 | Hauptgruppe | Other electric spark ignition installations characterised by the type of ignition power generation storage [1, 2006.01] |
| F02P 3/01 | 1-Punkt Untergruppe | . Electric spark ignition installations without subsequent energy storage, i.e. energy supplied by an electrical oscillator (with magneto- or dynamo-electric generators F02P 1/00; piezo-electric ignition F02P 3/12; with continuous electric spark F02P 15/10) [4, 2006.01] |
| F02P 3/02 | 1-Punkt Untergruppe | . having inductive energy storage, e.g. arrangements of induction coils [1, 2006.01] |
| F02P 3/04 | 2-Punkt Untergruppe | ... Layout of circuits [1, 2006.01] |
| F02P 3/045 | 3-Punkt Untergruppe | ... for control of the dwell or anti-dwell time [4, 2006.01] |
| F02P 3/05 | 3-Punkt Untergruppe | ... for control of the magnitude of the current in the ignition coil (during starting F02P 15/12) [4, 2006.01] |
| F02P 3/055 | 3-Punkt Untergruppe | ... with protective means to prevent damage to the circuit or the ignition coil [4, 2006.01] |
| F02P 3/06 | 1-Punkt Untergruppe | . having capacitive energy storage (piezo-electric or electrostatic ignition F02P 3/12) [1, 2006.01] |
| F02P 3/08 | 2-Punkt Untergruppe | ... Layout of circuits (for low tension F02P 3/10) [1, 2006.01] |
| F02P 3/09 | 3-Punkt Untergruppe | ... for control of the charging current in the capacitor (F02P 15/12 takes precedence) [4, 2006.01] |
| F02P 3/10 | 2-Punkt Untergruppe | ... Low-tension installation, e.g. using surface-discharge sparking plugs [1, 2006.01] |
| F02P 3/12 | 1-Punkt Untergruppe | . Piezo-electric ignition; Electrostatic ignition [1, 2006.01] |
| | | <u>Advancing or retarding electric ignition spark; Arrangements of distributors or of circuit-makers or-breakers for electric spark ignition; Electric spark ignition control or safety means, not otherwise provided for</u> |
| F02P 5/00 | Hauptgruppe | Advancing or retarding electric ignition spark; Control therefor [1, 6, 2006.01] |
| F02P 5/02 | 1-Punkt Untergruppe | . non-automatically; dependent on position of personal controls of engine, e.g. throttle position [1, 2006.01] |
| F02P 5/04 | 1-Punkt Untergruppe | . automatically, as a function of the working conditions of the engine or vehicle or of the atmospheric conditions (dependent on position of personal controls of engine F02P 5/02) [1, 2006.01] |
| F02P 5/05 | 2-Punkt Untergruppe | ... using mechanical means [4, 2006.01] |

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| F02P 5/06 | 3-Punkt Untergruppe | ... dependent on engine speed [1, 4, 2006.01] |
| F02P 5/07 | 4-Punkt Untergruppe | Centrifugal timing mechanisms [6, 2006.01] |
| F02P 5/10 | 3-Punkt Untergruppe | ... dependent on fluid pressure in engine, e.g. combustion-air pressure [1, 4, 2006.01] |
| F02P 5/12 | 4-Punkt Untergruppe | dependent on a specific pressure other than that of combustion-air, e.g. of exhaust, cooling fluid, lubricant [1, 4, 2006.01] |
| F02P 5/14 | 3-Punkt Untergruppe | ... dependent on specific conditions other than engine speed or engine fluid pressure, e.g. temperature [1, 4, 2006.01] |
| F02P 5/145 | 2-Punkt Untergruppe | ... using electrical means [4, 2006.01] |
| F02P 5/15 | 3-Punkt Untergruppe | ... Digital data processing [4, 2006.01] |
| F02P 5/152 | 4-Punkt Untergruppe | dependent on pinking (detecting or indicating knocks in internal-combustion engines G01L 23/22) [6, 2006.01] |
| F02P 5/153 | 4-Punkt Untergruppe | dependent on combustion pressure [6, 2006.01] |
| F02P 5/155 | 3-Punkt Untergruppe | ... Analogue data processing [4, 2006.01] |
| F02P 5/16 | 1-Punkt Untergruppe | . characterised by the mechanical transmission between sensing elements or personal controls and final actuating elements [1, 2006.01] |
| F02P 7/00 | Hauptgruppe | Arrangement of distributors, circuit-makers, circuit-breakers or pick-up devices for electric spark ignition (advancing or retarding ignition or control therefor F02P 5/00; such devices <u>per se</u>, see the relevant classes of section H, e.g. rotary switches H01H 19/00, contact-breakers, distributors H01R 39/00, generators H02K) [1, 2006.01] |
| F02P 7/02 | 1-Punkt Untergruppe | . of distributors [1, 2006.01] |
| F02P 7/03 | 2-Punkt Untergruppe | .. with electrical means (ignition occurring simultaneously at different places in one engine cylinder or in two or more separate engine cylinders F02P 15/08) [4, 2006.01] |
| F02P 7/04 | 2-Punkt Untergruppe | .. having distributors with air-tight casing [1, 2006.01] |
| F02P 7/06 | 1-Punkt Untergruppe | . of circuit-makers or -breakers, or pick-up devices adapted to sense particular points of the timing cycle [1, 4, 2006.01] |
| F02P 7/063 | 2-Punkt Untergruppe | .. Mechanical pick-up devices, circuit-makers or -breakers, e.g. contact-breakers [4, 2006.01] |
| F02P 7/067 | 2-Punkt Untergruppe | .. Electromagnetic pick-up devices [4, 2006.01] |
| F02P 7/07 | 3-Punkt Untergruppe | ... Hall-effect pick-up devices [4, 2006.01] |
| F02P 7/073 | 2-Punkt Untergruppe | .. Optical pick-up devices [4, 2006.01] |
| F02P 7/077 | 2-Punkt Untergruppe | .. Circuits therefor, e.g. pulse generators [4, 2006.01] |
| F02P 7/08 | 2-Punkt Untergruppe | .. having air-tight casings [1, 2006.01] |
| F02P 7/10 | 1-Punkt Untergruppe | . Drives of distributors or of circuit-makers or -breakers [1, 2006.01] |
| F02P 9/00 | Hauptgruppe | Electric spark ignition control, not otherwise provided for [1, 2006.01] |
| F02P 11/00 | Hauptgruppe | Safety means for electric spark ignition, not otherwise provided for [1, 2006.01] |
| F02P 11/02 | 1-Punkt Untergruppe | . Preventing damage to engines or engine-driven gearing [1, 2006.01] |
| F02P 11/04 | 1-Punkt Untergruppe | . Preventing unauthorised use of engines (of vehicles B60R 25/04; ignition locks H01H 27/00) [1, 2006.01] |
| F02P 11/06 | 1-Punkt Untergruppe | . Indicating unsafe conditions [1, 2006.01] |

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| F02P 13/00 | Hauptgruppe | Sparking plugs structurally combined with other parts of internal-combustion engines (with fuel injectors F02M 57/06; predominant aspects of the parts, <u>see the relevant subclasses</u>) [1, 2006.01] |
| F02P 15/00 | Hauptgruppe | Electric spark ignition having characteristics not provided for in, or of interest apart from, groups F02P 1/00-F02P 13/00 [1, 2006.01] |
| F02P 15/02 | 1-Punkt Untergruppe | . Arrangements having two or more sparking plugs [1, 2006.01] |
| F02P 15/04 | 1-Punkt Untergruppe | . one of the spark electrodes being mounted on the engine working piston [1, 2006.01] |
| F02P 15/06 | 1-Punkt Untergruppe | . the electric spark triggered by engine working cylinder compression [1, 2006.01] |
| F02P 15/08 | 1-Punkt Untergruppe | . having multiple-spark ignition, i.e. ignition occurring simultaneously at different places in one engine cylinder or in two or more separate engine cylinders [1, 2006.01] |
| F02P 15/10 | 1-Punkt Untergruppe | . having continuous electric sparks [1, 2006.01] |
| F02P 15/12 | 1-Punkt Untergruppe | . having means for strengthening spark during starting [1, 2006.01] |
| F02P 17/00 | Hauptgruppe | Testing of ignition installations, e.g. in combination with adjusting (testing fuel injection apparatus F02M 65/00; testing ignition installations in general F23Q 23/00); Testing of ignition timing in compression-ignition engines [1, 4, 2006.01] |
| F02P 17/02 | 1-Punkt Untergruppe | . Checking or adjusting ignition timing [6, 2006.01] |
| F02P 17/04 | 2-Punkt Untergruppe | .. dynamically [6, 2006.01] |
| F02P 17/06 | 3-Punkt Untergruppe | ... using a stroboscopic lamp [6, 2006.01] |
| F02P 17/08 | 3-Punkt Untergruppe | ... using a cathode-ray oscilloscope (F02P 17/06 takes precedence) [6, 2006.01] |
| F02P 17/10 | 1-Punkt Untergruppe | . Measuring dwell or antidwell time [6, 2006.01] |
| F02P 17/12 | 1-Punkt Untergruppe | . Testing characteristics of the spark, ignition voltage or current [6, 2006.01] |
| <u>Other ignition</u> | | |
| F02P 19/00 | Hauptgruppe | Incandescent ignition, e.g. during starting of internal-combustion engines; Combination of incandescent and spark ignition [1, 4, 2006.01] |
| F02P 19/02 | 1-Punkt Untergruppe | . electric, e.g. layout of circuits of apparatus having glowing plugs [1, 2006.01] |
| F02P 19/04 | 1-Punkt Untergruppe | . non-electric, e.g. heating incandescent spots by burners (use of burners for direct ignition F02P 21/00) [1, 2006.01] |
| F02P 21/00 | Hauptgruppe | Direct use of flames or burners for ignition [1, 2006.01] |
| F02P 21/02 | 1-Punkt Untergruppe | . the flames being kept burning essentially external to engine working chambers [1, 2006.01] |
| F02P 21/04 | 1-Punkt Untergruppe | . Burning-cartridges or like inserts being arranged in engine working chambers (as starting aid F02N 19/02) [1, 2006.01] |
| F02P 23/00 | Hauptgruppe | Other ignition [1, 2006.01] |
| F02P 23/02 | 1-Punkt Untergruppe | . Friction, pyrophoric, or catalytic ignition [1, 2006.01] |
| F02P 23/04 | 1-Punkt Untergruppe | . Other physical ignition means, e.g. using laser rays [1, 2006.01] |