

| Symbol           | Typ                 | Titel                                                                                                                                                                                                                                                         |
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| <b>G</b>         | <b>Sektion</b>      | <b>PHYSICS</b>                                                                                                                                                                                                                                                |
| <b>G05</b>       | <b>Klasse</b>       | <b>CONTROLLING; REGULATING</b>                                                                                                                                                                                                                                |
| <b>G05D</b>      | <b>Unterklasse</b>  | <b>SYSTEMS FOR CONTROLLING OR REGULATING NON-ELECTRIC VARIABLES (for continuous casting of metals B22D 11/16; valves per se F16K; sensing non-electric variables, see the relevant subclasses of G01; for regulating electric or magnetic variables G05F)</b> |
| <b>G05D 1/00</b> | <b>Hauptgruppe</b>  | <b>Control of position, course, altitude, or attitude of land, water, air, or space vehicles, e.g. automatic pilot (radio navigation systems or analogous systems using other waves G01S)</b>                                                                 |
| G05D 1/02        | 1-Punkt Untergruppe | . Control of position or course in two dimensions [2]                                                                                                                                                                                                         |
| G05D 1/03        | 2-Punkt Untergruppe | . . using near-field transmission systems, e.g. inductive-loop type                                                                                                                                                                                           |
| G05D 1/04        | 1-Punkt Untergruppe | . Control of altitude or depth                                                                                                                                                                                                                                |
| G05D 1/06        | 2-Punkt Untergruppe | . . Rate of change of altitude or depth                                                                                                                                                                                                                       |
| G05D 1/08        | 1-Punkt Untergruppe | . Control of attitude, i.e. control of roll, pitch, or yaw                                                                                                                                                                                                    |
| G05D 1/10        | 1-Punkt Untergruppe | . Simultaneous control of position or course in three dimensions (G05D 1/12 takes precedence)                                                                                                                                                                 |
| G05D 1/12        | 1-Punkt Untergruppe | . Target-seeking control                                                                                                                                                                                                                                      |
| <b>G05D 3/00</b> | <b>Hauptgruppe</b>  | <b>Control of position or direction (G05D 1/00 takes precedence; for numerical control G05B 19/18)</b>                                                                                                                                                        |
| G05D 3/10        | 1-Punkt Untergruppe | . without using feedback [3]                                                                                                                                                                                                                                  |
| G05D 3/12        | 1-Punkt Untergruppe | . using feedback [3]                                                                                                                                                                                                                                          |
| G05D 3/14        | 2-Punkt Untergruppe | . . using an analogue comparing device [3]                                                                                                                                                                                                                    |
| G05D 3/16        | 3-Punkt Untergruppe | . . . whose output amplitude can only take a number of discrete values (G05D 3/18 takes precedence) [3]                                                                                                                                                       |
| G05D 3/18        | 3-Punkt Untergruppe | . . . delivering a series of pulses [3]                                                                                                                                                                                                                       |
| G05D 3/20        | 2-Punkt Untergruppe | . . using a digital comparing device [3]                                                                                                                                                                                                                      |
| <b>G05D 5/00</b> | <b>Hauptgruppe</b>  | <b>Control of dimensions of material</b>                                                                                                                                                                                                                      |
| G05D 5/02        | 1-Punkt Untergruppe | . of thickness, e.g. of rolled material                                                                                                                                                                                                                       |
| G05D 5/03        | 2-Punkt Untergruppe | . . characterised by the use of electric means                                                                                                                                                                                                                |
| G05D 5/04        | 1-Punkt Untergruppe | . of the size of items, e.g. of particles                                                                                                                                                                                                                     |
| G05D 5/06        | 2-Punkt Untergruppe | . . characterised by the use of electric means                                                                                                                                                                                                                |
| <b>G05D 7/00</b> | <b>Hauptgruppe</b>  | <b>Control of flow (level control G05D 9/00; ratio control G05D 11/00; weighing apparatus G01G)</b>                                                                                                                                                           |
| G05D 7/01        | 1-Punkt Untergruppe | . without auxiliary power                                                                                                                                                                                                                                     |
| G05D 7/03        | 1-Punkt Untergruppe | . with auxiliary non-electric power [2]                                                                                                                                                                                                                       |
| G05D 7/06        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                                                                                                                  |
| <b>G05D 9/00</b> | <b>Hauptgruppe</b>  | <b>Level control, e.g. controlling quantity of material stored in vessel</b>                                                                                                                                                                                  |
| G05D 9/02        | 1-Punkt Untergruppe | . without auxiliary power                                                                                                                                                                                                                                     |
| G05D 9/04        | 1-Punkt Untergruppe | . with auxiliary non-electric power [2]                                                                                                                                                                                                                       |
| G05D 9/12        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                                                                                                                  |

| Symbol            | Typ                 | Titel                                                                                                                                                                                                            |
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| <b>G05D 11/00</b> | <b>Hauptgruppe</b>  | <b>Ratio control (control of chemical or physico-chemical variables, e.g. pH-value, G05D 21/00; humidity control G05D 22/00; control of viscosity G05D 24/00) [3]</b>                                            |
| G05D 11/02        | 1-Punkt Untergruppe | . Controlling ratio of two or more flows of fluid or fluent material                                                                                                                                             |
| G05D 11/03        | 2-Punkt Untergruppe | . . without auxiliary power                                                                                                                                                                                      |
| G05D 11/035       | 2-Punkt Untergruppe | . . with auxiliary non-electric power [2]                                                                                                                                                                        |
| G05D 11/04        | 3-Punkt Untergruppe | . . . by sensing weight of individual components, e.g. gravimetric procedure                                                                                                                                     |
| G05D 11/06        | 3-Punkt Untergruppe | . . . by sensing density of mixture, e.g. using aerometer                                                                                                                                                        |
| G05D 11/08        | 3-Punkt Untergruppe | . . . by sensing concentration of mixture, e.g. by measuring pH-value [3]                                                                                                                                        |
| G05D 11/10        | 4-Punkt Untergruppe | . . . . by sensing moisture of non-aqueous liquids                                                                                                                                                               |
| G05D 11/12        | 3-Punkt Untergruppe | . . . by sensing viscosity of mixture                                                                                                                                                                            |
| G05D 11/13        | 2-Punkt Untergruppe | . . characterised by the use of electric means                                                                                                                                                                   |
| G05D 11/16        | 1-Punkt Untergruppe | . Controlling mixing ratio of fluids having different temperatures, e.g. by sensing the temperature of a mixture of fluids having different viscosities                                                          |
| <b>G05D 13/00</b> | <b>Hauptgruppe</b>  | <b>Control of linear speed; Control of angular speed; Control of acceleration or deceleration, e.g. of a prime mover (synchronising telegraph receiver and transmitter H04L 7/00)</b>                            |
| G05D 13/02        | 1-Punkt Untergruppe | . Details                                                                                                                                                                                                        |
| G05D 13/04        | 2-Punkt Untergruppe | . . providing for emergency tripping of an engine in case of exceeding maximum speed                                                                                                                             |
| G05D 13/06        | 2-Punkt Untergruppe | . . providing for damping of erratic vibrations in governors                                                                                                                                                     |
| G05D 13/08        | 1-Punkt Untergruppe | . without auxiliary power                                                                                                                                                                                        |
| G05D 13/10        | 2-Punkt Untergruppe | . . Centrifugal governors with fly-weights                                                                                                                                                                       |
| G05D 13/12        | 3-Punkt Untergruppe | . . . Details                                                                                                                                                                                                    |
| G05D 13/14        | 4-Punkt Untergruppe | . . . . Fly-weights; Mountings thereof; Adjusting equipment for limits, e.g. temporarily                                                                                                                         |
| G05D 13/16        | 4-Punkt Untergruppe | . . . . Risers; Transmission gear therefor; Restoring mechanisms therefor                                                                                                                                        |
| G05D 13/18        | 3-Punkt Untergruppe | . . . counterbalanced by spider springs acting immediately upon the fly-weights                                                                                                                                  |
| G05D 13/20        | 3-Punkt Untergruppe | . . . counterbalanced by spider springs acting upon the articulated riser                                                                                                                                        |
| G05D 13/22        | 3-Punkt Untergruppe | . . . counterbalanced by fluid pressure acting upon the articulated riser                                                                                                                                        |
| G05D 13/24        | 3-Punkt Untergruppe | . . . counterbalanced by two or more different appliances acting simultaneously upon the riser, e.g. with both spring force and fluid pressure, with both spring force and electromagnetic force                 |
| G05D 13/26        | 3-Punkt Untergruppe | . . . with provision for modulating the degree of non-uniformity of speed                                                                                                                                        |
| G05D 13/28        | 3-Punkt Untergruppe | . . . with provision for performing braking effects in case of increased speed                                                                                                                                   |
| G05D 13/30        | 2-Punkt Untergruppe | . . Governors characterised by fluid features in which the speed of a shaft is converted into fluid pressure (transducers converting variations of physical quantities into fluid-pressure variations F15B 5/00) |
| G05D 13/32        | 3-Punkt Untergruppe | . . . using a pump                                                                                                                                                                                               |
| G05D 13/34        | 1-Punkt Untergruppe | . with auxiliary non-electric power (fluid-pressure converters F15B 3/00) [2]                                                                                                                                    |
| G05D 13/36        | 2-Punkt Untergruppe | . . using regulating devices with proportional band, i.e. P. regulating devices                                                                                                                                  |

| Symbol            | Typ                 | Titel                                                                                                                                                              |
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| G05D 13/38        | 3-Punkt Untergruppe | . . . involving centrifugal governors of fly-weight type                                                                                                           |
| G05D 13/40        | 3-Punkt Untergruppe | . . . involving centrifugal governors of pump type                                                                                                                 |
| G05D 13/42        | 3-Punkt Untergruppe | . . . involving fluid governors of flow-controller type, i.e. the width of liquid flow being controlled by fly-weights                                             |
| G05D 13/44        | 3-Punkt Untergruppe | . . . involving fluid governors of jet type                                                                                                                        |
| G05D 13/46        | 2-Punkt Untergruppe | . . using regulating devices with proportional band and integral action, i.e. P.I. regulating devices                                                              |
| G05D 13/48        | 3-Punkt Untergruppe | . . . involving resilient restoring mechanisms                                                                                                                     |
| G05D 13/50        | 3-Punkt Untergruppe | . . . involving connecting means for superimposing a proportional regulating device and an integral regulating device                                              |
| G05D 13/52        | 2-Punkt Untergruppe | . . using regulating devices with proportional band and derivative action, i.e. P.D. regulating devices                                                            |
| G05D 13/54        | 3-Punkt Untergruppe | . . . involving centrifugal governors of fly-weight type exerting an acceleratory effect                                                                           |
| G05D 13/56        | 3-Punkt Untergruppe | . . . involving restoring mechanisms exerting a delay effect                                                                                                       |
| G05D 13/58        | 3-Punkt Untergruppe | . . . involving means for connecting a speed- regulating device and an acceleration- regulating device                                                             |
| G05D 13/60        | 2-Punkt Untergruppe | . . using regulating devices with proportional band, derivative, and integral action, i.e. P.I.D. regulating devices                                               |
| G05D 13/62        | 1-Punkt Untergruppe | . characterised by the use of electric means, e.g. use of a tachometric dynamo, use of a transducer converting an electric value into a displacement               |
| G05D 13/64        | 1-Punkt Untergruppe | . Compensating the speed difference between engines meshing by a differential gearing or the speed difference between a controlling shaft and a controlled shaft   |
| G05D 13/66        | 1-Punkt Untergruppe | . Governor units providing for co-operation with control dependent upon a variable other than speed                                                                |
| <b>G05D 15/00</b> | <b>Hauptgruppe</b>  | <b>Control of mechanical force or stress; Control of mechanical pressure</b>                                                                                       |
| G05D 15/01        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                       |
| <b>G05D 16/00</b> | <b>Hauptgruppe</b>  | <b>Control of fluid pressure</b>                                                                                                                                   |
| G05D 16/02        | 1-Punkt Untergruppe | . Modifications to reduce the effects of instability, e.g. due to vibrations, friction, abnormal temperature, overloading, unbalance (vibration-dampers F16F 7/00) |
| G05D 16/04        | 1-Punkt Untergruppe | . without auxiliary power                                                                                                                                          |
| G05D 16/06        | 2-Punkt Untergruppe | . . the sensing element being a flexible member yielding to pressure, e.g. diaphragm, bellows, capsule                                                             |
| G05D 16/08        | 3-Punkt Untergruppe | . . . Control of liquid pressure                                                                                                                                   |
| G05D 16/10        | 2-Punkt Untergruppe | . . the sensing element being a piston or plunger                                                                                                                  |
| G05D 16/12        | 2-Punkt Untergruppe | . . the sensing element being a float                                                                                                                              |
| G05D 16/14        | 1-Punkt Untergruppe | . with auxiliary non-electric power [2]                                                                                                                            |
| G05D 16/16        | 2-Punkt Untergruppe | . . derived from the controlled fluid                                                                                                                              |
| G05D 16/18        | 2-Punkt Untergruppe | . . derived from an external source                                                                                                                                |
| G05D 16/20        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                       |
| <b>G05D 17/00</b> | <b>Hauptgruppe</b>  | <b>Control of torque; Control of mechanical power</b>                                                                                                              |
| G05D 17/02        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                       |
| <b>G05D 19/00</b> | <b>Hauptgruppe</b>  | <b>Control of mechanical oscillations, e.g. of amplitude, of frequency, of phase</b>                                                                               |

| Symbol            | Typ                 | Titel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| G05D 19/02        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>G05D 21/00</b> | <b>Hauptgruppe</b>  | <b>Control of chemical or physico-chemical variables, e.g. pH-value [3]</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| G05D 21/02        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>G05D 22/00</b> | <b>Hauptgruppe</b>  | <b>Control of humidity [2]</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| G05D 22/02        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>G05D 23/00</b> | <b>Hauptgruppe</b>  | <b>Control of temperature (automatic switching arrangements for electric heating apparatus H05B 1/02)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| G05D 23/01        | 1-Punkt Untergruppe | . without auxiliary power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| G05D 23/02        | 2-Punkt Untergruppe | . . with sensing element expanding and contracting in response to changes of temperature (G05D 23/13 takes precedence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| G05D 23/08        | 3-Punkt Untergruppe | . . . with bimetallic element (arrangement of valves and flow lines specially adapted for mixing fluid F16K 11/00)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| G05D 23/10        | 4-Punkt Untergruppe | . . . . with snap-action elements (for valves F16K 31/56)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| G05D 23/12        | 2-Punkt Untergruppe | . . with sensing element responsive to pressure or volume changes in a confined fluid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| G05D 23/13        | 2-Punkt Untergruppe | . . by varying the mixing ratio of two fluids having different temperatures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| G05D 23/185       | 1-Punkt Untergruppe | . with auxiliary non-electric power [2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| G05D 23/19        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| G05D 23/20        | 2-Punkt Untergruppe | . . with sensing elements having variation of electric or magnetic properties with change of temperature ( G05D 23/13 takes precedence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| G05D 23/22        | 3-Punkt Untergruppe | . . . the sensing element being a thermocouple                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| G05D 23/24        | 3-Punkt Untergruppe | . . . the sensing element having a resistance varying with temperature, e.g. thermistor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| G05D 23/26        | 3-Punkt Untergruppe | . . . the sensing element having a permeability varying with temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| G05D 23/27        | 2-Punkt Untergruppe | . . with sensing element responsive to radiation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| G05D 23/275       | 2-Punkt Untergruppe | . . with sensing element expanding, contracting, or fusing in response to changes of temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| G05D 23/30        | 2-Punkt Untergruppe | . . Automatic controllers with an auxiliary heating device affecting the sensing element, e.g. for anticipating change of temperature (automatic controllers in general and not restricted to control of temperature G05B)                                                                                                                                                                                                                                                                                                                                                                                      |
| G05D 23/32        | 3-Punkt Untergruppe | . . . with provision for adjustment of the effect of the auxiliary heating device, e.g. as a function of time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>G05D 24/00</b> | <b>Hauptgruppe</b>  | <b>Control of viscosity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| G05D 24/02        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>G05D 25/00</b> | <b>Hauptgruppe</b>  | <b>Control of light, e.g. intensity, colour, phase (mechanically operable parts of lighting devices for the control of light F21V; optical devices or arrangements using movable or deformable elements for controlling light independent of the light source G02B 26/00; devices or arrangements, the optical operation of which is modified by changing the optical properties of the medium of the devices or arrangements for the control of light, circuit arrangements specially adapted therefor, control of light by electro-magnetic waves, electrons or other elementary particles G02F 1/00) [4]</b> |
| G05D 25/02        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>G05D 27/00</b> | <b>Hauptgruppe</b>  | <b>Simultaneous control of variables covered by two or more of the preceding main groups</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| G05D 27/02        | 1-Punkt Untergruppe | . characterised by the use of electric means                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>G05D 29/00</b> | <b>Hauptgruppe</b>  | <b>Simultaneous control of electric and non-electric variables</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |