

Symbol	Typ	Titel
<b>H</b>	<b>Sektion</b>	<b>SECTION H — ELECTRICITY</b>
<b>H02</b>	<b>Klasse</b>	<b>GENERATION, CONVERSION, OR DISTRIBUTION OF ELECTRIC POWER</b>
<b>H02H</b>	<b>Unterklasse</b>	<b>EMERGENCY PROTECTIVE CIRCUIT ARRANGEMENTS (indicating or signalling undesired working conditions G01R, e.g. G01R 31/00, G08B; locating faults along lines G01R 31/08; emergency protective devices H01H)</b>
<b>H02H 1/00</b>	<b>Hauptgruppe</b>	<b>Details of emergency protective circuit arrangements</b>
H02H 1/04	1-Punkt Untergruppe	. Arrangements for preventing response to transient abnormal conditions, e.g. to lightning
H02H 1/06	1-Punkt Untergruppe	. Arrangements for supplying operative power [3]
<b>H02H 3/00</b>	<b>Hauptgruppe</b>	<b>Emergency protective circuit arrangements for automatic disconnection directly responsive to an undesired change from normal electric working condition, with or without subsequent reconnection (specially adapted for specific types of electric machines or apparatus or for sectionalised protection of cable or line systems H02H 7/00; systems for change-over to standby supply H02J 9/00)</b>
H02H 3/02	1-Punkt Untergruppe	. Details
H02H 3/027	2-Punkt Untergruppe	. . with automatic disconnection after a predetermined time (H02H 3/033, H02H 3/06 take precedence) [3]
H02H 3/033	2-Punkt Untergruppe	. . with several disconnections in a preferential order (H02H 3/06 takes precedence) [3]
H02H 3/04	2-Punkt Untergruppe	. . with warning or supervision in addition to disconnection, e.g. for indicating that protective apparatus has functioned
H02H 3/05	2-Punkt Untergruppe	. . with means for increasing reliability, e.g. redundancy arrangements [3]
H02H 3/06	2-Punkt Untergruppe	. . with automatic reconnection
H02H 3/07	3-Punkt Untergruppe	. . . and with permanent disconnection after a predetermined number of reconnection cycles [3]
H02H 3/08	1-Punkt Untergruppe	. responsive to excess current (responsive to abnormal temperature caused by excess current H02H 5/04)
H02H 3/087	2-Punkt Untergruppe	. . for dc applications [3]
H02H 3/093	2-Punkt Untergruppe	. . with timing means [3]
H02H 3/10	2-Punkt Untergruppe	. . additionally responsive to some other abnormal electrical conditions
H02H 3/12	1-Punkt Untergruppe	. responsive to underload or no-load
H02H 3/13	2-Punkt Untergruppe	. . for multiphase applications, e.g. phase interruption [3]
H02H 3/14	1-Punkt Untergruppe	. responsive to occurrence of voltage on parts normally at earth potential
H02H 3/16	1-Punkt Untergruppe	. responsive to fault current to earth, frame or mass (with balanced or differential arrangement H02H 3/26)
H02H 3/17	2-Punkt Untergruppe	. . by means of an auxiliary voltage injected into the installation to be protected [3]
H02H 3/18	1-Punkt Untergruppe	. responsive to reversal of direct current
H02H 3/20	1-Punkt Untergruppe	. responsive to excess voltage
H02H 3/22	2-Punkt Untergruppe	. . of short duration, e.g. lightning
H02H 3/24	1-Punkt Untergruppe	. responsive to undervoltage or no-voltage
H02H 3/247	2-Punkt Untergruppe	. . having timing means [3]
H02H 3/253	2-Punkt Untergruppe	. . for multiphase applications, e.g. phase interruption [3]

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H02H 3/26	1-Punkt Untergruppe	. responsive to difference between voltages or between currents; responsive to phase angle between voltages or between currents
H02H 3/28	2-Punkt Untergruppe	. . involving comparison of the voltage or current values at two spaced portions of a single system, e.g. at opposite ends of one line, at input and output of apparatus
H02H 3/30	3-Punkt Untergruppe	. . . using pilot wires or other signalling channel
H02H 3/32	2-Punkt Untergruppe	. . involving comparison of the voltage or current values at corresponding points in different conductors of a single system, e.g. of currents in go and return conductors
H02H 3/33	3-Punkt Untergruppe	. . . using summation current transformers (H02H 3/347 takes precedence) [3]
H02H 3/34	3-Punkt Untergruppe	. . . of a three-phase system
H02H 3/347	4-Punkt Untergruppe	. . . . using summation current transformers [3]
H02H 3/353	4-Punkt Untergruppe	. . . . involving comparison of phase voltages [3]
H02H 3/36	2-Punkt Untergruppe	. . involving comparison of the voltage or current values at corresponding points of different systems, e.g. of parallel feeder systems
H02H 3/38	1-Punkt Untergruppe	. responsive to both voltage and current; responsive to phase angle between voltage and current
H02H 3/40	1-Punkt Untergruppe	. responsive to ratio of voltage and current
H02H 3/42	1-Punkt Untergruppe	. responsive to product of voltage and current
H02H 3/44	1-Punkt Untergruppe	. responsive to the rate of change of electrical quantities [3]
H02H 3/46	1-Punkt Untergruppe	. responsive to frequency deviations [3]
H02H 3/48	1-Punkt Untergruppe	. responsive to loss of synchronism [3]
H02H 3/50	1-Punkt Untergruppe	. responsive to the appearance of abnormal wave forms, e.g. ac in dc installations [3]
H02H 3/52	2-Punkt Untergruppe	. . responsive to the appearance of harmonics [3]
<b>H02H 5/00</b>	<b>Hauptgruppe</b>	<b>Emergency protective circuit arrangements for automatic disconnection directly responsive to an undesired change from normal non-electric working conditions with or without subsequent reconnection (using simulators of the apparatus being protected H02H 6/00; specially adapted for specific types of electric machines or apparatus or for sectionalised protection of cable or line systems H02H 7/00) [3]</b>
H02H 5/04	1-Punkt Untergruppe	. responsive to abnormal temperature
H02H 5/06	2-Punkt Untergruppe	. . in oil-filled electric apparatus
H02H 5/08	1-Punkt Untergruppe	. responsive to abnormal fluid pressure, liquid level or liquid displacement, e.g. Buchholz relays
H02H 5/10	1-Punkt Untergruppe	. responsive to mechanical injury, e.g. rupture of line, breakage of earth connection
H02H 5/12	1-Punkt Untergruppe	. responsive to undesired approach to, or touching of, live parts by living beings
<b>H02H 6/00</b>	<b>Hauptgruppe</b>	<b>Emergency protective circuit arrangements responsive to undesired changes from normal non-electric working conditions using simulators of the apparatus being protected, e.g. using thermal images [3]</b>
<b>H02H 7/00</b>	<b>Hauptgruppe</b>	<b>Emergency protective circuit arrangements specially adapted for specific types of electric machines or apparatus or for sectionalised protection of cable or line systems, and effecting automatic switching in the event of an undesired change from normal working conditions ( structural association of protective devices with specific machines or apparatus and their protection without automatic disconnection, <u>see</u> the relevant subclass for the machine or apparatus)</b>

Symbol	Typ	Titel
H02H 7/04	1-Punkt Untergruppe	. for transformers
H02H 7/045	2-Punkt Untergruppe	. . Differential protection of transformers [3]
H02H 7/05	2-Punkt Untergruppe	. . for capacitive voltage transformers, e.g. against resonant conditions [3]
H02H 7/055	2-Punkt Untergruppe	. . for tapped transformers or tap-changing means thereof [3]
H02H 7/06	1-Punkt Untergruppe	. for dynamo-electric generators; for synchronous capacitors
H02H 7/08	1-Punkt Untergruppe	. for dynamo-electric motors
H02H 7/085	2-Punkt Untergruppe	. . against excessive load
H02H 7/09	2-Punkt Untergruppe	. . against over-voltage; against reduction of voltage; against phase interruption
H02H 7/093	2-Punkt Untergruppe	. . against increase beyond, or decrease below, a predetermined level of rotational speed (centrifugal switches H01H 35/10)
H02H 7/097	2-Punkt Untergruppe	. . against wrong direction of rotation
H02H 7/10	1-Punkt Untergruppe	. for converters; for rectifiers
H02H 7/12	2-Punkt Untergruppe	. . for static converters or rectifiers
H02H 7/122	3-Punkt Untergruppe	. . . for inverters, i.e. dc/ac converters [2]
H02H 7/125	3-Punkt Untergruppe	. . . for rectifiers [2]
H02H 7/127	4-Punkt Untergruppe	. . . . having auxiliary control electrode to which blocking control voltages or currents are applied in case of emergency [2]
H02H 7/16	1-Punkt Untergruppe	. for capacitors (for synchronous capacitors H02H 7/06)
H02H 7/18	1-Punkt Untergruppe	. for batteries; for accumulators
H02H 7/20	1-Punkt Untergruppe	. for electronic equipment (for converters H02H 7/10; for electric measuring instruments G01R 1/36; for dc voltage or current semiconductor regulators G05F 1/569; for amplifiers H03F 1/52; for electronic switching circuits H03K 17/08)
H02H 7/22	1-Punkt Untergruppe	. for distribution gear, e.g. bus-bar systems; for switching devices
H02H 7/24	1-Punkt Untergruppe	. for spark-gap arresters
H02H 7/26	1-Punkt Untergruppe	. Sectionalised protection of cable or line systems, e.g. for disconnecting a section on which a short-circuit, earth fault, or arc discharge has occurred (locating faults in cables G01R 31/08)
H02H 7/28	2-Punkt Untergruppe	. . for meshed systems
H02H 7/30	2-Punkt Untergruppe	. . Staggered disconnection [3]
<b>H02H 9/00</b>	<b>Hauptgruppe</b>	<b>Emergency protective circuit arrangements for limiting excess current or voltage without disconnection (structural association of protective devices with specific machines or apparatus, <u>see</u> the relevant subclass for the machine or apparatus)</b>
H02H 9/02	1-Punkt Untergruppe	. responsive to excess current
H02H 9/04	1-Punkt Untergruppe	. responsive to excess voltage (lightning arrestors H01C 7/12, H01C 8/04, H01G 9/18, H01T)
H02H 9/06	2-Punkt Untergruppe	. . using spark-gap arresters
H02H 9/08	1-Punkt Untergruppe	. Limitation or suppression of earth fault currents, e.g. Petersen coil [3]
<b>H02H 11/00</b>	<b>Hauptgruppe</b>	<b>Emergency protective circuit arrangements for preventing the switching-on in case an undesired</b>

Symbol

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**electric working condition might result**