

CPC COOPERATIVE PATENT CLASSIFICATION

Y GENERAL TAGGING OF NEW TECHNOLOGICAL DEVELOPMENTS; GENERAL TAGGING OF CROSS-SECTIONAL TECHNOLOGIES SPANNING OVER SEVERAL SECTIONS OF THE IPC; TECHNICAL SUBJECTS COVERED BY FORMER USPC CROSS-REFERENCE ART COLLECTIONS [XRACs] AND DIGESTS

(NOTES omitted)

Y04 INFORMATION OR COMMUNICATION TECHNOLOGIES HAVING AN IMPACT ON OTHER TECHNOLOGY AREAS

Y04S SYSTEMS INTEGRATING TECHNOLOGIES RELATED TO POWER NETWORK OPERATION, COMMUNICATION OR INFORMATION TECHNOLOGIES FOR IMPROVING THE ELECTRICAL POWER GENERATION, TRANSMISSION, DISTRIBUTION, MANAGEMENT OR USAGE, i.e. SMART GRIDS

Systems supporting electrical power generation, transmission or distribution

		20/14	. Protecting elements, switches, relays or circuit breakers
		20/20	. End-user application control systems
		20/221	. . General power management systems
		20/222	. . Demand response systems, e.g. load shedding, peak shaving
		20/242	. . Home appliances
		20/244	. . . the home appliances being or involving heating ventilating and air conditioning [HVAC] units
		20/246	. . . the system involving the remote operation of lamps or lighting equipment
		20/248	. . UPS systems or standby or emergency generators
		20/30	. Smart metering, e.g. specially adapted for remote reading
			<u>Systems supporting specific end-user applications in the sector of transportation</u>
		30/00	Systems supporting specific end-user applications in the sector of transportation
		30/10	. Systems supporting the interoperability of electric or hybrid vehicles
		30/12	. . Remote or cooperative charging
		30/14	. . Details associated with the interoperability, e.g. vehicle recognition, authentication, identification or billing
			<u>Communication or information technology specific aspects supporting electrical power generation, transmission, distribution or end-user application management</u>
		40/00	Systems for electrical power generation, transmission, distribution or end-user application management characterised by the use of communication or information technologies, or communication or information technology specific aspects supporting them
		40/12	. characterised by data transport means between the monitoring, controlling or managing units and monitored, controlled or operated electrical equipment
		40/121	. . using the power network as support for the transmission
10/00	Systems supporting electrical power generation, transmission or distribution		
10/12	. Monitoring or controlling equipment for energy generation units, e.g. distributed energy generation [DER] or load-side generation		
10/123	. . the energy generation units being or involving renewable energy sources		
10/126	. . the energy generation units being or involving electric vehicles [EV] or hybrid vehicles [HEV], i.e. power aggregation of EV or HEV, vehicle to grid arrangements [V2G]		
10/14	. Energy storage units		
10/16	. Electric power substations		
10/18	. using switches, relays or circuit breakers, e.g. intelligent electronic devices [IED]		
10/20	. using protection elements, arrangements or systems		
10/22	. Flexible AC transmission systems [FACTS] or power factor or reactive power compensating or correcting units		
10/30	. State monitoring, e.g. fault, temperature monitoring, insulator monitoring, corona discharge		
10/40	. Display of information, e.g. of data or controls		
10/50	. Systems or methods supporting the power network operation or management, involving a certain degree of interaction with the load-side end user applications		
10/52	. . Outage or fault management, e.g. fault detection or location		

Systems supporting the management or operation of end-user stationary applications, including also the last stages of power distribution and the control, monitoring or operating management systems at local level

20/00	Management or operation of end-user stationary applications or the last stages of power distribution; Controlling, monitoring or operating thereof
20/12	. Energy storage units, uninterruptible power supply [UPS] systems or standby or emergency generators, e.g. in the last power distribution stages

- 40/124 . . using wired telecommunication networks or data transmission busses
- 40/126 . . using wireless data transmission
- 40/128 . . involving the use of Internet protocol
- 40/18 . Network protocols supporting networked applications, e.g. including control of end-device applications over a network
- 40/20 . Information technology specific aspects, e.g. CAD, simulation, modelling, system security

Market activities related to the operation of systems integrating technologies related to power network operation and communication or information technologies

- 50/00 Market activities related to the operation of systems integrating technologies related to power network operation or related to communication or information technologies**
- 50/10 . Energy trading, including energy flowing from end-user application to grid
- 50/12 . Billing, invoicing, buying or selling transactions or other related activities, e.g. cost or usage evaluation
- 50/14 . Marketing, i.e. market research and analysis, surveying, promotions, advertising, buyer profiling, customer management or rewards
- 50/16 . Energy services, e.g. dispersed generation or demand or load or energy savings aggregation