

Switchgear, Switchboard Apparatus, Relays, and Industrial Controls

2000

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Current
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Reports

Information about the scope of the survey, methodology, explanation of terms and historical notes for this survey may be found in the introduction of the 1998 Manufacturing Profiles, issued December 2000.

Current data are released electronically on Internet for all individual surveys as they become available. Use: <http://www.census.gov/econ/www/manumenu.html>. Individual reports can be accessed by choosing "Current Industrial Reports (CIR's)," clicking on "Report Number Index;" from the "Industrial Products by Numeric Index," choose the survey of interest. Follow the menu to view the PDF file or to download the worksheet file (WK format) to your personal computer.

These data are also available through the U.S. Department of Commerce and STAT-USA Electronic Bulletin Board by subscription. To access, dial 202-482-3870 and follow the prompts to register. Also, you may call 202-482-1986 or 1-800-STAT-USA, for further information. The Internet address is: www.stat-usa.gov/.

NOTE. Data are now published on the new North American Industry Classification System (NAICS) basis and therefore are not always comparable to the old Standard Industrial Classification (SIC) code. For further information on NAICS, see www.census.gov/epcd/www/naics.html.

SUMMARY OF FINDINGS

During 2000, the total value of shipments of switchgear and switchboard apparatus was \$8.1 billion, up 11.2 percent from the 1999 value of \$7.3 billion. The 2000 shipments include power circuit breakers, valued at \$630.2 million, an increase of 15.7 percent from 1999; low voltage panelboards, valued at \$2.8 billion, an increase of 14.1 percent from 1999; fuses and fuse equipment, valued at \$661.8 million, an increase of 8.8 percent from 1999; molded case circuit breakers, valued at \$1.6 billion, an increase of 7.9 percent from 1999; duct, valued at \$308.8 million, an increase of 9.4 percent from 1999; and switchgear valued at \$2.1 billion, an increase of 9.7 percent from 1999. During 2000, the total value of shipments of relays and industrial controls was \$9.4 billion, a slight increase from the revised 1999 value. The 2000 shipments include general-purpose relays valued at \$803.1 million, an increase of 3.3 percent from 1999; specific-purpose industrial controls, valued at \$3.6 billion, down 2.2 percent from the revised 1999 value; general-purpose industrial controls, valued at \$4.5 billion, an increase of 1.7 percent from 1999 and motor controller accessories valued at \$573.2 million, an increase of 3.1 percent from 1999.

Address inquiries concerning these data to Investment Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900, or call Tempie Whittington, 301-457-4800.

For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-457-4673.

U S C E N S U S B U R E A U

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Economics and Statistics Administration
U.S. Census Bureau



Table 1. Value of Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 1992 to 2000
 [Millions of dollars]

Product code	Product description	2000	1999	1998	1997	1996	1995	1994	1993	1992
3353131000	Power circuit breakers.....	630.2	544.8	481.0	459.5	412.7	442.9	550.9	520.8	480.8
3353133000	Low-voltage panelboards.....	2,813.1	2,465.8	2,201.0	2,169.4	2,093.3	2,025.4	1,750.8	1,687.1	1,531.1
3353135000	Fuses and fuse equipment.....	661.8	608.2	577.2	557.4	522.2	500.1	382.1	319.9	412.8
3353137000	Molded case circuit breakers.....	1,555.4	1,440.8	1,369.8	1,299.7	1,218.1	1,173.4	1,132.9	1,009.8	954.7
3353139000	Duct, 1,000 volts and under.....	308.8	282.4	278.1	284.0	254.5	238.5	227.9	200.1	189.1
335313A000	Switchgear (except ducts).....	2,122.5	1,933.5	1,885.6	1,830.5	1,868.2	1,758.3	1,663.7	1,581.3	161.5
3353141000	Relays, general purpose.....	803.1	777.3	783.2	829.7	786.6	808.1	804.0	750.6	781.5
3353143000	Specific-purpose industrial contr	3,584.4	3,664.2	3,785.4	3,568.2	3,454.9	3,312.4	2,747.9	2,321.6	1,915.7
3353145000	General-purpose industrial contr	4,455.6	4,382.4	4,587.2	4,362.7	4,323.8	4,189.2	3,840.3	3,326.3	2,778.2
3353147000	Motor controller accessories and parts for industrial controls.....	573.2	556.3	496.0	564.8	516.4	503.3	511.6	476.4	447.9

Table 2. Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 2000 and 1999
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2000		1999	
			Quantity	Value	Quantity	Value
335313	Switchgear and switchboard apparatus.....	(NA)	(X)	8,091,734	(X)	7,275,522
3353131	Power circuit breakers, all voltages.....	31	(X) a/	630,180	(X) a/	544,791
3353131001	Power circuit breakers (sold separately) for use in metal-clad switchgear, oil and oilless, over 1,000 volts, (number of breakers).....	11	(S) a/	54,824	(S) c/r/	40,271
3353131003	All other power circuit breakers, sold separately.....	24	(S) a/	534,963	(S) a/	466,649
3353131029	Parts for all power circuit breakers.....	19	(X) b/	40,393	(X) c/ r/	37,871
3353133	Low voltage panelboards, distribution boards, and other switching and interrupting devices, 1,000 volts and below.....	111	(X) a/	2,813,064	(X)	2,465,835
	Panelboards, including enclosing cabinets:					
3353133201	Fusible, including combination switch fuse.....	40	(S)	157,531	(S) r/	161,583
3353133104	Circuit breaker.....	50 b/	1,269,051	693,688 a/r/	1,130,254	627,464
	Distribution switchboards:					
3353133207	Fusible.....	30 b/	26,953 b/	194,820 a/	28,316 r/	187,421
3353133211	Circuit breaker.....	43 b/	121,861	492,131 b/r/	95,285	349,023
3353133213	Other, including theater switchboards.....	7	(D)	(D)	(D)	(D)
	Switches (except switches commonly known as snap, toggle, and rotary switches and switch devices intended primarily to be used with electric motor controls):					
	Knife switches, enclosed:					
3353133216	Heavy duty.....	11 a/	1,648,105	212,707 a/	1,623,227	203,732
3353133219	General duty.....	8 a/	1,216,355 a/	64,923	1,215,287 a/	61,290
3353133222	Enclosed fusible, service entrance, and branch circuit cutouts.....	6	(D)	(D)	(D)	(D)
3353133225	Circuit breaker type.....	15	8,905,621 a/	336,335 a/	10,874,751 a/	297,184
	Load centers:					
3353133228	Grouped metering panels (combinations of two or more meters and related switching units with overcurrent protection associated with each meter, including accessory components, excluding single socket load combinations).....	16	(S)	47,457	(S) a/	33,005
3353133231	Other switches, excluding snap, bolted, toggle, push, etc., including open knife switches, motor contact, motor disconnect, meter service equipment other than metermounting, and test devices.....	20	(X) a/	150,498	(X) b/r/	138,433
3353133234	Other low voltage switchgear apparatus.....	27	(X) b/	453,313	(X) a/r/	396,915
3353135	Fuses and fuse equipment, under 2,300 volts (except power distribution cutouts)	18	(X) b/	661,779	(X) c/	608,183
3353135001	Nonrenewable plug fuses 1/.....	2	(X) (D)	(D)	(X) (D)	(D)
3353135004	Nonrenewable cartridge fuses.....	8	(X) c/	306,345	(X) c/	272,864
3353135007	Renewable plug and cartridge fuses, including renewable links 1/.....	3	(X) c/	2,792	(X) c/	2,746

Table 2. Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 2000 and 1999
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2000		1999	
			Quantity	Value	Quantity	Value
3353135011	Other fuses and open fuse material, including cutouts, clips, bases, etc.....	16	(X) c/	352,642	(X) c/	332,573
3353137	Molded case circuit breakers, 1,000 volts and under.....	35	(X)	1,555,438	(X) a/	1,440,804
	Industrial type, assembled as complete units in supporting and enclosing housing of insulating materials, with or without accessories or attachments:					
3353137001	With ground fault detection capability 2/.....	15	(D)	(D)	(D)	(D)
3353137004	Without ground fault detection capability 2/.....	19	46,155,448	825,048	38,094,788	755,226
	Residential or light duty type, (primarily) for load center application, assembled as complete units in supporting and enclosing housing of insulating materials:					
3353137007	With ground fault detection capability 3/.....	7	(D)	(D)	(D)	(D)
3353137011	Without ground fault detection capability 3/.....	6	(S)	339,130	(S)	351,947
3353137013	Individually enclosed industrial type, excluding panelboards and busway plugs 3/.....	11	(D)	(D)	(D)	(D)
	Other molded case circuit breakers:					
3353137017	Marine, Navy, aircraft and aerospace type	7	(S) b/	136,626	(S) c/	138,416
3353137031	All other types, including automotive and electronic	16	(S) a/	254,634	(S) b/	195,215
3353139	Duct, including plug-in units and accessories, 1,000 volts and under, consisting of enclosed sectionalized prefabricated bus bars rated 20 amperes or more and associated structures and fittings.....	20	(X) b/	308,812	(X)	282,401
335313A	Switchgear (except ducts).....	121	(X) a/	2,122,461	(X) a/	1,933,508
335313A101	Automatic and manual control panels (generators, transformers, feed-controls, etc.).....	61	(X) a/	290,627	(X) a/	273,865
335313A204	Metal-clad switchgear (using power circuit breakers, oil and oilless), all voltages above 1,000 volts, up to and including 38 kV, excluding load interrupter switchgear.....	39	(X) b/	404,237	(X) b/	367,072
335313A307	Metal-enclosed load interrupter switchgear assemblies, all voltages, including parts.....	36	(X) a/	220,411	(X) a/	213,364
335313A311	Metal-enclosed low-voltage power circuit breaker switchgear assemblies 1,000 volts and below, including parts and excluding load interrupter switchgear.....	35	(X) b/	172,165	(X) c/r/	156,849
335313A313	Metal-enclosed bus bars when sold separately, above 1,000 volts, including isolated, segregated, nonsegregated and cable bus bars.....	17	(X) a/	51,529	(X) a/	35,945
	Power switching equipment, 2,300 volts and over, including attachments, auxiliaries, bus supports and fittings, and accessories, but excluding power fuses, sold separately. Also includes single-phase circuit reclosers:					

Table 2. Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 2000 and 1999
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2000		1999	
			Quantity	Value	Quantity	Value
335313A316	Outdoor, excluding structures.....	25	(X)	422,597	(X)	a/ 394,358
335313A319	Indoor.....	8	(X)	4,901	(X)	7,068
335313A322	Power fuses and fuse links for 2,300 volts and over, ac service, excluding distribution cutouts 4/.....	13	(X)	(D)	(X)	(D)
335313A325	Power and ground connectors generally used in substation construction 4/.....	6	(X)	208,830	(X)	185,099
335313A328	Overhead transmission and distribution connectors (clamps, taps, terminals, and splices) 5/.....	5	(X)	(D)	(X)	(D)
335313A331	Transmission and distribution connectors, n.e.c., including underground deadends, hot line taps, stirrups, and repair sleeves, etc. 5/.....	6	(X)	(D)	(X)	(D)
335313A334	Distribution cutouts.....	8	(X)	b/ 79,520	(X)	b/ 81,016
335313A337	Other switchgear devices, including regulators and miscellaneous switchboard devices (for sale separately) 5/.....	22	(X)	b/ 267,554	(X)	b/ 218,872
335314	Relays and industrial controls.....	(NA)	(X)	9,416,306	(X)	9,380,193
3353141	General-purpose and other relays.....	103	(X)	a/ 803,125	(X)	a/ 777,253
3353141001	Industrial-control relays (all voltages), n.e.c.	40	(S)	a/ 241,528	(S)	a/ 242,280
	General-purpose electromechanical relays:					
	Over 100 MW actuating power and sealed (either hermetically or environmentally):					
3353141004	0 through 2.0 amperes contact rating 6/.....	7	(D)	(D)	(D)	(D)
3353141007	Over 2.0 through 10.0 amperes contact rating 6/.....	16	(D)	(D)	(D)	(D)
3353141011	Over 10.0 amperes contact rating 6/.....	8	(S)	b/ 56,604	(S)	b/ 60,936
	Over 100 MW actuating power and not sealed:					
3353141013	0 through 10.0 amperes contact rating.....	13	c/	876,497	15,931	a/r/ 796,931 a/r/ 7,892
3353141016	Over 10.0 amperes contact rating 7/.....	11	(S)	27,002	(S)	a/ 26,193
3353141019	0 through 100 MW actuating power (both sealed and not sealed) 7/.....	2	(D)	(D)	(D)	(D)
	Miniature printed circuit mounted electromechanical relays, excluding reed relays (profile height 1/2-inch max.):					
	Sealed (either hermetically or environmentally):					
3353141022	0 through 2.0 amperes contact rating	1	(D)	(D)	(D)	(D)
3353141025	Over 2.0 amperes contact rating	3	(D)	(D)	(D)	(D)
3353141028	Not sealed.....	3	(D)	(D)	(D)	(D)

Table 2. Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 2000 and 1999
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2000		1999	
			Quantity	Value	Quantity	Value
3353141031	DIP or SIP footprint: Sealed (either hermetically or environmentally).....	1	(D)	(D)	(D)	(D)
3353141034	Telephone relays, all types: Sealed (either hermetically or environmentally)	3	(D)	(D)	(D)	(D)
3353141037	Not sealed	4	(D)	(D)	c/ 30,124	c/r/ 319
353141041	General-purpose solid-state relays, pure solid-state and hybrid solid-state, excluding time delay.....	8	(S) b/	11,851	(S) b/r/	12,873
3353141043	High performance military/aerospace/ aircraft relays and contactors (generally pertaining to Mil-R5757, 6106, 19523, 25108, and 39016): Round and square can multipole airframe relays and contactors (both sealed and not sealed) (all sizes).....	6	(S) b/	54,979	(S) c/r/	58,530
3353141046	Crystal can types (sealed): Larger than full size.....	4	(D)	(D)	(D)	(D)
3353141049	Full size.....	4	(D)	(D)	(S) c/	7,965
3353141052	Half size and smaller, including TO-5 package	4	(D)	(D)	(D)	(D)
3353141055	RF, antenna and coaxial relays (sealed and not sealed), excluding reed relays	3	(D)	(D)	(D)	(D)
3353141058	Reed relays: Dry reed: Miniature size (glass length less than .85 inch).....	8	(D)	(D)	(D)	(D)
3353141061	Standard size	4	(D)	(D)	(D)	(D)
3353141064	Mercury wetted reed	4	(S)	1,545	(S)	1,832
3353141067	Stepping switches, stepping and impulse relays	4	(D)	(D)	(D)	(D)
3353141071	Switchgear and protective relays	5	(D)	(D)	(D)	(D)
3353141073	Timing relays (timers): Solid-state/EMR combination.....	22 b/	2,255,827 b/	32,946 b/r/	1,719,788 c/	36,566
3353141076	Solid-state-pure.....	17 b/	282,804 c/	11,588 a/	312,330 c/	13,077
3353141079	All other timing relays (timers), including pneumatic, motor driven, electronic, etc.	14	216,047 a/	11,508 c/	384,214 c/	15,873
3353141082	All other general-purpose and special-purpose relays, n.e.c.	21	(X) a/	176,797	(X)	154,884
3353141085	Parts for general-purpose and special-purpose relays, sold separately.....	8	(X) b/	15,770	(X) a/	10,864
3353143	Specific-purpose industrial controls..	228	(X) b/	3,584,356	(X) a/	3,664,222
3353143301	U.S. Coast Guard, Navy, and Marine auxiliary controls and accessories.....	20 c/	60,503 b/	138,497 b/r/	70,599 b/r/	171,618
3353143104	Metal mill controls and accessories (all voltages).....	7	(D)	(D)	(D)	(D)
3353143307	Crane and hoist controls, constant and adjustable voltage, including operators' desks and stations.....	16 a/	37,335 a/	141,470 a/r/	36,052	131,163
3353143311	Definite-purpose contactors and starters (600 volts and less).....	20	(S)	106,863 a/	39,147,367	99,288
3353143313	Machine tool applications (motion controllers): Stand-alone controls for numerically controlled machine tools: Computer numerical controls (CNC); positioning (point-to-point)...	7	(S)	18,475	(S)	15,304
3353143316	Computer numerical controls (CNC); continuous path (contouring).....	11 b/	31,483 c/	352,763 b/	30,435 c/r/	362,886

Continued

Table 2. Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 2000 and 1999
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2000		1999	
			Quantity	Value	Quantity	Value
3353143319	Robotic controls	3	(D)	(D)	(D)	(D)
3353143322	Other stand-alone motion controls..	17 c/	87,695 b/	94,503 c/	85,428 b/	90,481
3353143325	Subordinate motion controls	11	(S) c/	13,299	(S) c/	14,757
3353143228	Programmable controllers, sold separately.....	54	(S) b/	1,401,735	(S) a/	1,566,707
3353143331	Other specific- or special-purpose ac and dc controllers, other definite-purpose devices.....	135	(X) b/	1,234,273	(X) a/	1,114,855
3353145	General-purpose industrial controls and power circuit devices.....	242	(X) a/	4,455,604	(X) a/	4,382,371
3353145001	General-purpose controls: Ac full voltage noncombination magnetic starters (1,000 volts or less)	22	(S)	144,694 r/	696,809	144,344
3353145004	Ac full voltage combination magnetic starters (1,000 volts or less): Combination starters (less pumping panels)	20		119,411	117,048	69,429
3353145007	Pumping panels	18		50,381	55,804	36,931
3353145011	Disconnect switches (600 volts or less).....	19		2,296,373	2,354,626	63,152
3353145013	Ac full voltage manual controllers, 1,000 volts or less: Designed and rated to U. S. National Standards (NEMA) 8/.....	8		1,296,149	1,181,273	34,737
3353145016	Designed and rated to International Standards (IEC) 8/.....	6	(D)	(D)	(D)	(D)
3353145019	Ac contactors, 1,000 volts or less, excluding controls for packaged adjustable speed drives and synchronous motor controls: Designed and rated to U. S. National Standards (NEMA)	13		525,166	620,213 r/	89,352
3353145022	Designed and rated to International Standards (IEC)	17	(D)	(D)	(D)	(D)
3353145025	Ac reduced voltage controls, 1,000 volts or less, excluding synchronous motor starters.....	19 a/	50,234 a/	39,979 a/r/	55,788 a/r/	42,435
3353145028	Synchronous motor starters, 1,000 volts or less, including both full and reduced voltage.....	2	(D)	(D)	(S)	1,617
3353145031	Motor control centers, 1,000 volts or less.....	35	(X)	692,043	(X)	712,255
3353145034	Starters and contactors for squirrel cage and wound rotor and synchronous and nonsynchronous motors, over 1,000 to 7,200 volts, air break, vacuum, and oil immersed.....	9	(S) a/	72,178	(S) a/	72,898
3353145037	Brakes and clutches.....	18	(S) b/	70,883	(S) b/	67,252
3353145041	Digital readout systems, including dial or plugboard type.....	19 c/	10,671 b/	5,733	11,230 a/	6,249
3353145043	Presence sensors and motion measurement devices: Limit switches (positioning sensors): Electromechanical positioning sensors.....	29	(X) a/	129,038	(X)	136,570
3353145046	Movement sensors.....	18	(X) a/	41,190	(X)	38,430

Table 2. Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 2000 and 1999
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2000		1999	
			Quantity	Value	Quantity	Value
	Solid-state positioning sensors:					
3353145049	Nonoptical proximity sensors.....	20	(X) a/	122,541	(X)	109,784
3353145052	Optical proximity sensors.....	15	(X)	189,970	(X)	172,694
3353145055	All other pilot circuit devices, excluding relays and limit switches.....	10	(X) c/	11,090	(X) c/	11,576
3353145058	Dc power circuit devices (all voltages).....	13	(X) c/	22,148	(X) b/	24,435
3353145061	Other control sensors (all voltages).....	16	(X) b/	76,629	(X) a/	100,009
	Pushbuttons and pushbutton stations, excluding operators' desks and stations:					
3353145064	Pushbuttons, 18 mm and smaller....	9	(X)	3,869	(X) r/	4,079
3353145067	Pushbuttons, 19 mm to 29 mm.....	20	(X)	71,384	(X)	71,411
3353145071	Pushbuttons, 30 mm and larger.....	25	(X)	192,275	(X)	204,001
3353145073	Rheostats and resistors (except for electronic applications) sold separately, n.e.c.	12	(X) b/	15,907	(X) a/r/	26,566
	Controls for adjustable speed drives, including electronic and nonelectric and operators' desks and stations:					
3353145076	Controls for ac packaged drives.....	35	640,669 a/	452,460 r/	636,785	467,843
3353145079	Controls for dc packaged drives.....	27 b/	111,525 c/	66,783 b/	122,870 b/	65,808
3353145082	Ac drives systems.....	36 b/	65,757 a/	212,782 c/	42,033 a/	167,226
3353145085	Dc drives systems.....	23 a/	281,994 a/	78,327 a/	269,992 a/r/	64,721
3353145088	Solid-state motor controllers (all voltages).....	49 c/	780,839 a/	232,476 c/r/	923,221 b/r/	229,668
3353145091	All other general industry devices and systems.....	93	(X) a/	1,149,411	(X) a/r/	1,083,496
3353147	Motor controller accessories and parts for industrial controls.....	117	(X) a/	573,221	(X) a/r/	556,347
3353147001	Motor controller accessories, including those items that are sold separately, but become part of a motor controller. Includes overload relays, auxiliary contacts, heater elements, mechanical interlocks, control transformers, kits to add push buttons, selector switches, pilot lights, separate controller enclosure fittings, reset mechanisms, etc., excluding motor circuit switches sold, separately.....	37	(X)	228,246	(X) r/	228,715
3353147004	Parts for industrial controls.....	99	(X) a/	344,975	(X) a/	327,632

D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified. r/Revised by 5 percent or more from previously published data. S Does not meet publication standards. X Not applicable.

- 1/Product codes 3353135001 and 3353135007 are combined to avoid disclosing data for individual companies.
- 2/Product codes 3353137001 and 3353137004 are combined to avoid disclosing data for individual companies.
- 3/Product codes 3353137007 and 3353137013 are combined with product code 3353137011 to avoid disclosing data for individual companies.
- 4/Product codes 335313A322 and 335313A325 are combined to avoid disclosing data for individual companies.
- 5/Product codes 335313A328 and 335313A331 are combined with product code 335313A337 to avoid disclosing data for individual companies.
- 6/Product codes 3353141004 and 3353141007 are combined with product code 3353141011 to avoid disclosing data for individual companies.
- 7/Product codes 3353141016 and 3353141019 are combined to avoid disclosing data for individual companies.
- 8/Product codes 3353145013 and 3353145016 are combined to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows: a/10 to 25 percent of this item is estimated. b/26 to 50 percent of this item is estimated. c/Over 50 percent of this item is estimated.

Table 3. Shipments, Exports, Imports, and Apparent Consumption of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 200
 [Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise (value at port) 1/	Imports for consumption 2/
3353131001, 03	Power circuit breakers.....	589,787	179,665	163,683
3353131029	Parts for power circuit breakers.....	40,393	-	112,795
3353133104, 201, 207, 211, 213	Low voltage panelboards and distribution boards.....	(D)	166,516	436,926
3353133216, 19	Knife switches.....	277,630	9,029	21,472
3353133228, 34	Grouped metering panels, including accessory components and other low voltage switchgear apparatus.....	500,770	44,474	65,540
3353135001, 04, 07, 11	Fuses and fuse equipment, under 2,300 volts.....	661,779	227,666	122,908
3353137001, 04, 07, 11, 13, 17, 31	Molded case circuit breakers, 1,000 volts and under.....	1,555,438	152,081	486,982
3353139000	Duct, including plug-in units and accessories.....	308,812	29,771	8,241
335313A101, 204, 307, 311, 313, 316, 319, 334, 337	Switchgear and switchgear assemblies 3/.....	(D)	34,479	30,227
335313A322	Power fuses and fuse links, 2,300 volts and over 3/.....	(D)	16,450	5,901
335313A325, 28, 31	Power and ground connectors and transmission and distribution connectors 3/.....	2,122,461	139,244	107,883
3353141001, 04, 07, 11, 13, 16, 19, 22, 25, 28, 31, 34, 37, 41, 43, 46, 49, 52, 55, 58, 61, 64, 67, 71, 73, 76, 79, 82	Relays.....	803,125	718,752	938,696
3353143313, 16	Controls for numerically controlled machine tools.....	371,238	41,758	50,528
3353143228	Programmable controllers.....	1,401,735	133,191	499,423
3353145001, 04, 07, 28	Motor starters.....	(D)	100,073	33,434
3353145031	Motor control centers, 1,000 volts or less.....	692,043	110,295	41,434
3353145037	Brakes and clutches.....	70,883	47,141	76,431
3353145043, 46	Limit switches.....	170,228	-	-
3353145073	Rheostats and resistors.....	15,907	14,384	17,428

- Represents zero. D Withheld to avoid disclosing data for individual companies.

1/Source: Census Bureau report, EM 545, U.S.Exports.

2/Source: Census Bureau report, IM 145, U.S. Imports for Consumption.

3/Data for "Switchgear and switchgear assemblies" and "Power fuses and fuse links" are combined with "Power and ground connectors" and "Transmission and distribution connectors" to avoid disclosing data for individual companies.

Table 4. Comparison of North American Industry Classification System-Based Product Codes with Schedule B Export Numbers, and HTSUSA Import Numbers: 2000

Product code	Product description	Export number 1/	Import number 2/
3353131001, 03	Power circuit breakers.....	8535.21.0000	8535.21.0000
		8535.29.0020	8535.29.0020
		8535.29.0040	8535.29.0040
		8536.20.0040	8536.20.0040
3353131029	Parts for power circuit breakers.....	8538.90.8020	8538.90.8020
3353133104, 201, 207, 211, 213	Low voltage panelboards and distribution boards.....	8537.10.9050	8537.10.9050
3353133216, 19	Knife switches.....	8536.50.9045	8536.50.9045
3353133228, 34	Grouped metering panels, including accessory components and other low voltage switchgear apparatus.....	8537.10.9020	8537.10.9020
3353135001. 04, 07, 11	Fuses and fuse equipment, under 2,300 volts.....	8535.10.0040	8535.10.0040
		8536.10.0020	8536.10.0020
		8536.10.0040	8536.10.0040
3353137001. 04, 07, 11, 13, 17, 31	Molded case circuit breakers, 1,000 volts and under.....	8536.20.0020	8536.20.0020
3353139000	Duct, including plug-in units and accessories.....	8536.90.8010	8536.90.8010
335313A101, 204, 307, 311, 313, 316, 319, 334, 337	Switchgear and switchgear assemblies	8537.20.0020	8537.20.0020
335313A322	Power fuses and fuse links, 2,300 volts and over	8535.10.0020	8535.10.0020
335313A325, 28, 31	Power and ground connectors and transmission and distribution connectors	8535.90.8040	8535.90.8040
3353141001, 04, 07, 11, 13, 16, 19, 22, 25, 28, 31, 34, 37, 41, 43, 46, 49, 52, 55, 58, 61, 64, 67, 71, 73, 76, 79, 82	Relays.....	8536.41.0005	8536.41.0005
		8536.41.0020	8536.41.0020
		8536.41.0030	8536.41.0030
		8536.41.0045	8536.41.0045
		8536.41.0050	8536.41.0050
		8536.41.0060	8536.41.0060
		8536.49.0050	8536.49.0050
		8536.49.0055	8536.49.0055
		8536.49.0065	8536.49.0065
		8536.49.0075	8536.49.0075
		8536.49.0080	8536.49.0080
3353143313, 16	Controls for numerically controlled machine tools.....	8537.10.9030	8537.10.9030
3353143228	Programmable controllers.....	8537.10.9060	8537.10.9060
3353145001, 04, 07, 28	Motor starters.....	8536.50.4000	8536.50.4000
3353145031	Motor control centers, 1,000 volts or less.....	8537.10.6000	8537.10.6000
3353145037	Brakes and clutches.....	8505.20.0000	8505.20.0000
3353145043, 46	Limit switches.....	8536.50.8055	8536.50.8055
3353145073	Rheostats and resistors.....	8533.40.0040	8533.40.8040
		8533.40.8040	

1/Source: 2000 edition, Harmonized System-Based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States, Annotated (2000).