

Modification Codes

Modification Codes

Table 33-53. A — Ammeters, Auxiliary Contacts, Accelerating Relays, Autotransformers

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Ammeter ^①	A1	Panel Type Wired to Current Transformer in Line 1, Type 1, 12	
		Panel Type Wired to Current Transformer in Line 1, Type 3R, 4X	
	A2	Panel Type, Selector Switch and 3 Current Transformers Wired to Ammeter via Switch, Type 1, 12	
		Panel Type, Selector Switch and 3 Current Transformers Wired to Ammeter via Switch, Type 3R, 4X	
	A3	Miniature (Single-Phase), Type 1, 12	
	A4	Miniature with Selector Switch, Type 1, 12	
	A5	Switchboard (Single-Phase), Type 1, 12	
		Switchboard (Single-Phase), Type 3R, 4X	
	A6	Switchboard with Selector Switch, Type 1, 12	
		Switchboard with Selector Switch, Type 3R, 4X	
	A7	3-Panel Type (Single-Phase), Type 1, 12	
		3-Panel Type (Single-Phase), Type 3R, 4X	
	A10	3 Miniature (Single-Phase), Type 1, 3R, 4X, 12	
		3 Switchboard Type (Single-Phase), Type 1, 12	
	A11	3 Switchboard Type (Single-Phase), Type 1, 12	
		3 Switchboard Type (Single-Phase), Type 3R, 4X	
	A12	Ammeter Order by Description, Type 1, 3R, 4X, 12	
Auto-transformers	A8	hp Rating selection, see <i>Enclosed Control Product Guide</i>	
	A9	Order by Description	
Top Mounted Auxiliary Contacts ^{② ③} (Unwired)	A13	1NO	
	A14	1NC	
	A15	1NO-1NC	
	A16	2NO	
Type Sizes 00 – 2 only (Unwired)	A17	2NC	
	A18	2NO-1NC	
	A19	1NO-2NC	
	A20	3NO	
IEC Sizes A – K Only (Unwired) Freedom Series	A21	3NC	
	A22	3NO-1NC	
	A23	2NO-2NC	
	A24	1NO-3NC	
	A25	4NO	
	A26	4NC	
	A27	1NO	
	A28	1NC	
Side Mounted Auxiliary Contacts Freedom Series	A29	1NO-1NC	
	A30	2NO	
	A31	2NC	
	A32	2NO-1NC	
	A33	1NO-2NC	
	A34	3NO	

^① Oversize enclosure will be provided for /T. Starters.^② Top mounted auxiliary contacts cannot be added to contactors in Box 1 (Type 1).^③ Not available for /T. Starters.

Table 33-53. A — Ammeters, Auxiliary Contacts, Accelerating Relays, Autotransformers (Continued)

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Side Mounted Auxiliary Contacts Freedom Series, continued	A35	3NC	
	A36	3NO-1NC	
	A37	2NO-2NC	
	A38	1NO-3NC	
	A39	4NO	
Auxiliary Contacts ^④	A40	4NC	
	A42	Contacts Mounted on Operating Mechanism of Disconnect Switch, 1NO-1NC	
	A43	Contacts Mounted on Operating Mechanism of Disconnect Switch, 2NO-2NC	
Accelerating Relay	A44	With Auxiliary Contact Omitted	
	A46	For 2-Speed	
	A47	2NO/2NC 24V DC Auxiliary Relay — /T. Only	

^④ Not available for /T. Starters.

Table 33-54. B — Breaker Modifications, Backspin Timer, Undervoltage Release, Bell Alarm, Bus Choke

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Breaker	B1	1NO-1NC Auxiliary Contact on Breaker	
	B2	2NO-2NC Auxiliary Contacts on Breaker	
	B3	Shunt Trip on Circuit Breaker — 48 – 127V AC or DC	
	B4	Shunt Trip on Circuit Breaker — 9 – 24V AC or DC	
	B5	Shunt Trip on Circuit Breaker — 208 – 380V AC	
	B6	Shunt Trip on Circuit Breaker — 415 – 600V AC or 220 – 250V DC	
	B8	Undervoltage Release for Breaker	
	B9	Current Limiter Mounted to Breaker	
	B10	Breaker — Order by Description	
	B11	Thermal Magnetic Breaker	
	B12	180 Seconds	
Backspin Timer	B13	Undervoltage Release for Circuit Breaker — 208 – 240V AC	
	B14	Undervoltage Release for Circuit Breaker — 380 – 480V AC	
	B15	Undervoltage Release for Circuit Breaker — 525 – 600V AC	
Bell Alarm	B16	Bell Alarm for Circuit Breaker	
Bus Choke (MVX)	B20	DC Bus Choke, Open Core and Coil ^⑤	

^⑤ A DC bus choke may be used in place of an AC line reactor for line harmonic current reduction and for power source exceeding 500 kVA. The DC bus choke will not provide any protection for line voltage unbalance or transients.

Modification Codes
Table 33-55. C — Control Power Transformer, 17. Power Supplies, Control Relays, Cover Control (not elsewhere defined), Current Transformers, Compelling Relay, Control Wiring, Control Circuit Breaker, Separate Control, Customer-Supplied Components, Contactors, Counter, E-Stop Relay, DC/AC Interface, Separate Source Disconnect, Bypass Contactors

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Control Power Transformers Make sure 8th character specifies primary/secondary voltage. See Page 33-129.	C1	Standard Size Control Transformer, 120V/60 Hz, 110V/50 Hz Secondary with 2 Primary and 1 Secondary Fuse	
		00 – 1 2 3 4 5 6 – 9 A – H J – K L – M N P – S —	
	C2	Standard Size Control Transformer, 24V/60 Hz Secondary with 2 Primary and 1 Secondary Fuse	
		00 – 1 2 3 4 5 6 – 9 A – H J – K L – M N P – S —	
	C42	50 VA Extra Capacity CPT 120V/60 Hz, 110V/50 Hz with 2 Primary and 1 Secondary	
		00 – 1 2 3 4 5 6 – 9 A – H J – K L – M N P – S —	
	C3	100 VA Extra Capacity CPT, 120V/60 Hz, 110V/50 Hz Secondary with 2 Primary and 1 Secondary Fuse	
		00 – 1 2 3 4 5 6 – 9 A – H J – K L – M N P – S —	
	C4	100 VA Extra Capacity CPT, 24V/60 Hz Secondary with 2 Primary and 1 Secondary Fuse	
		00 – 1 2 3 4 5 6 – 9 A – H J – K L – M N P – S —	
	C5	200 VA Extra Capacity CPT, 120V/60 Hz, 110V/50 Hz Secondary with 2 Primary and 1 Secondary Fuse	
		00 – 1 2 3 4 5 6 – 9 A – H J – K L – M N P – S —	
	C6	200 VA Extra Capacity CPT, 24V/60 Hz Secondary with 2 Primary and 1 Secondary Fuse	
		00 – 1 2 3 4 5 6 – 9 A – H J – K L – M N P – S —	
	C7	300 VA Extra Capacity CPT, 120V/60 Hz, 110V/50 Hz Secondary with 2 Primary and 1 Secondary Fuse	
		00 – 1 2 3 4 5 6 – 9 A – H J – K L – M N P – S —	
	C8	400 VA Extra Capacity CPT, 120V/60 Hz, 110V/50 Hz Secondary with 2 Primary and 1 Secondary Fuse	
		00 – 1 2 3 4 5 6 – 9 A – H J – K L – M N P – S —	
	C9	1 kVA Extra Capacity CPT, 120V/60 Hz, 110V/50 Hz Secondary with 2 Primary and 1 Secondary Fuse	
	C10	2 kVA Extra Capacity CPT, 120V/60 Hz, 110V/50 Hz Secondary with 2 Primary and 1 Secondary Fuse	
	C11	Control Transformer — Order by Description	
	C34	CPT with Power Supply for 17.	

Table 33-55. C — Control Power Transformer, 17. Power Supplies, Control Relays, Cover Control (not elsewhere defined), Current Transformers, Compelling Relay, Control Wiring, Control Circuit Breaker, Separate Control, Customer-Supplied Components, Contactors, Counter, E-Stop Relay, DC/AC Interface, Separate Source Disconnect, Bypass Contactors (Continued)

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Power Supplies (17. Only)	C27	Separate Control 120V AC to 24V DC	
	C28	Power Supply with Extra Capacity — Order by Description	
Control Relays	C12	4-Pole Interposing Relay, 600V (2NO/2NC)	
	C13	Run Relay, 24V DC (MVX)	
	C14 ①	4-Pole, Unwired, A600 Rtg. — 2NO-2NC	
	C15 ①	8-Pole, Unwired, A600 Rtg. — 4NO-4NC	
	C16	Control Relay — Order by Description	
	C20 ①	2-Wire Control Relay for Mechanical/Magnetic Lighting Contactors	
Cover Control	C17 ①	Convert Position 7 to E30 Type Cover Control	
	C19 ①	Lock-Off Attachment Added on Cover Control	
Current Transformer(s)	C21	In Phase 1	
	C22	In Phases 1 and 2	
	C23	In 3 Phases	
Compelling Relay	C25 ①	—	
Control Wiring	C26	Omit Control Wiring	
	C30 ①	With Separate Control Wiring and Two 250V Fuses in Holder	
	C31 ①	With Common Control Wiring and Two 600V (Class C) Fuses in Holder	
	C33	Control Wiring Type — Order by Description	
Control Circuit Breaker	C32 ①	Order by Description	
Separate Control	C35	Wired for Separate Control (Reduced Voltage)	
Customer Supplied Components	C36	Customer Supplied Components to Be Installed	
	C37	Customer Supplied Wiring Diagram to Use	

① Not available for 17. Starters.

 Discount Symbol **1CD1C**

Modification Codes

Table 33-55. C — Control Power Transformer, IT. Power Supplies, Control Relays, Cover Control (not elsewhere defined), Current Transformers, Compelling Relay, Control Wiring, Control Circuit Breaker, Separate Control, Customer-Supplied Components, Contactors, Counter, E-Stop Relay, DC/AC Interface, Separate Source Disconnect, Bypass Contactors (Continued)

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Contactors/Starter	C40 ^①	Contactors/Starter — Order by Description	
Counter	C41 ^①	Operations Counter	
E-Stop Relay	C43 ^①	E-Stop Relay (DeviceNet)	
DC/AC Interface	C44 ^①	DC/AC Interface Module	
Separate Source Disconnect	C45 ^①	IEC Separate Source Disconnect for Control Circuitry	
Bypass Contactors for IT/MVX Starters (MVX: 1/2 to 5 hp Only)	C46/J1	Isolation Contactor	
		MVX 37A 66A 105 – 135A	
		80 – 240A 304 – 500A 650 – 720A 850A	
	C46/J2	Output Contactor	
		MVX 37A 66A 105 – 135A	
		80 – 240A 304 – 500A 650 – 720A 850A	
	C46/J3	Bypass Contactor	
		MVX 37A 66A 105 – 135A	
		80 – 240A 304 – 500A 650 – 720A 850A	
	C46/J4	Isolation/Output/Bypass Contactor	
		MVX 37A 66A 105 – 135A	
		80 – 240A 304 – 500A 650 – 720A 850A	
	C46/J5	3-Contactor Bypass Pkg. for MVX ^②	

^① Not available for IT. Starters.

^② Includes CPT, Pilot Lights, Selector Switch, Auxiliary Contacts and Control Relay.

Table 33-56. D — Device Labels, Deceleration Relay, Drain and Breather, DeviceNet, Duplex Modifications

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Device Labels	D1	(each label)	
Decel. Relay ^③	D2	2-Speed	
Drain and Breather (Type 7/9 Enclosure) ^③	D5	Drain and Breather	
	D6	Drain Only	
	D7	Breather Only	
DeviceNet	D8	DSNAP	
	D9	DN65	
Duplex Modifications	D12	Alternator Omitted (Deduct Price)	
	D14	START/STOP Pushbuttons — Supplied for Each Motor	
	D15	HAND/OFF/AUTO Selector Switch — Supplied for Each Motor	
	D16	No. 1 Lead - No. 2 Lead Selector Switch for Manual Selection of Lead Pump (Alternator is Omitted)	
	D17	Red RUN Pilot Light — Supplied for Each Motor	
	D18	Push-to-Test Red RUN Pilot Light — Supplied for Each Motor	
	D19	TEST Pushbutton for Each Motor	
	D20	CPT, 120V Secondary, 2 Pri. Fuses & 1 Sec. Fuse — Supplied for Ea. Motor	
		00 – 1 2 3 4 – 9	
	D21	CPT w/100VA Extra Capacity, 120V Sec., 2 Pri. Fuses & 1 Sec. Fuse — Supplied for Each Motor	
		00 – 1 2 3 4 – 9	
	D22	CPT w/200VA Extra Capacity, 120V Sec., 2 Pri. Fuses & 1 Sec. Fuse — Supplied for Each Motor	
		00 – 1 2 3 4 – 9	
	D23	CPT for Duplex — Order by Description	
	D24	Add 2 Relays to Modify Controller to Operate w/Single-Pole Pilot Devices	
	D25	Add 3 Relays to Modify Controller to Operate w/Single-Pole Pilot Devices	
	D26	Green — OFF for each starter	
	D27	Green — Push-to-Test OFF for ea. starter	
	D28	Green RUN Light	
	D29	Red STOP Light	
	D30	P-T-T green RUN Light	
	D31	P-T-T red STOP Light	
	D32	Elapsed Time Meter	

^③ Not available for IT. Starters.

Modification Codes
Table 33-57. E — Enclosure Modifications, Elapsed Time Meter, Duplex Outlet, Starter

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Enclosure Modifications	E3	Oversize Enclosure	
	E4	Enclosure — Order by Description	
	E5	Enclosure w/Pole Mounting Hardware	
	E7	Service Entrance Rating with Ground/Neutral for Lighting Contactors (30 – 200A)	
	E65K	65K AIC Rated Explosion Proof Enclosure	
	E8	Service Entrance Rating w/Ground Bar	
	E11	Safety Door Interlock	
Elapsed Time Meter	E9	Wired Across Coil, Type 1, 12	
		Wired Across Coil, Type 3R, 4X	
	E10	Elapsed Time Meter — Order by Description	
Duplex Outlet	E12	Convenience Duplex Outlet Mounted in Side of Enclosure	
Starter ①	E13	Horizontal Combination Starter, Size 0 – 2	
	E14	Narrow Combination Starter, Size 0 – 2	

 ① Not available for **IT** Starters.

Table 33-58. F — Fuse Clips, Fuse Blocks, Fungus Protection, Fingerproof Covers, EMI Filter

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Fuse Clips	F1	Change Fuse Clips in Position 8 to Class J	
		00 – 1 2 3 4 5 A – H J – K L – M N P – S	
	F2	Change Fuse Clips in Position 8 to Class H & K (30 & 60 Ampere Only)	
Fuse Blocks	F4	Power Fuses Included — Order by Description	
	F5	30 Ampere Control Circuit Fuseholder (KTK) Mounted on Panel (Unwired), Fuse Not Supplied	
	F6	30 Ampere Control Circuit Fuseholder Mounted on Panel (Unwired), FNQR Fuse Supplied	
	F7	3-Pole Power Fuseholder Mounted on Front Contactor	
	F8	Separate Fusing of Control Power Supply — IT .	
	F10	Blown Fuse Indicator (Not for PFC)	
	F21	Class CC Fuses	
EMI Filter (MVX)	F22	3-Phase ②	
		240V 1/2 hp 1 hp 2 hp 3 hp 5 hp	
		U.S. \$	
		480V — 1 hp 2 hp 3 hp 5 hp	
		U.S. \$	
	F23	1-Phase ②	
		240V 1/2 hp 1 hp 2 hp 3 hp	
		U.S. \$	

② The EMI filter is not necessary to meet the CE mark requirements for EMC when installing the MVX in an EC country.

Table 33-59. G — Ground Fault Relay, Grounding

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Ground Fault Relay	G1	Ground Fault Relay (Wired)	
	G3	Ground Fault Relay (Unwired)	
Grounding	G5	Special Grounding — Order by Description	

Table 33-60. H — Heater (Space), Heater Packs Installed

Modification	Cat. No. Suffix	Description	Adder U.S. \$
Space Heater	H1	Space Heater and Thermostat	
		00 – 1 2 3 A – H J – K L – M 37A 66 – 105A 135A MVX	
		4 5 6 – 9 N P – S — 180A 240 – 304A 360 – 850A	
	H2	Space Heater and NC Interlock	
		00 – 1 2 3 A – H J – K L – M 37A 66 – 105A 135A MVX	
		4 5 6 – 9 N P – S — 180A 240 – 304A 360 – 850A	
Install Heater Packs (Freedom Series)	H5	Class 20	
		/D1 H2001B-3	/D25 H2101B-3
		/D2 H2002B-3	/D26 H2102B-3
		/D3 H2003B-3	/D27 H2103B-3
		/D4 H2004B-3	/D28 H2104B-3
		/D5 H2005B-3	/D29 H2105B-3
		/D6 H2006B-3	/D30 H2106B-3
		/D7 H2007B-3	/D31 H2107B-3
		/D8 H2008B-3	/D32 H2108B-3
		/D9 H2009B-3	/D33 H2109B-3
		/D10 H2010B-3	/D34 H2110B-3
		/D11 H2011B-3	/D35 H2111B-3
		/D12 H2012B-3	/D36 H2112B-3
		/D13 H2013B-3	/D37 H2113B-3
		/D14 H2014B-3	/D38 H2114B-3
		/D15 H2015B-3	/D39 H2115B-3
		/D16 H2016B-3	/D40 H2116B-3
		/D17 H2017B-3	/D41 H2117B-3
		/D18 H2018-3	
		/D19 H2019-3	
		/D20 H2020-3	
		/D21 H2021-3	
		/D22 H2022-3	
		/D23 H2023-3	
		/D24 H2024-3	

 Discount Symbol **1CD1C**

Modification Codes

Table 33-61. K — MVX Keypad

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Keypad (MVX)	K1	Door-Mounted AFD Keypad (Type 1 and 12)	
	K2	Door-Mounted AFD Keypad (Type 3R)	
	K3	AFD Copy Keypad (mounted on drive)	
	K4	Door-Mounted AFD Copy Keypad (Type 1 and 12)	
	K5	Door-Mounted AFD Copy Keypad (Type 3R)	

Table 33-62. L — Lightning Arrestor, Lugs, Labels, Line and Load Reactors, Lighting Contactors

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Lighting Arrestor	L3	Installed on Panel	
Lugs	L9	Special Lugs — Order by Description	
Carton Label	L10	Customer Marking — Specify	
Line Reactors (MVX)	L12	3% Input Line Reactor, 3-Phase, Open Core and Coil ①	
		240V 1/2 hp 1 hp 2 hp 3 hp 5 hp	
		U.S. \$	
	L13	3% Input Line Reactor, 1-Phase, Open Core and Coil ①	
		480V 1/2 hp 1 hp 2 hp 3 hp	
		U.S. \$	
	L14	5% Input Line Reactor, 3-Phase, Open Core and Coil ①	
		240V 1/2 hp 1 hp 2 hp 3 hp 5 hp	
		U.S. \$	
	L15	5% Input Line Reactor, 1-Phase, Open Core and Coil ①	
		480V 1/2 hp 1 hp 2 hp 3 hp	
		U.S. \$	
	L16	Line Reactor — Order by Description	
Load Reactors (MVX)	L17	Output Line DV/DT Filter, Open Core and Coil ②	
		480V 1/2 hp 1 hp 2 hp 3 hp 5 hp	
	L18	Load Reactor — Order by Description	

① If the power source exceeds 500 kVA, 3% line unbalance, or if transient voltages from power factor capacitor switching events are present, an input line reactor must be used. The input line reactor will also reduce line current harmonics.

② The output line DV/DT filter is required when the distance from the drive to the motor exceeds 33 feet (10m). The total cable run should not exceed 165 feet (50m).

Table 33-62. L — Lightning Arrestor, Lugs, Labels, Line and Load Reactors, Lighting Contactors (Continued)

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Lighting Contactors	L21	1 NC Pole	
	L22	2 NC Pole	
	L23	3 NC Pole	
	L24	4 NC Pole	
	L25	5 NC Pole	
	L26	6 NC Pole	
	L27	7 NC Pole	
	L28	8 NC Pole	
	L29A	3-Wire 120V AC	
	L29B	3-Wire 240V AC	
	L29C	3-Wire 24V AC	
	L29D	3-Wire 24V DC	
	L29E	2-Wire 120V AC	
	L29F	2-Wire 240V AC	
	L29G	2-Wire 24V AC	

Table 33-63. M — Solid-State Controllers

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Solid-State Controller	M1	S701 3.5A Solid-State Controller	
	M2	S701 15A Solid-State Controller	
	M3	S701 25 Solid-State Controller	
	M4	S701 25A with DB Solid-State Controller	
	M5	Torque Limiter 15A	
	M6	Torque Limiter 25A	

Table 33-64. N — Nameplates

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Nameplates	N1	Enclosure Nameplates	

Modification Codes
Table 33-65. P — Pilot Lights, Pushbuttons, Phase Relays, Potential Transformers, Power Factor Correction Capacitors, Program Timer, Percentage Timer, Photocell

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Push-to-Test Pilot Lights	P1	Push-to-Test Pilot Light (Red RUN) Wired to Coil	
	P2	Push-to-Test Pilot Light (Green OFF) Wired in Series with Auxiliary Contact	
	P3	Combination of P1 and P2 Above	
	P4	Push-to-Test Pilot Light (Amber RUN) Wired to Coil	
	P49	Push-to-Test Pilot Light (Green RUN)	
	P54 ①	Push-to-Test Pilot Light — Red BYPASS (MVX)	
	P55 ①	Push-to-Test Pilot Light — Amber INVERTER ENABLE (MVX)	
	P56 ①	Push-to-Test Pilot Light — Red INVERTER RUNNING (MVX)	
	P57	Push-to-Test Pilot Light — Green STOP	
Pushbuttons	P5	EMERGENCY STOP — Mushroom Head	
	P6 ①	Pushbutton Omitted	
	P7	START/STOP	
	P8	ON/OFF	
	P9	START	
	P10	ON	
	P11	OFF	
	P12 ①	FORWARD/REVERSE/STOP	
	P13 ①	FAST/SLOW/STOP	
	P14 ①	FAST/OFF/SLOW	
	P15 ①	HIGH/LOW/STOP	
	P16 ①	HIGH/LOW	
	P17 ①	SLOW/FAST	
	P18 ①	Pushbutton with Legend Plate	
	P52	UP/STOP/DOWN	
	P53	OPEN/STOP/CLOSE	
	P73	START/STOP Pushbuttons Located in Top 2 Holes	
Pilot Lights	P19	With 1 Amber Pilot Light Marked POWER AVAILABLE Wired to Load Side of 2 Fuses or Circuit Breaker	
	P20	Pilot Light (Amber RUN) Wired to Coil	
	P21 ①	With 1 Red Pilot Light Marked RUN Wired thru NO Auxiliary Contact	
	P22 ①	With 1 Push-to-Test Red Light Marked RUN Wired thru NO Auxiliary Contact	
	P23	Pilot Light — Red RUN	
	P24	Pilot Light — Red ON	
	P25	Pilot Light — Green OFF	
	P26	Pilot Light — Order by Description	
	P29	Pilot Light — Red STOP	

 ① Not available for **IT**. Starters.

Table 33-65. P — Pilot Lights, Pushbuttons, Phase Relays, Potential Transformers, Power Factor Correction Capacitors, Program Timer, Percentage Timer, Photocell (Continued)

Modification	Catalog Number Suffix	Description	Adder U.S. \$																								
Pilot Lights (Continued)	P58	Pilot Light — Red BYPASS (MVX)																									
	P59 ②	Pilot Light — Amber INVERTER ENABLE (MVX)																									
	P60 ②	Pilot Light — Red INVERTER RUNNING (MVX)																									
	P61	Pilot Light — Green STOP																									
	P62 ②	FORWARD/REVERSE Red Pilot Lights																									
	P63 ②	UP/DOWN Red Pilot Lights																									
	P64 ②	OPEN/CLOSE Red Pilot Lights																									
	P65 ②	HIGH/LOW Red Pilot Lights																									
	P66 ②	FAST/SLOW Red Pilot Lights																									
	P67	Green RUN Light																									
	P68	LED Bulbs																									
	P69	Blue OVERLOAD Light																									
Illuminated Pushbutton	P27	Illuminated Pushbutton — Order by Description																									
Phase Loss Relay	P28	Phase Loss Relay																									
Phase Reversal Relay	P30	Phase Reversal Relay																									
Phase Unbalance Relay	P32	Phase Unbalance Relay																									
Phase Monitoring Relay	P34	Phase Monitoring Relay																									
Power Factor Correction Capacitors	P38	<table><tr><td>/F1 20KVAR</td><td>/F9 70KVAR</td><td>/F17 200KVAR</td></tr><tr><td>/F2 25KVAR</td><td>/F10 75KVAR</td><td>/F18 225KVAR</td></tr><tr><td>/F3 30KVAR</td><td>/F11 80KVAR</td><td>/F19 250KVAR</td></tr><tr><td>/F4 35KVAR</td><td>/F12 90KVAR</td><td>/F20 300KVAR</td></tr><tr><td>/F5 40KVAR</td><td>/F13 100KVAR</td><td>/F21 350KVAR</td></tr><tr><td>/F6 45KVAR</td><td>/F14 125KVAR</td><td>/F22 400KVAR</td></tr><tr><td>/F7 50KVAR</td><td>/F15 150KVAR</td><td></td></tr><tr><td>/F8 60KVAR</td><td>/F16 175KVAR</td><td></td></tr></table>	/F1 20KVAR	/F9 70KVAR	/F17 200KVAR	/F2 25KVAR	/F10 75KVAR	/F18 225KVAR	/F3 30KVAR	/F11 80KVAR	/F19 250KVAR	/F4 35KVAR	/F12 90KVAR	/F20 300KVAR	/F5 40KVAR	/F13 100KVAR	/F21 350KVAR	/F6 45KVAR	/F14 125KVAR	/F22 400KVAR	/F7 50KVAR	/F15 150KVAR		/F8 60KVAR	/F16 175KVAR		
/F1 20KVAR	/F9 70KVAR	/F17 200KVAR																									
/F2 25KVAR	/F10 75KVAR	/F18 225KVAR																									
/F3 30KVAR	/F11 80KVAR	/F19 250KVAR																									
/F4 35KVAR	/F12 90KVAR	/F20 300KVAR																									
/F5 40KVAR	/F13 100KVAR	/F21 350KVAR																									
/F6 45KVAR	/F14 125KVAR	/F22 400KVAR																									
/F7 50KVAR	/F15 150KVAR																										
/F8 60KVAR	/F16 175KVAR																										
Potential Trans-formers	P39 ②	Potential Transformer — Wired L1 – L2																									
	P40 ②	Potential Transformer — Wired L1– L2 and L2 – L3																									
	P41 ②	Potential Transformer — 3 Phases																									
Pump Controller	P42	Pump Controller for <i>IT</i> .																									
Program Timers	P43	15-Minute Program Timer																									
	P44	24-Hour Program Timer																									
	P45	7-Day Program Timer with Day Omission Feature																									
Percentage Timers	P47	15-Minute Percentage Timer																									
	P48	60-Minute Percentage Timer																									
Photocell	P70 ②	Photoelectric Receptacle with Photocell																									

 ② Not available for **IT**. Starters.

Modification Codes

Table 33-66. Q — IQ Products, DN50

Modification	Catalog Number Suffix	Description	Adder U.S. \$
IQ Products	Q14	IQ 220 with cable	
	Q1	IQ 500	
	Q3	MP3000	
	Q5	IQ 4000	
IQ Data Metering Module	Q12 ①	IQ Data Metering Module	
	Q14	IQ 220 with Cable	
DN50	Q13 ①	DeviceNet Input/Output Module	

① Not available for /T. Starters.

Table 33-67. R — Ramp, Relays, Resets, Overload Relay Modifications, DeviceNet Interface

Modification	Catalog Number Suffix	Description	Adder U.S. \$				
Ramp	R1	Extended Ramp of <i>IT</i> .					
Relay ②	R2	Overvoltage Relay					
	R4	Omit Overload Relay (Deduct Price)					
		00 – 0 A – F	1 G – H	2 J – K	3 L – M	4 N	5 – 9 P – S
		R7	Overload Relay — Order by Description				
Fixed Heater Overload Relay	R8	C316FNA3C	.25 – .40A				
	R9	C316FNA3D	.40 – .63A				
	R10	C316FNA3E	.63 – 1.00A				
	R11	C316FNA3F	1.00 – 1.40A				
	R12	C316FNA3G	1.30 – 1.80A				
	R13	C316FNA3H	1.70 – 2.40A				
	R14	C316FNA3J	2.20 – 3.10A				
	R15	C316FNA3K	2.80 – 4.00A				
	R16	C316FNA3L	3.50 – 5.00A				
	R17	C316FNA3M	4.50 – 6.50A				
	R18	C316FNA3N	6.00 – 8.50A				
	R19	C316FNA3P	7.50 – 11.00A				
	R20	C316FNA3Q	10.00 – 14.00A				
	R21	C316FNA3R	13.00 – 19.00A				
	R22	C316FNA3S	18.00 – 24.00A				
	R23	C316FNA3T	24.00 – 32.00A				
	R24	C316KNA3A	18.00 – 25.00A				
	R25	C316KNA3B	22.00 – 32.00A				
	R26	C316KNA3C	29.00 – 42.00A				
	R27	C316KNA3D	36.00 – 52.00A				
	R28	C316KNA3E	45.00 – 63.00A				
	R29	C316KNA3F	60.00 – 80.00A				
	R30	C316PNA3A	65.00 – 90.00A				
	R31	C316PNA3B	80.00 – 100.00A				
	R32	C316PNA3C	100.00 – 135.00A				
	R33	C316PNA3D	110.00 – 150.00A				
	R34	C316PNA3E	130.00 – 175.00A				
	R35	C316PNA3F	150.00 – 200.00A				
	R36	C316SNA3A	130.00 – 185.00A				
	R37	C316SNA3B	165.00 – 235.00A				
	R38	C316SNA3C	220.00 – 310.00A				
	R39	C316SNA3D	285.00 – 400.00A				

② Not available for /T. Starters.

Table 33-67. R — Ramp, Relays, Resets, Overload Relay Modifications, DeviceNet Interface (Continued)

Modification	Catalog Number Suffix	Description						Adder U.S. \$
Fixed Heater Overload Relay, continued	R40	C316UNA3A	355.00 – 500.00A					
	R41	C316UNA3B	465.00 – 650.00A					
	R42	C316UNA3C	610.00 – 850.00A					
	R43	Fixed Heater Overload Relay — Order by Description						
	R55	C316FNA3F w/Current Trans.	60.00 – 84.00 FLA					
	R56	C316FNA3G w/Current Trans.	78.00 – 108.00 FLA					
	R57	C316FNA3H w/Current Trans.	102.00 – 144.00 FLA					
	R58	C316FNA3J w/Current Trans.	132.00 – 186.00 FLA					
	R59	C316FNA3K w/Current Trans-former	168.00 – 240.00 FLA					
	R60	C316FNA3L w/Current Trans-former	210.00 – 310.00 FLA					
Electronic Relay ④	IEC Frame	NEMA Size	Full Load Current Adjustment Range (A)	3-Phase Manual Reset Overload		3-Phase Automatic/ Manual Reset		
				Class 10	Class 20	Class 10	Class 20	
	A	00	0.1 – 0.3	G101	G81	G141	G121	
	A		0.3 – 1.0	G102	G82	G142	G122	
	A		1.0 – 2.9	G103	G83	G143	G123	
	A		1.6 – 5.0	G104	G84	G144	G124	
	A,B,C		3.7 – 12	G105	G85	G145	G125	
	A	0 & 1	0.1 – 0.3	G101	G81	G141	G121	
	A		0.3 – 1.0	G102	G82	G142	G122	
	A		1.0 – 2.9	G103	G83	G143	G123	
	A		1.6 – 5.0	G104	G84	G144	G124	
	A,B,C		3.7 – 12	G105	G85	G145	G125	
	D,E		12 – 32	G106	G86	G146	G126	
	D,E,F,H	2	12 – 37	G107	G87	G147	G127	
	G,H		14 – 45	G108	G88	G148	G128	
	G,H,J,K,L	3	26 – 85	G109	G89	G149	G129	
	M,N,L	4	57 – 180	G112	G92	G152	G132	
	N/A	5	96 – 300	G104	G84	G144	G124	
	N/A	6	192 – 600	G104	G84	G144	G124	
Catalog Number Suffix ➡ ⑤			R52_	R50_	R53_	R51_		
Adder U.S. \$								
Resets ③	R5	Change External Reset to Internal Reset — Hole Covered with Plug						N/C
	R6	Internal Reset — No Hole Plug						N/C
	R44	Manual Reset Only on Overload Relay						
	R45	Auto Reset Only on Overload Relay						
	R71	N3R Reset Boot Added (Type 1/12 Only)						
Reversing ③	R54	Reversing Contactor/Starter						
DeviceNet Interface	R69	DeviceNet Interface						

③ Not available for /T. Starters.

④ Features:

- Self-Powered
- Phase Loss Protection
- Current Adjustment Knob
- ± 1% Repeat Accuracy
- 1NO and 1NC Isolated Contacts

⑤ Complete Modification Code includes reset code. Example **R52/G102**.

Modification Codes
Table 33-68. S — System Voltage, Selector Switches, Suppressor, Incomplete Sequence Protection, Single-Phase Jumper, Surge Capacitor, Speed Potentiometer

Modification	Catalog Number Suffix	Description	Adder U.S. \$
System Voltage Selection	S1	System Voltage Selection for Internal Components	
		/H1 208V 60 Hz	
		/H2 240V 60 Hz	
		/H3 277V 60 Hz, 1-Ph	
		/H4 480V 60 Hz	
		/H5 600V 60 Hz	
		/H6 796V 60 Hz	
		/H7 220V 50 Hz	
		/H8 380V 50 Hz	
		/H9 415V 50 Hz	
		/H10 550V 50 Hz	
		/H11 660V 50 Hz	
		/H12 380V 60 Hz	
		/H13 1500V 60 Hz	
Selector Switches ^①	S2	System Voltage Selection — Specify on Order	
	S3	HAND/OFF/AUTO	
	S4	HAND/AUTO	
	S5	HAND/OFF/AUTO Selector Switch with 1 Red RUN Pilot Light	
	S6	RUN/OFF/AUTO	
	S7	AUTO/OFF/TEST	
	S8	AUTO/OFF/TEST Selector Switch with 1 Red RUN Pilot Light	
	S9	AUTO/OFF/TEST Selector Switch with 1 Red RUN Pilot Light and 1 Green Pilot Light	
	S10	OFF/AUTO	
	S11	START/STOP	
	S12	OFF/ON	
	S13 ^②	HIGH/LOW	
	S14 ^②	FAST/OFF/SLOW	
	S15 ^②	SLOW/FAST	
	S16 ^②	FORWARD/REVERSE	
	S17 ^②	HIGH/OFF/LOW	
	S18 ^②	HIGH/LOW/OFF/AUTO	
	S21	HAND/OFF/AUTO Spring Return from Left	
	S38 ^②	INVERTER/OFF/BYPASS (MVX)	
	S41 ^②	OPEN/OFF/CLOSE	
	S42 ^②	FORWARD/OFF/REVERSE	
	S43 ^②	FAST/OFF/SLOW/AUTO	
	S45	LOCAL/REMOTE	
	S46	RUN/OFF	
	S19 ^②	Selector Switch Omitted (Pump Panels Only)	
	S40	Selector Switch — Order by Description	
Suppressor	S24 ^②	Transient Suppressor Mounted on Magnet Coil	

^① When using 3-position selector switch with magnetic lighting contactor, mod **C20** must also be used (ECL04, ECL13, ECL15).

^② Not available for **IT**. Starters.

Table 33-68. S — System Voltage, Selector Switches, Suppressor, Incomplete Sequence Protection, Single-Phase Jumper, Surge Capacitor, Speed Potentiometer (Continued)

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Surge Suppression	S20	MOV (IT)	
Sequence Timer	S26 ^③	Sequence Timer (Pump Panels)	
Sequence Protection	S27 ^③	Incomplete Sequence Protection	
Pump	S28	480V BP9000 Pump	
Single Phase ^③	S29	Convert Contactor or Starter from Three-Phase to Single-Phase — Install Jumper	
	S30	Single-Phase Rev. 120V	
	S31	Single-Phase Rev. 240V	
Surge Capacitor	S37 ^③	Surge Capacitor Wired to Disconnect Line Side	
Speed Potentiometer	S39 ^③	Speed Potentiometer (MVX)	

^③ Not available for **IT**. Starters.

Modification Codes

Table 33-69. T — Timers, Time Delay Relays, Terminal Blocks, Terminal Points, Ring Lug Connections

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Timers	T1 ①	Pneumatic Timer Installed on Contactor, Unwired, 30 Sec. Max.	
	T2 ①	Pneumatic Timer Installed on Contactor, Unwired, 180 Sec. Max.	
	T3	Pneumatic Timer Mounted in Enclosure, Unwired, 180 Sec. Max.	
	T25	Timer — Order by Description	
Time Delay Relays	T6	Time Delay Relay, 3 Minutes Maximum, Unwired, ON DELAY	
	T7	Time Delay Relay, 3 Minutes Maximum, Unwired, OFF DELAY	
	T8	Time Delay Low Voltage Release Relay	
Terminal Blocks	T9	With 1 Single Circuit Terminal Block, Unwired	
	T10	With 2 Single Circuit Terminal Block, Unwired	
	T24 ①	Power Terminal Block for DeviceNet Overload	
Terminal Points	T11	With 6 Terminal Points, Unwired	
	T12	With 12 Terminal Points, Unwired	
	T13	With 18 Terminal Points, Unwired	
	T14	Terminal Point per Customer Specification, Unwired (Price Each)	
	T15	Terminal Point per Customer Specification, Wired (Price Each)	
	T21 ①	3 Terminals Mounted Between Contactor and Overload for Power Factor Capacitors — Sizes 0 – 2	
	T22 ①	3 Terminals Mounted Between Contactor and Overload for Power Factor Capacitors — Sizes 3 – 4	
	T23 ①	Quick-Connect Terminals Added to DP Contactor/Starter	
Ring Lug Connectors	T16	Ring Lug Connections on Power Wires	
	T17 ①	Ring Lug Connections on Control Wires	
/T./EM	T30	Reset Only	
	T31	STOP with Reset	
	T32	START/STOP with Reset	
	T33A	HAND/OFF/AUTO with Reset 120V AC	
	T33D	HAND/OFF/AUTO with Reset 24V DC	
	T34	ON/OFF	
	T40	Reset Only (DeviceNet)	
	T41	STOP with Reset (DeviceNet)	
	T42	START/STOP with Reset (DeviceNet)	
	T43A	HAND/OFF/AUTO with Reset 120V AC (DeviceNet)	
	T43D	HAND/OFF/AUTO with Reset 24V DC (DeviceNet)	
	T44	ON/OFF	
	T50	Reset Only	
	T51	STOP with Reset	
	T52	FORWARD/REVERSE/STOP with Reset	
	T53A	FORWARD/REVERSE/STOP with Reset 120V AC	
	T53D	FORWARD/REVERSE/STOP with Reset 24V DC	
	T54	ON/OFF	

① Not available for /T. Starters.

Table 33-69. T — Timers, Time Delay Relays, Terminal Blocks, Terminal Points, Ring Lug Connections (Continued)

Modification	Catalog Number Suffix	Description	Adder U.S. \$
/T./EM, continued	T60	Reset Only (DeviceNet)	
	T61	STOP with Reset (DeviceNet)	
	T62	FORWARD/REVERSE/STOP with Reset (DeviceNet)	
	T63A	FORWARD/REVERSE/STOP with Reset 120V AC (DeviceNet)	
	T63D	FORWARD/REVERSE/STOP with Reset 24V DC (DeviceNet)	
	T64	ON/OFF	
	T70	Reset Only	
	T71	START/STOP with Reset	
	T72	HAND/OFF/AUTO – START with Reset	
	T73	FORWARD/REVERSE/STOP with Reset	
	T74	HAND/OFF/AUTO – FORWARD/REVERSE with Reset	
	T75	ON/OFF with Reset	
	T76	FAST/SLOW/STOP with Reset	
	T77	HAND/OFF/AUTO – FAST/SLOW with Reset	

Modification Codes
Table 33-70. U — Undervoltage Relay, Time Delay Undervoltage Relay

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Undervoltage Relays	U2	Undervoltage Relay, Adjustable	
Time Delay Undervoltage Relays	U4 ①	Time Delay Undervoltage Relay, Non-adjustable	
	U5	Time Delay Undervoltage Relay, Adjustable	
Under- and Overvoltage Relay	U7	Under- and Overvoltage Relay	

 ① Not available for **IT** Starters.

Table 33-71. V — Voltmeter

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Voltsmeters	V1	1 Panel Type Voltmeter Wired L1 – L2	
	V2	Panel Type Voltmeter and Selector Switch Wired to Read Three Line Voltages	
	V3 ②	Miniature Voltmeter Wired L1 – L2	
	V4 ②	Miniature Voltmeter and Selector Switch Wired to Read Three Line Voltages	
	V5	Switchboard Type Voltmeter Wired L1 – L2	
	V6 ②	Switchboard Type Voltmeter and Selector Switch Wired to Read Three Line Voltage	
	V7	3 Panel Type Voltmeters Wired in Each Phase	
	V8 ②	3 Miniature Voltmeters Wired in Each Phase	
	V9	3 Switchboard Type Voltmeters Wired in Each Phase	
	V10	Voltmeter — Order by Description	

② Type 1/12 only.

Table 33-72. W — Wattmeter, Watt-Hour Meter, Wiremarkers, Wiring Diagram

Modification	Catalog Number Suffix	Description	Adder U.S. \$
Wattmeter ③	W1	Wattmeter	
Watt-Hour Meter ③	W5	Watt-Hour Meter with Demand Attachment	
Wiremarkers	W7	Wiremarkers	
	W8	Wiremarkers — Order per Customer Diagram or Specifications	
	W9	Wiremarkers — Order by Description	
WYE-Delta hp	W10	See <i>Enclosed Control Product Guide</i>	
Wiring Diagram	W12	Reduced Copy of Custom Wiring Diagram Laminated on Inside of Door	

③ Type 1/12 only.