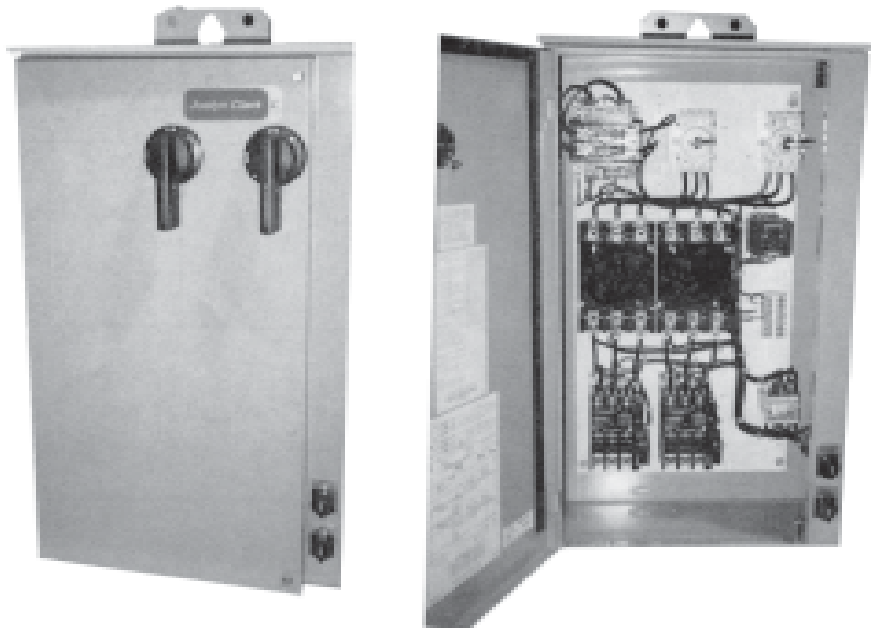


Description	Page Number
Duplex and Triplex Pump Controllers	E2
Pump Modifications	E3
Numbering System	E4



E

General Application

Joslyn Clark Duplex and Triplex Controllers may be specified with a wide variety of modifications to meet the following application requirements:

- Water Booster Systems
- Condenser Water Recirculation
- Chilled Water Recirculation
- Heat Transfer
- Boiler Feed
- Cooling Tower
- Sump Pump
- Sewage Pumps
- Air Compressors
- Fish Farm Ponds

Standard Equipment

All Standard Three Phase Controllers include the following:

- Heavy gauge steel enclosure, NEMA Type 2 Drip-Proof construction
- Corrosion resistant gray baked enamel offers superior resistance to the damp corrosive environment of pump rooms
- Single disconnect switch with separate power fuse blocks for each starter
- Two or Three Disconnect Switch types also available
- Two Duplex or Three Triplex NEMA Starters with overload heaters for each pump motor
- Control transformer with primary and secondary fuses
- Hand-Off-Automatic selector switch for each starter

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As standard all 3 phase controllers include transformer and H-O-A selector switch for each starter.

Duplex Controller with Single Disconnect Switch & Two sets of Fuse Blocks

NEMA Starters					
NEMA Cont. Size	Maximum Horsepower Rating 200V/230V		Fuse Clips Amp Rating	NEMA Type 2 Enclosure Catalog No.	Price
0	3	3	30	DSNE00BE3203- *	\$2420.
1	5	7½	30	DSNE10BE3203- *	2520.
1	7½	7½	60	DSNE10BE3203- *	2700.
2	10	15	60	DSNE20BE3203- *	2880.
3	25	30	100	DSNE30BE3203- *	6560.
460-575V					
0	5		30	DSNE00BE3603- *	\$2480.
1	10		30	DSNE10BE3603- *	2580.
2	15		30	DSNE20BE3603- *	2760.
2	25		60	DSNE20BE3606- *	2920.
3	50		100	DSNE30BE3601- *	6560.

Duplex Controller with Two Disconnect Switches & Two sets of Fuse Blocks

NEMA Starters					
NEMA Cont. Size	Maximum Horsepower Rating 200V/230V		Fuse Clips Amp Rating	NEMA Type 2 Enclosure Catalog No.	Price
0	3	3	30	DDNE00BE3203- *	\$2760.
1	5	7½	30	DDNE10BE3203- *	2820.
1	7½	7½	60	DDNE10BE3206- *	3200.
2	10	15	60	DDNE20BE3206- *	3360.
3	25	30	100	DDNE30BE3201- *	7720.
4	40	50	200	DDNE40BE3202- *	10300.
460-575V					
0	5		30	DDNE00BE3603- *	\$2820.
1	10		30	DDNE10BE3603- *	2880.
2	15		30	DDNE20BE3603- *	3260.
2	25		60	DDNE20BE3606- *	2920.
3	50		100	DDNE30BE3601- *	7720.
4	100		200	DDNE40BE3602- *	10300.

Triplex Controller with Single Disconnect Switch & Three sets of Fuse Blocks

NEMA Starters					
NEMA Cont. Size	Maximum Horsepower Rating 200V/230V		Fuse Clips Amp Rating	NEMA Type 2 Enclosure Catalog No.	Price
0	3	3	30	TSNE00BE3203- *	\$3020.
1	5	7½	30	TSNE10BE3203- *	3780.
1	7½	7½	60	TSNE10BE3206- *	3900.
2	10	15	60	TSNE20BE3206- *	4080.
460-575V					
0	5		30	TSNE00BE3603- *	\$3100.
1	10		30	TSNE10BE3603- *	3860.
2	15		30	TSNE20BE3603- *	3980.
2	25		60	TSNE20BE3606- *	4140.

Triplex Controller with Three Disconnect Switches & Three sets of Fuse Blocks

NEMA Starters					
NEMA Cont. Size	Maximum Horsepower Rating 200V/230V		Fuse Clips Amp Rating	NEMA Type 2 Enclosure Catalog No.	Price
0	3	3	30	TTNE00BE3203- *	\$3620.
1	5	7½	30	TTNE10BE3203- *	4380.
1	7½	7½	60	TTNE10BE3206- *	4700.
2	10	15	60	TTNE20BE3206- *	4880.
460-575V					
0	5		30	TTNE00BE3603- *	\$3700.
1	10		30	TTNE10BE3603- *	4460.
2	15		30	TTNE20BE3603- *	4780.
2	25		60	TTNE20BE3606- *	4940.

Note: For circuit breaker in place of switch, add \$84.00 list per switch.

For circuit breaker in place of power fuse block, add \$160.00 list per block.

Ordering Information

- Select Catalog Number and Price for largest Motor HP size. If different HP sizes are required Specify with modification "S" from page E3.
Pump Controllers include heaters for NEMA Starters
- When ordering specify each motor full load amps, HP and Voltage for correct selection of motor overload protection.
Use complete catalog number. Replace the (*) with the suffix from coil table.

Coil Table

Voltage/Hertz	Suffix
220-240/60 or 220/50	- T26
440-480/60 or 440/50	- T46
550-600/60 or 550/50	- T56
200-208/60	- T86

Enclosure	Duplex Price	Triplex Price	Change Letter To:	Typical Catalog Number
Type 2 Enclosure - Standard	\$N/C	\$N/C	A	
Type 3R Enclosure	300.	400.	R	
Type 3R Double Door Enclosure	CF	CF	D	
Type 12 Enclosure	300.	400.	T	
Type 4 Stainless Steel	CF	CF	W	
Type 4 Painted Steel	CF	CF	P	
Type 4 Painted Steel With Double Door	CF	CF	S	
Cover Controls For Each Starter				DS NE 20 A E 3 6 0 -T 46 ---
Internal O/L Reset Only	\$N/C	\$N/C	O	
H-O-A With Internal O/L Reset - Standard	N/C	N/C	E	
H-O-A With External O/L Reset	120.	180.	B	
Start-Stop PB'S Internal O/L Reset	200.	300.	F	
Start-Stop PB'S W/External O/L Reset	320.	480.	C	
Modifications				
Duplex Alternating Relay	\$400.	----	A	
Triplex Alternating Relay Pumps 1 & 2 Only	-----	\$400.	A1	
Triplex Alternating Relay Pumps 2 & 3 Only	-----	400.	A2	
24 Hour Alternation	400.	960.	A3	
Manual Alternation Selector Switch	160.	560.	A4	
Min. Run Timer All Pumps	560.	840.	B	
Min. Run Timer Pump 1	280.	280.	B1	
Min. Run Timer Pump 2	280.	280.	B2	
Min. Run Timer Pump 3	-----	280.	B3	
Time Delay Start All Pumps	560.	840.	C	
Time Delay Start In Auto Pump 1	280.	280.	C1	
Time Delay Start In Auto Pump 2	280.	280.	C2	
Time Delay Start In Auto Pump 3	-----	280.	C3	
Off Delay Timer All Pumps	560.	840.	D	
Off Delay Timer Pump 1	280.	280.	D1	
Off Delay Timer Pump 2	280.	280.	D2	
Off Delay Timer Pump 3	-----	280.	D3	
Elapsed Time Meter For Each Pump Running	400.	600.	E	
Mounting Feet 12"	200.	200.	F1	
Audible & Visible Alarm With Silencing Circuit	600.	600.	H1	
- Signal Source Separate				
Timer For Delayed Alarm Activation	280.	280.	J	
- Specify Alarm To Be Delayed				
Surge Arrester	400.	400.	K	
Light - Power On	140.	140.	L1	
Light - Pump Run For Each Pump	280.	420.	L2	
Light High Water Level	140.	140.	L3	
Light Low Water Level	140.	140.	L4	
Light - Specify Function	140.	140.	L5	
N.O. Pump Run Contacts	200.	300.	M	
Power Fuses	CF	CF	P1	
4 Pole Relay - Specify Function	400.	400.	R1	
Alternate Starter Sizes				
Alternate Starter Size For Pump 1	N/C	N/C	S1 *	
Alternate Starter Size For Pump 2	N/C	N/C	S2 *	
Alternate Starter Size For Pump 3	N/C	N/C	S3 *	
Pressure Switches Mounted On Outside Of Enclosure				
5-150 PSI, Bourdon Type	500.	500.	T1	
10-200 PSI, Bourdon Type	500.	500.	T2	
10-300 PSI, Bourdon Type	500.	500.	T3	
18-116 PSI Diaphragm Type	400.	400.	T4	
15-232 PSI Diaphragm Type	400.	400.	T5	
2-60 PSI, For Low Suction Alarm	500.	500.	T6	

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CF = Consult Factory * Specify Contactor size for a Duplex Pump (ie: S220=pump 1 NEMA size 1)

Duplex & Triplex Pump Control Catalog Numbering

DS = Duplex Single Switch 2 Fuse Blocks
 DD = Duplex Double Switch 2 Fuse Blocks
 DO = Duplex No Switch or Fuse Block (Non-Combination)
 TS = Triplex Single Switch 3 Fuse Blocks
 TD = Triplex Double Switch 3 Fuse Blocks
 TT = Triplex Three Switch 3 Fuse Blocks
 SS = Simplex Switch & Fuse Block

NE = NEMA Starters - HP Sizes 0-2
 TM Size 3 & 4

B = Type 2 Enclosure
 R = Type 3R Enclosure
 D = Type 3R Double Door Enc.
 T = Type 12 enclosure
 W = Type 4 Stainless Steel
 P = Type 4 Painted Steel
 S = Type 4 Painted Steel With Double Door

A = Alternating Relay
 A1 = Triplex Alternating Relay Pumps 1 & 2 Only
 A2 = Triplex Alternating Relay Pumps 2 & 3 Only
 A3 = 24 Hour Alternating Relay
 A4 = Manual Alternation Selector Switch
 B = Min. Run Timer All Pumps
 B1 = Min. Run Timer Pump 1
 B2 = Min. Run Timer Pump 2
 B3 = Min. Run Timer Pump 3
 C = Time Delay Start In Auto All Pumps
 C1 = Time Delay Start In Auto Pump 1
 C2 = Time Delay Start In Auto Pump 2
 C3 = Time Delay Start In Auto Pump 3
 D = Off Delay Timer All Pumps
 D1 = Off Delay Timer Pump 1
 D2 = Off Delay Timer Pump 2
 D3 = Off Delay Timer Pump 3
 E = Elapsed Time Meter for each Pump Running
 F1 = Mounting Feet 12"
 H1 = Audible & Visible Alarm With Silencing Circuit - Signal Source Separate

J = Timer For Delayed Alarm Activation - Specify Alarm To Be Delayed
 K = Surge Arrestor
 L1 = Light - Power On
 L2 = Light - Pump Run For Each Pump
 L3 = Light High Water Level
 L4 = Light Low Water Level
 L5 = Light - Specify Function
 M = N.O. Pump Run Contacts
 P1 = Power Fuses
 R1 = 4 Pole Relay - Specify Function
 S1* = Alternate Starter Size For Pump 1
 S2* = Alternate Starter Size For Pump 2
 S3* = Alternate Starter Size For Pump 3

Pressure Switches Mounted

On Outside Of Enclosure
 T1 = 5-150 PSI, Bourdon Type
 T2 = 10-200 PSI, Bourdon Type
 T3 = 10-300 PSI, Bourdon Type
 T4 = 18-116 PSI Diaphragm Type
 T5 = 15-232 PSI Diaphragm Type
 T6 = 2-60 PSI, For Low Suction Alarm

* Specify Contactor Size after modification
 ie: S110=Pump 1 NEMA Size 1, S212 Pump 2 CL01

DS NE 20 R E 3 6 03 -T46 A D - 20/460

Contactors Sizes *

05 = HP05 Starter
 10 = HP10 Starter
 25 = HP25 Starter
 30 = TM3 Starter
 40 = TM4 Starter

3 = 3 Phase
 2 = Single Phase

1 = 120 Volt Rating
 2 = 250 Volt Rating
 6 = 600 Volt Rating

Transformer and Voltage Code Suffix refer to Page C9.

Horse Power / Voltage

Cover Controls

O = Internal O/L Reset Only
 E = H-O-A Internal O/L Reset
 B = H-O-A with External O/L Reset
 F = Start-Stop PB'S Internal O/L Reset
 C = Start-Stop PB'S W/External O/L Reset

Fuse Clip Size

Fuse Clip	Class R Fuse Clip
03 - 30 ampere	93 - 30 ampere
06 - 60 ampere	96 - 60 ampere
Class J Fuse Clip	No number or
13 - 30 ampere	00 - no clips
16 - 60 ampere	

Ordering Information

- As standard all 3 phase controllers include transformer and H-O-A selector switch for each starter.
- Select Catalog Number and Price for largest Motor HP size. If different HP sizes are required specify with modification "S" to change starter size.
- Pump Controllers include heaters for NEMA Starters
 When ordering specify each motor full load amps, HP and Voltage for correct selection of motor overload protection.
 Complete Cat. No. by including HP & Voltage at the end.