



Submittal Data Information

301-2693

TDX - Taco Duplex Starter

EFFECTIVE: NOVEMBER 3, 2014

SUPERSEDES: NEW

JOB _____ ENGINEER _____

CONTRACTOR _____ REP. _____

ITEM NO. _____



TDX - TACO DUPLEX STARTER

1Ø, 230V, 1/10-15HP

3Ø, 200-460V, 1/2-60HP

⏻ SMARTSTART® Technology protection

FEATURES

Alternating control to extend pump life

- HOA switch and manual pump selection switch for flexible operation
- Optional alternating control by relay, 24-hour timer, or 7-day clock

Integrated ⏻ SMARTSTART® electronic pump protection

- Enhanced Class 10 electronic overload
- Specifically designed protection for pumps
- Built-in 1.15 service factor compensation
- Underload (dry-run protection)
- Current phase unbalance protection
- Cycle fault protection
- Locked rotor and stall protection
- Out of calibration
- Detects if overload FLA dial is improperly set

Multi-voltage operating range with automation I/O

- Accepts 200-600 VAC directly, true plug and play
- Includes a dry contact auto-run input and fault relay output

Industrial grade construction

- Door mounted heavy-duty HOA switch
- Housed in an outdoor rated, gasketed, NEMA 3R enclosure
- NEMA/IEC rated magnetic contactors feature 2.5 million electrical cycles at full rated current

Include MCP disconnect

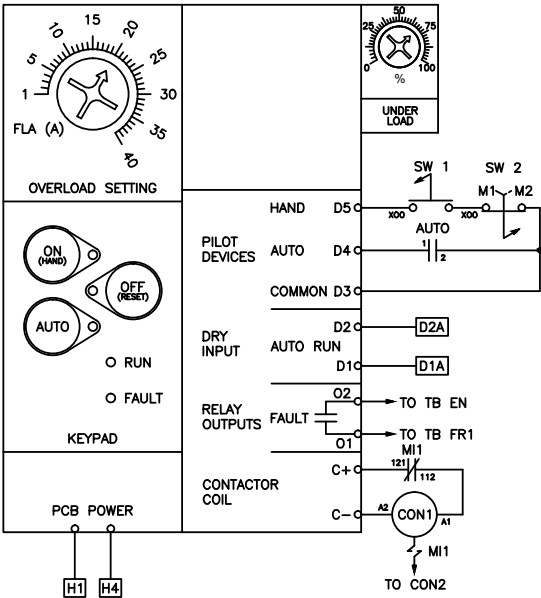
- Motor circuit protection disconnect provides short circuit protection
- High interrupting ratings for maximum electrical system compatibility
- No fuses required
- Lockable handle for safety

TDX SPECIFICATIONS

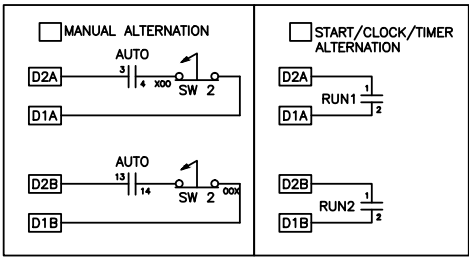
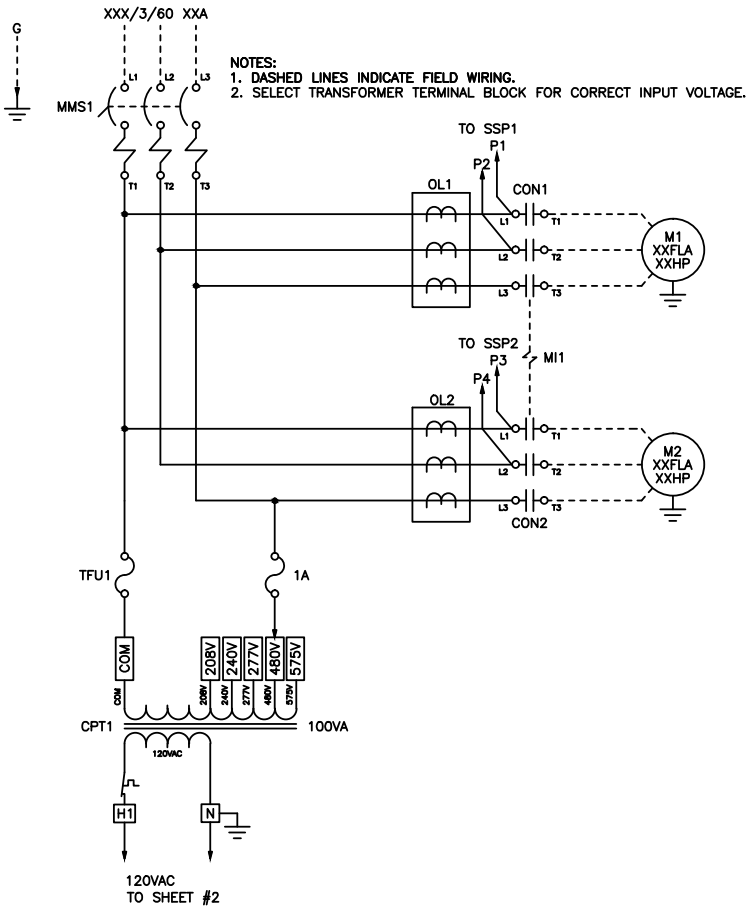
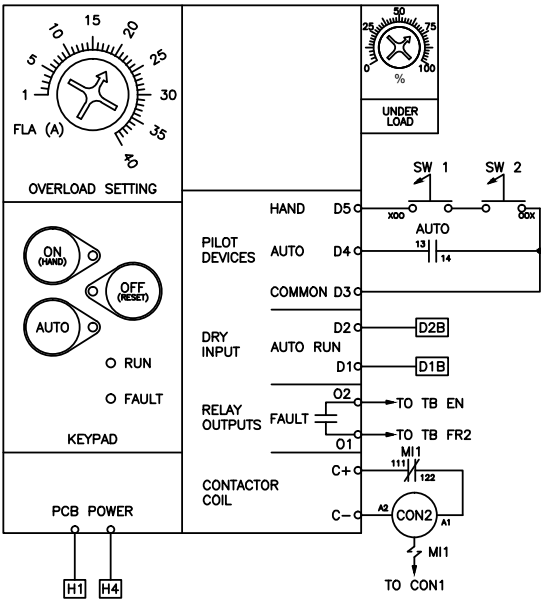
Starter Type			
TDX - Taco Duplex Starter			
Standard or Combination (Motor Circuit Protection Disconnect)			
NEMA 3R Enclosed			
User Interface			
Settings Adjustments		Internal	
Hand-Off-Auto		NEMA 3R Enclosed - Door mounted switch	
Standard Control Operations			
Inputs	Dry Auto Run	N.O. dry contact closure	
Output	Fault Relay	N.O. 12-240VAC	
Operational	Overload Type	Electronic, I ² t thermal trip curve	
	Fault Reset	Manual	
	Power Fail Modes	Selectable: Return to Off mode or return to last mode (Hand, Off, or Auto)	
Alternation Types (Optional)	Automatic Relay	Alternation will occur on Run command as well as on Fault	
	24 Hour	Alternation will occur at selectable intervals up to 24 hours as well as on Fault	
	7 Day Programmable Clock	Alternation will occur as programmed on a 7 Day/24 hour clock as well as on Fault	
Environmental			
Ambient Operating Temp		-5° to 140° F (-20° to 60° C)	
Ambient Storage Temp		-5° to 185° F (-20° to 85° C)	
Relative Humidity		5% to 95% non-condensing	
Motor Protection		Adjustment / Description	Default Setting
Overload Current Setting Range		Differs per model	Per SFA
Overload Trip Class		Enhanced Class 10	Always on
Underload		Adjustable Trip: 0%-100% of FLA	70%
Cycle Fault		Trip if cycle rate exceeds 20 starts/minute	Always On
Stall		Trips within 0.5 seconds (disabled during startup)	Always On
Protection		Adjustment / Description	Default Setting
Current Phase Unbalance		Trips within 3 sec @ 25% current unbalance. *Trip threshold changes to 80% unbalance when switched to Off	On
Locked Rotor		Trips within 0.5 seconds	
Out of Calibration		Trips after 10 seconds if the FLA dial setting is incorrect (set above calculated FLA range), ie. Start current is outside of an acceptable range (fla setting * 5 < inrush < fla setting * 14).	
Max Time to Start		Regardless of FLA or I ² t curve, always trip at start if starting current is outside of an acceptable range (inrush / 5) and still decreasing after 10 seconds.	

TDX WIRING DIAGRAM

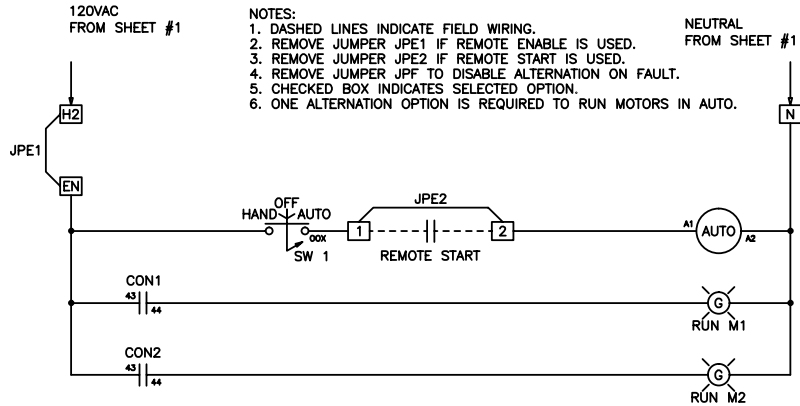
SSP1 CONTROL WIRING



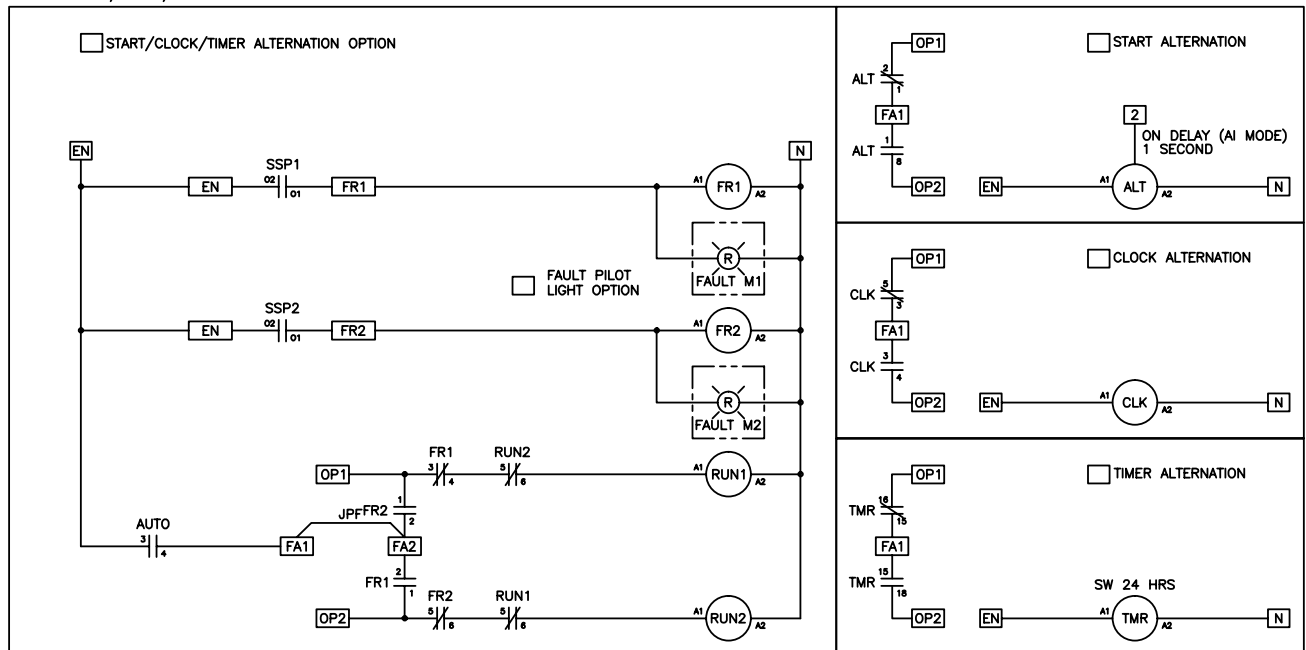
SSP2 CONTROL WIRING



TDX WIRING DIAGRAM, cont.



ALTERNATION OPTIONS (ALL OPTIONS EXCEPT MANUAL ALTERNATION ONLY INCLUDE ALTERNATION ON FAULT)
SELECT "START/CLOCK/TIMER ALTERNATION OPTION" PLUS ONE SPECIFIC OPTION



SUBMITTED EQUIPMENT SCHEDULE

QTY	TAG	TDX PART#	NEMA SIZE	HP	VOLTAGE	PHASE
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3-POLE CONTACTOR SPECIFICATIONS



Frame size				22AF		40AF		150AF
Type				MRC-9B	MRC-18B	MRC-32A	MRC-50LA	MRC-85LA
Terminal Type				Screw		Screw		Lug
Number of poles				3 pole		3 pole		3 pole
Rated operation voltage, Ue				690V		690V		690V
Rated insulation voltage, Ui				690V		1000V		1000V
Rated frequency				50/60Hz		50/60Hz		50/60Hz
Rated impulse withstand voltage, Uimp				6kV		8kV		6kV
Max. operating rate in operating cycles per hour (AC3)				1800 operations per hour		1800 operations per hour		1800 operations per hour
Durability	Mechanical			15 mil. operations		12 mil. operations		12 mil. operations
	Electrical			2.5 mil. operations		2 mil. operations		2 mil. operations
Current and power	AC-1, Thermal current		A	25	40	50	70	135
	AC-3	200/240V	kW	2.5	4.5	7.5	15	25
			A	11	18	32	55	85
		380/440V	kW	4	7.5	15	22	45
			A	9	18a	32	50	85
		500/550V	kW	4	7.5	18.5	30	45
			A	7	13	28	43	75
	690V	kW	4	7.5	18.5	30	45	
A		6	9	20	28	45		
UL rating (50/60Hz)	Continuous current		A	25	40	50	70	135
	Single Phase	110~120V	HP	0.5	1	2	3	7.5
		220~240V	HP	1.5	3	5	10	15
	Three Phase	200~208V	HP	2	5	7.5	20	30
		220~240V	HP	3	7.5	10	25	40
		440~480V	HP	5	10	20	40	60
		550~600V	HP	7.5	15	25	50	75
	NEMA size			00	0	1	2	3
Size and weight	MRC	Weight Size (WxHxD)	lbs in	0.73 lbs 1.77 x 2.89 x 3.39 in		0.88 lbs 1.77 x 3.27 x 3.54 in		3.53 lbs 2.76 x 5.51 x 5.35 in
	MRD	Weight Size (WxHxD)	lbs in	1.12 lbs 1.77 x 2.89 x 4.63 in		1.32 lbs 1.77 x 3.27 x 4.61 in		5.73 lbs 2.76 x 5.51 x 6.78 in
Auxiliary (standard)				1NO & 1NC		1NO & 1NC		1NO & 1NC
Auxiliary	Side mount			MA-1		MA-1		MA-1
	Front mount			CA-2, CA-4		CA-2, CA-4		CA-2, CA-4

*Minimum conduct current of auxiliary contactor is DC 17V 5mA

**10A max, Not motor duty rated.

MANUAL MOTOR STARTER SPECIFICATIONS

Frame Size	Rated operational current I _e (A)	Magnetic release operating current (A)	Branch Motor Protection (UL508)								
			1-phase [HP] (50/60Hz)		3-phase [HP] (60Hz)				KAIC Ratings [kA]		
			115V	230V	200V	230V	460V	575V	240V	480V	600V
32AF	0.16	2.1	-	-	-	-	-	-	100	50	10
	0.25	3.3	-	-	-	-	-	-	100	50	10
	0.4	5.2	-	-	-	-	-	-	100	50	10
	0.63	8.2	-	-	-	-	-	-	100	50	10
	1	13	-	-	-	-	-	1/2	100	50	10
	1.6	20.8	-	1/10	-	-	3/4	3/4	100	50	10
	2.5	32.5	-	1/6	1/2	1/2	1	1.5	100	50	10
	4	52	1/8	1/3	3/4	3/4	2	3	100	50	10
	6	78	1/4	1/2	1	1.5	3	5	100	50	10
	8	104	1/3	1	2	2	5	5	100	50	10
	10	130	1/2	1.5	2	3	5	7.5	100	50	10
	13	169	1/2	2	3	3	7.5	10	100	50	10
	17	221	1	3	3	5	10	15	100	50	10
	22	286	1.5	3	5	7.5	15	20	100	30	10
	26	338	2	3	7.5	7.5	15	20	100	30	10
	32	416	2	5	7.5	10	20	30	100	30	10
	40	520	3	7.5	10	10	30	30	100	30	10
63AF	10	130	1/2	1.5	2	3	5	7.5	100	50	10
	13	169	1/2	2	3	3	7.5	10	100	50	10
	17	221	1	3	3	5	10	15	100	50	10
	22	286	1.5	3	5	7.5	15	20	100	50	10
	26	338	2	3	7.5	7.5	15	20	100	50	10
	32	416	2	5	7.5	10	20	30	100	50	10
	40	520	3	7.5	10	10	30	30	100	50	10
	50	650	3	10	15	15	30	40	100	50	10
	63	819	5	10	20	20	40	60	100	50	10
100AF	65	845	5	10	20	20	40	60	100	50	10
	17	221	1	3	3	5	10	15	100	50	10
	22	286	1.5	3	5	7.5	15	20	100	50	10
	26	338	2	3	7.5	7.5	15	20	100	50	10
	32	416	2	5	7.5	10	20	30	100	50	10
	40	520	3	7.5	10	10	30	30	100	50	10
	50	650	3	10	15	15	30	40	100	50	10
	63	819	5	10	20	20	40	60	100	50	10
	75	975	5	15	20	25	50	60	100	50	10
	90	1170	7.5	20	25	30	60	75	100	50	10
	100	1300	10	20	30	30	75	100	100	50	10



CMS-32HI



CMS-63HI

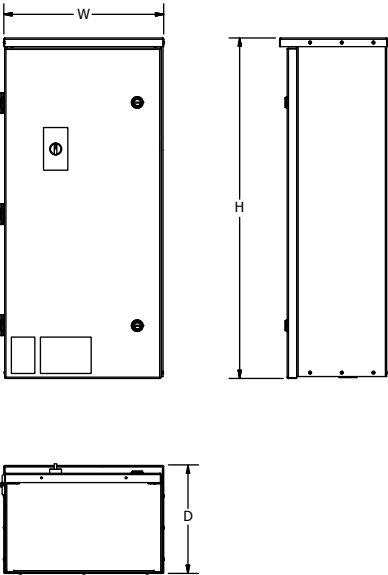


CMS-100HI

DIMENSIONS

Starter Size	H	W	D	Description
TDX3R-9-G	32	15	8	UL/NEMA 3R
TDX3R-18-G	32	15	8	
TDX3R-32-G	32	15	8	
TDX3R-50-G	32	15	8	
TDX3R-85-G	32	15	8	

*All measurements in inches



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Printed in USA
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