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Firetrol, Inc.

3412 Apex Peakway
Apex, North Carolina 27502
P 919 460-5200
F 919 460 5250
www.firetrol.com

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Mark IIx6 Electric Fire Pump Controllers

Dimensional Drawing Lookup Table

FTA1350
Wye-Delta Closed Transition Starting

UNITS WITHOUT POWER TRANSFER SWITCH

SHORT-CIRCUIT (WITHSTAND) CURRENT RATING					
	42,000 Amps RMS Sym. Maximum	65,000 Amps RMS Sym. Maximum	200,000 Amps RMS Sym. Maximum		
DRG. NO.	DD1350-60	DD1350-60	DD1350-52	DD1350-56	DD1350-60
LINE VOLTAGE	H.P. RANGE	H.P. RANGE	H.P. RANGE	H.P. RANGE	H.P. RANGE
200	---	250	3 - 60	75 - 100	125 - 200
208	---	250	3 - 60	75 - 125	150 - 200
220 - 240	---	300	3 - 60	75 - 125	150 - 250
380 - 415	---	400 - 500	3 - 100	125 - 200	250 - 350
440 - 480	---	600	3 - 150	200 - 250	300 - 500
550 - 600	---	---	3 - 150	200 - 300	350 - 500

UNITS WITH POWER TRANSFER SWITCH

SHORT-CIRCUIT (WITHSTAND) CURRENT RATING					
	42,000 Amps RMS Sym. Maximum	65,000 Amps RMS Sym. Maximum	200,000 Amps RMS Sym. Maximum		
DRG. NO.	DD1350-66	DD1350-66	DD1350-61	DD1350-63	DD1350-66
LINE VOLTAGE	H.P. RANGE	H.P. RANGE	H.P. RANGE	H.P. RANGE	H.P. RANGE
200	---	250	3 - 60	75 - 100	125 - 200
208	---	250	3 - 60	75 - 125	150 - 200
220 - 240	---	300	3 - 60	75 - 125	150 - 250
380 - 415	---	400 - 500	3 - 100	125 - 200	250 - 350
440 - 480	---	600	3 - 150	200 - 250	300 - 500
550 - 600	---	---	3 - 150	200 - 300	350 - 500

CONSULT FACTORY FOR VOLTAGES OR HORSEPOWERS NOT SHOWN

 THIRD ANGLE PROJECTION	SIZE	A	BY	DATE	 Firetrol, Inc. © Firetrol, Inc. Not for construction. Subject to change without notice.	UPDATED TITLE BLOCK	C	280937	JMW	TEF	10-21-19
	DRAWN BY	JLB	07-12-02	SEE ECN		B	237286	TEF	TEF	05-29-12	
	FINAL APPROVAL	TEF	07-12-02	REVISION DESCRIPTION		REV	ECN NO	BY	APP	DATE	
	LOOKUP TABLE		FTA1350			DRAWING NUMBER		ED1350-02			
DIMENSIONAL DRAWING LOOKUP TABLE CLOSED TRANSITION WYE-DELTA FIRE PUMP CONTROLLERS WITH HP/VOLTAGE/WITHSTAND RATING						DWG REV	C	ECN NO	280937	SHEET 1 OF 1	

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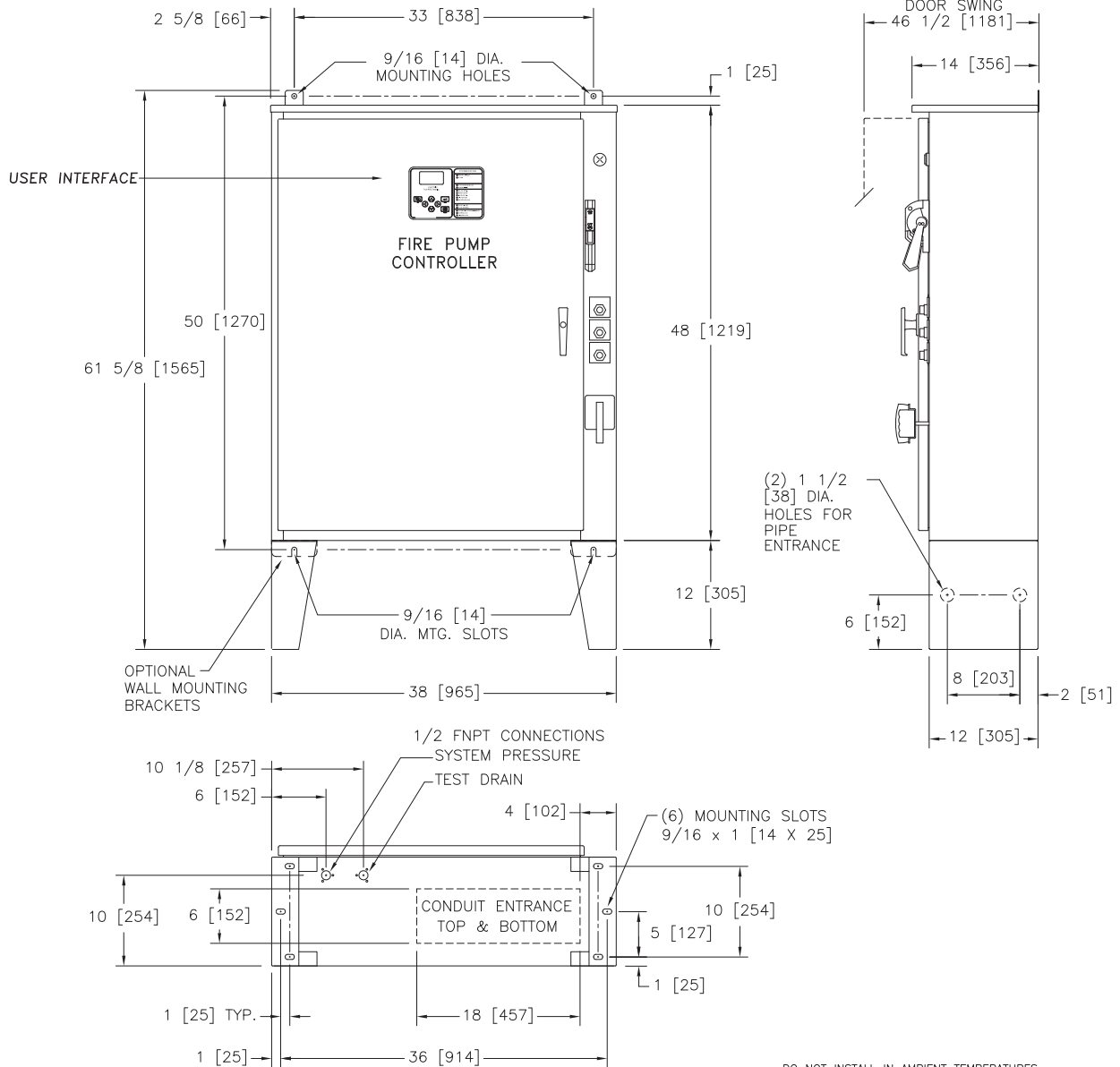


Mark IIx6 Electric Fire Pump Controllers

Dimensions and Shipping Weight

FTA1350

Wye-Delta Closed Transition Starting



DO NOT INSTALL IN AMBIENT TEMPERATURES BELOW 41°F [5°C].

ALL DIMENSIONS - INCHES [MM]
SHIPPING WEIGHT - POUNDS [KG]

THIS DIMENSION DRAWING COVERS FTA1350 CONTROLLERS AT THE HORSEPOWER, VOLTAGE AND WITHSTAND RATINGS AS LISTED IN THE TABLE. FOR OTHER HORSEPOWER OR WITHSTAND RATINGS, REFER TO ED1350-02

SPECIFICATIONS AND DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE. DO NOT USE FOR CONSTRUCTION. REQUEST CONSTRUCTION DRAWINGS FROM FIRETROL OR YOUR LOCAL FIRETROL REPRESENTATIVE.

APPROXIMATE SHIPPING WEIGHT
380 [172]

STANDARD WITHSTAND RATINGS	
200-600V - 100,000 Amps RMS Sym.	
INTERMEDIATE WITHSTAND RATINGS	
200-600V - 150,000 Amps RMS Sym.	
HIGH WITHSTAND RATINGS	
200-600V - 200,000 Amps RMS Sym.	
LINE VOLTAGE	MOTOR HORSEPOWER
200	□ 3-60
208	□ 3-60
220-240	□ 3-60
380-415	□ 3-100
440-480	□ 3-150
550-600	□ 3-150

UPDATED TITLE BLOCK		C	280937	JMW	TEF	09-18-19
ADDED COMPONENTS TO MEET FM REQUIREMENTS		B	228551	JC	TEF	08-10-10
REVISION DESCRIPTION		REV	ECN NO	BY	APP	DATE
DIMENSIONS AND SHIPPING WEIGHT		FTA1350		DRAWING NUMBER		
CLOSED TRANSITION WYE-DELTA FIRE PUMP CONTROLLER				DD1350-52		
		DWG REV	C	ECN NO	280937	SHEET 1 OF 1

SIZE	A	BY	DATE
DRAWN BY	TEF	07-19-02	
FINAL APPROVAL	TEF	07-19-02	



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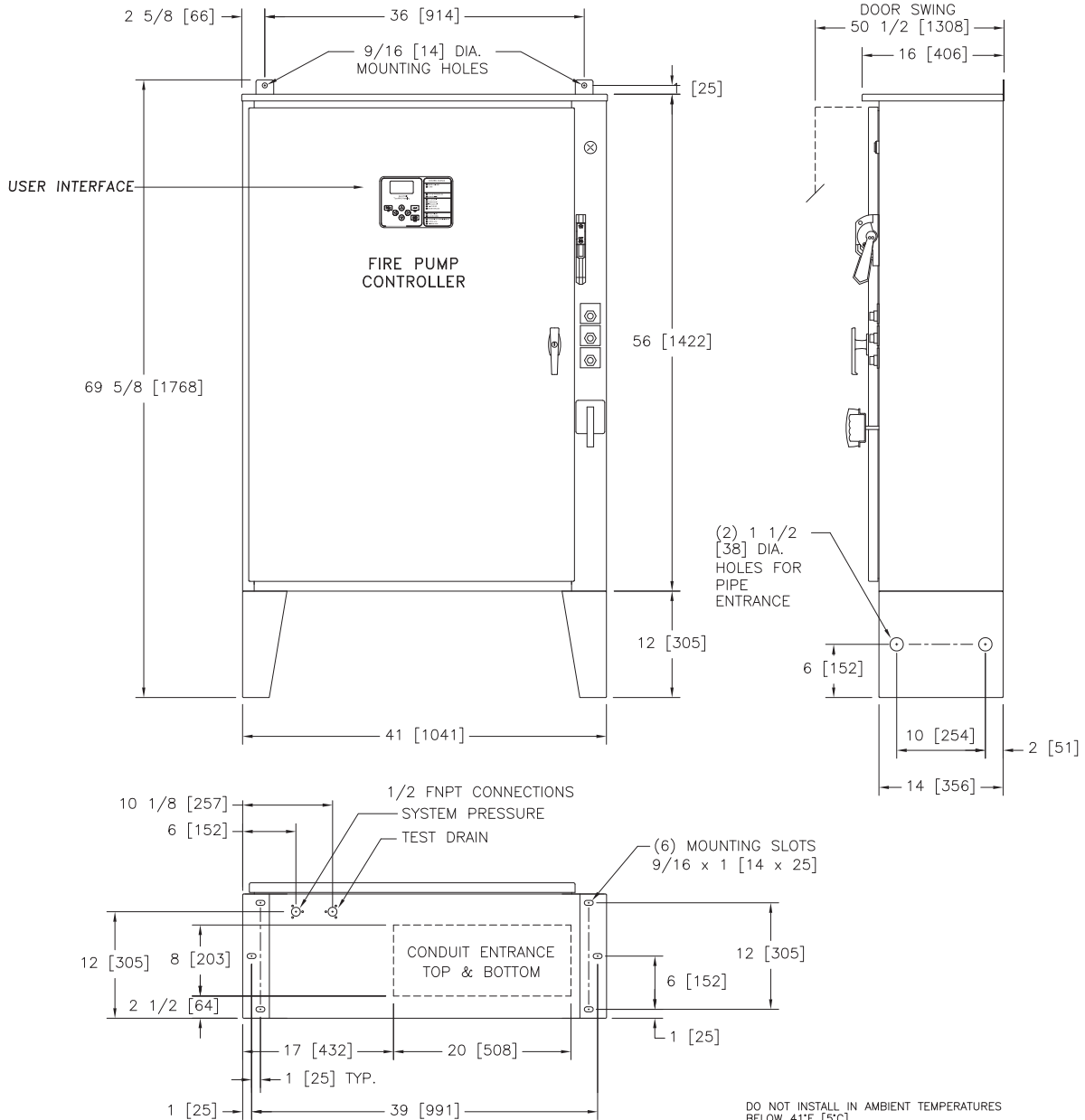


Mark IIx6 Electric Fire Pump Controllers

Dimensions and Shipping Weight

FTA1350

Wye-Delta Closed Transition Starting



DO NOT INSTALL IN AMBIENT TEMPERATURES BELOW 41°F [5°C].

ALL DIMENSIONS - INCHES [MM]
SHIPPING WEIGHT - POUNDS [KG]

THIS DIMENSION DRAWING COVERS FTA1350 CONTROLLERS AT THE HORSEPOWER, VOLTAGE AND WITHSTAND RATINGS AS LISTED IN THE TABLE. FOR OTHER HORSEPOWER OR WITHSTAND RATINGS, REFER TO ED1350-02

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STANDARD WITHSTAND RATINGS	
200-600V	- 100,000 Amps RMS Sym.
INTERMEDIATE WITHSTAND RATINGS	
200-600V	- 150,000 Amps RMS Sym.
HIGH WITHSTAND RATINGS	
200-600V	- 200,000 Amps RMS Sym.
LINE VOLTAGE	MOTOR HORSEPOWER
200	□ 75-100
208	□ 75-125
220-240	□ 75-125
380-415	□ 125-200
440-480	□ 200-250
550-600	□ 200-300

APPROXIMATE SHIPPING WEIGHT
450 [204]

UPDATED TITLE BLOCK		D	280937	JMW	TEF	09-18-19
REVISED MOTOR HORSEPOWER CHART		C	237364	JMW	TEF	05-31-12
REVISION DESCRIPTION		REV	ECN NO	BY	APP	DATE
DIMENSIONS AND SHIPPING WEIGHT		FTA1350		DRAWING NUMBER		
CLOSED TRANSITION WYE-DELTA FIRE PUMP CONTROLLER		DD1350-56				
DWG REV	D	ECN NO	280937	SHEET 1 OF 1		

SIZE	A	BY	DATE
DRAWN BY	TEF	07-23-02	
FINAL APPROVAL	TEF	07-23-02	



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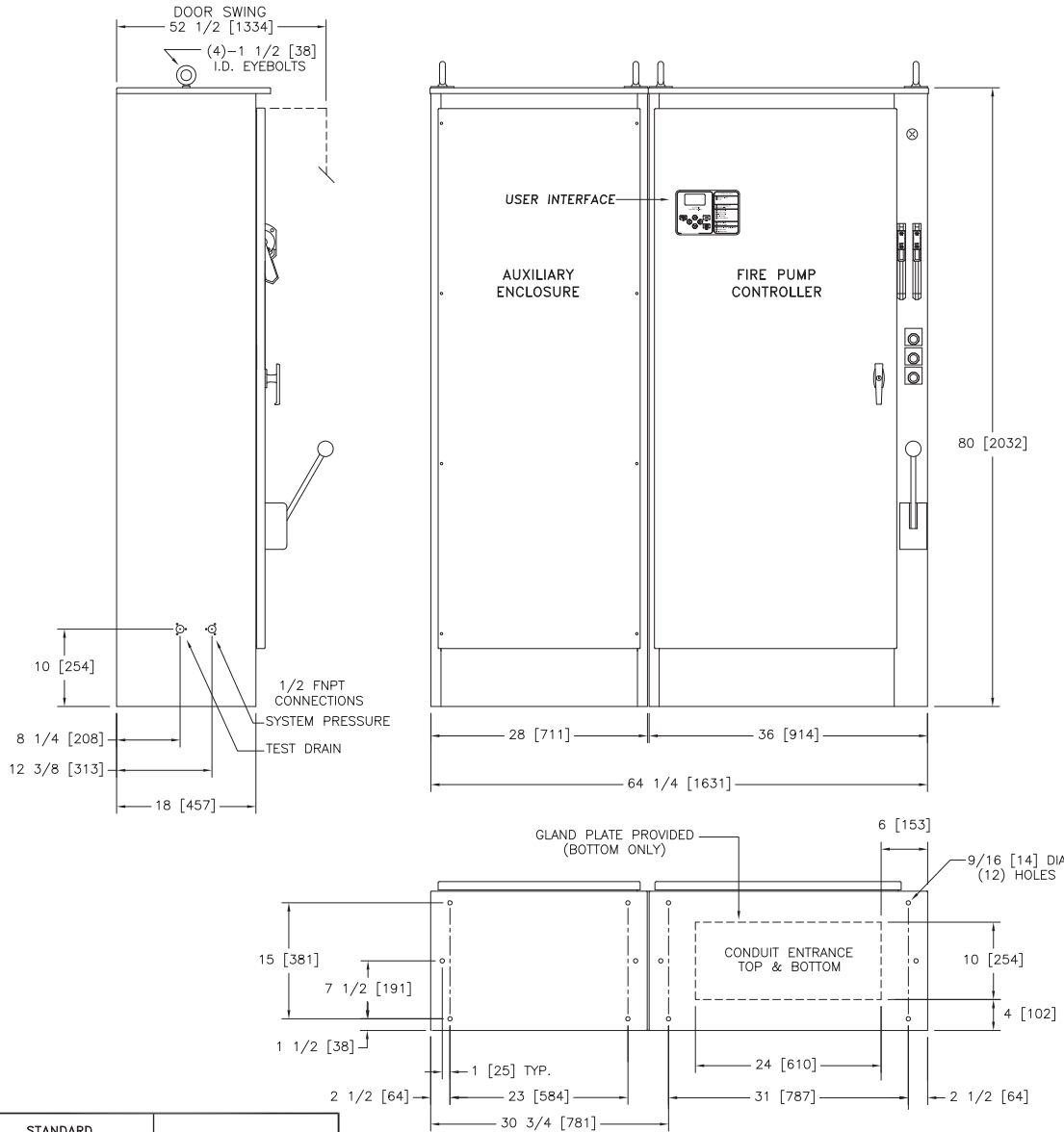


Mark IIx6 Electric Fire Pump Controllers

Dimensions and Shipping Weight

FTA1350

Wye-Delta Closed Transition Starting



STANDARD WITHSTAND RATINGS 200-600V 100,000 Amps RMS Sym.	STANDARD INTERMEDIATE WITHSTAND RATINGS 200-480V 65,000 Amps RMS Sym.
INTERMEDIATE WITHSTAND RATINGS 200-600V 150,000 Amps RMS Sym.	STANDARD LOW WITHSTAND RATINGS 550-600V 42,000 Amps RMS Sym.
HIGH WITHSTAND RATINGS 200-600V 200,000 Amps RMS Sym.	

LINE VOLTAGE	MOTOR HORSEPOWER	MOTOR HORSEPOWER
200	□ 125-200	□ 250
208	□ 150-200	□ 250
220-240	□ 150-250	□ 300
380-415	□ 250-350	□ 400-500
440-480	□ 300-500	□ 600
550-600	□ 350-500	□ ---

APPROXIMATE SHIPPING WEIGHT
1025 [465]

DO NOT INSTALL IN AMBIENT TEMPERATURES BELOW 41°F [5°C].

ALL DIMENSIONS - INCHES [MM]
SHIPPING WEIGHT - POUNDS [KG]

THIS DIMENSION DRAWING COVERS FTA1350 CONTROLLERS AT THE HORSEPOWER, VOLTAGE AND WITHSTAND RATINGS AS LISTED IN THE TABLE. FOR OTHER HORSEPOWER OR WITHSTAND RATINGS, REFER TO ED1350-02

SPECIFICATIONS AND DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE. DO NOT USE FOR CONSTRUCTION. REQUEST CONSTRUCTION DRAWINGS FROM FIRETROL OR YOUR LOCAL FIRETROL REPRESENTATIVE.

THIRD ANGLE PROJECTION	SIZE	A	BY	DATE
	DRAWN BY	TEF	07-24-02	
	FINAL APPROVAL	TEF	07-24-02	



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UPDATED TITLE BLOCK	D	280937	JMW	TEF	09-18-19
REVISED MOTOR HORSEPOWER CHART	C	237364	JMW	TEF	05-31-12
REVISION DESCRIPTION	REV	ECN NO	BY	APP	DATE
DIMENSIONS AND SHIPPING WEIGHT	DRAWING NUMBER DD1350-60				
CLOSED TRANSITION WYE-DELTA FIRE PUMP CONTROLLER	DWG REV	D	ECN NO	280937	SHEET 1 OF 1

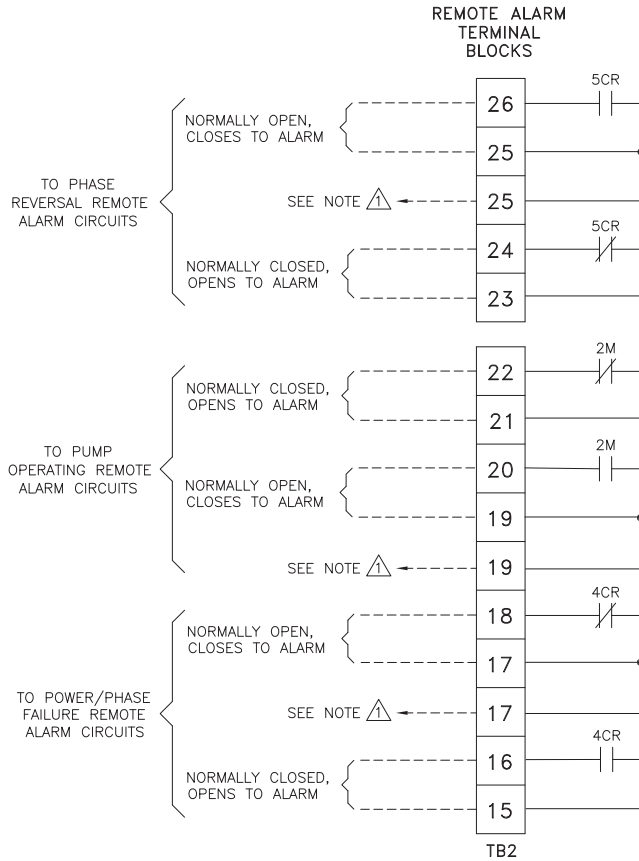


Mark IIx6 Electric Fire Pump Controllers

Field Connections

FTA1350

Wye-Delta Closed Transition Starting

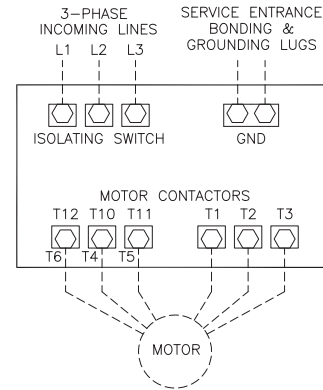


△ SPARE TERMINALS PROVIDED FOR PARALLEL CONNECTION OF REMOTE ALARMS (IF REQUIRED)

NOTE: TERMINALS FOR CUSTOMER CONNECTIONS REQUIRE 3.5MM SLOTTED SCREW DRIVER

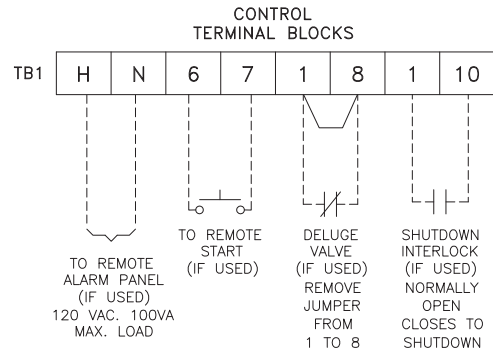
TERMINAL TIGHTENING TORQUE		
TERMINAL TYPE	WIRE SIZE	TIGHTENING TORQUE
CONTROL AND ALARM TERMINALS	#14-12 AWG [2.5-4 MM ²]	5.6 lb-in [.6 Nm]

-NOTE-
ALARM CONTACT RATING PILOT DUTY
250 VAC, 30 VDC
10 A. MAX. LOAD



- NOTES**
- 1- Incoming line terminals are provided to accommodate wire sizes at 125% of motor full load current per NFPA 70-2008, *National Electrical Code*, Table 430-250, Section 695.6(c), and Table 310-16, 75° rated Copper conductors.
 - 2- Controller is phase rotation sensitive. Incoming lines L1, L2 and L3 must be in ABC, right hand rotation sequence for proper operation of the phase monitor.
 - 3- Motor connections shown are typical. Since motor connections vary widely, refer to the motor connection diagram for specific wiring arrangement.
 - 4- For incoming line terminals and motor terminals field wire capacity refer to drawing FC1350-51

NOTE: USE COPPER CONDUCTORS ONLY FOR ALL CONNECTIONS



PRESSURE SYSTEM CONNECTION
1/2" FNPT

THIRD ANGLE PROJECTION	SIZE	A	BY	DATE
	DRAWN BY	TEF	05-06-02	
	FINAL APPROVAL	TEF	05-06-02	



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UPDATED TITLE BLOCK		B	280937	JMW	TEF	09-20-19
ADD NOTE FOR COPPER CONDUCTORS ONLYM, UPDATED LOGO & TITLE BLOCK		B	226253	JC	TEF	12-09-09
REVISION DESCRIPTION		REV	ECN NO	BY	APP	DATE
FIELD CONNECTIONS		FTA1350		DRAWING NUMBER		
WYE-DELTA CLOSED TRANSITION FIRE PUMP CONTROLLER		FC1350-50				
DWG REV	B	ECN NO	280937	SHEET 1 OF 2		

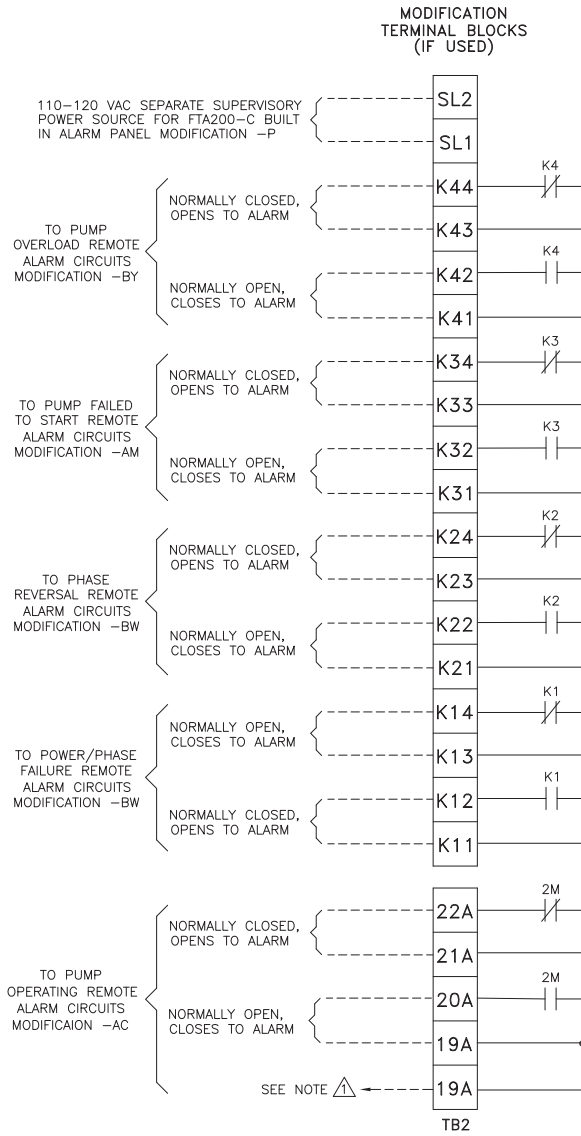


Mark IIx6 Electric Fire Pump Controllers

Field Connections

FTA1350

Wye-Delta Closed Transition Starting



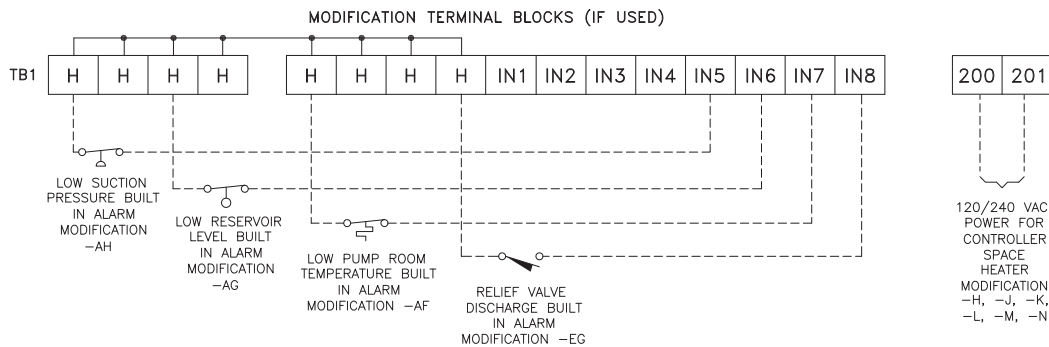
⚠ SPARE TERMINALS PROVIDED FOR PARALLEL CONNECTION OF REMOTE ALARMS (IF REQUIRED)

NOTE: TERMINALS FOR CUSTOMER CONNECTIONS REQUIRE 3.5MM SLOTTED SCREW DRIVER

TERMINAL TIGHTENING TORQUE		
TERMINAL TYPE	WIRE SIZE	TIGHTENING TORQUE
CONTROL AND ALARM TERMINALS	#14-12 AWG [2.5-4 MM ²]	5.6 lb-in [.6 Nm]

—NOTE—
ALARM CONTACT
RATING PILOT DUTY
250 VAC, 30 VDC
10 A. MAX. LOAD

NOTE: USE COPPER CONDUCTORS ONLY FOR ALL CONNECTIONS



	SIZE	A	BY	DATE
	DRAWN BY	TEF	05-06-02	
	FINAL APPROVAL	TEF	05-06-02	



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UPDATED TITLE BLOCK		B	280937	JMW	TEF	09-20-19
ADD NOTE FOR COPPER CONDUCTORS ONLY, UPDATED LOGO & TITLE BLOCK		B	22625	JC	TEF	12-09-09
REVISION DESCRIPTION		REV	ECN NO	BY	APP	DATE
FIELD CONNECTIONS		FTA1350		DRAWING NUMBER		
WYE-DELTA CLOSED TRANSITION FIRE PUMP CONTROLLER		FC1350-50				
DWG REV	B	ECN NO	280937	SHEET 2 OF 2		

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Mark II_{XG} Electric Fire Pump Controllers

Field Connections

FTA1350

Wye-Delta Closed Transition Starting
Line & Motor Wire Terminal Capacity

LINE TERMINALS—WIRE CAPACITY AND QUANTITY (CU) 1

MAXIMUM MOTOR HORSEPOWER						WIRE SIZE (CU) PER PHASE	WIRE SIZE SERVICE ENTRANCE GROUND LUG (CU) 2
200V	208V	220-240V	380-415V	440-480V	550-600V		
20	20	25	40	50	60	(1) #14 AWG—#1/0 AWG (1) 2.5 MM ² —50 MM ²	(2) #14 AWG—#2/0 AWG (2) 2.5 MM ² —70 MM ²
40	40	40	75	100	125	(1) #4 AWG—300 kcmil (1) 25 MM ² —150 MM ²	(2) #14 AWG—#2/0 AWG (2) 2.5 MM ² —70 MM ²
60	60	60	100	150	150	(1) #4 AWG—300 kcmil (1) 25 MM ² —150 MM ²	(2) #6 AWG—250 kcmil (2) 16 MM ² —120 MM ²
100	100	100	150	250	300	(1) 250 kcmil—500 kcmil (1) 120 MM ² —240 MM ²	(2) #6 AWG—250 kcmil (2) 16 MM ² —120 MM ²
---	125	125	200	---	---	(2) #3/0 AWG—250 kcmil (2) 95 MM ² —120 MM ²	(2) #6 AWG—250 kcmil (2) 16 MM ² —120 MM ²
200	200	250	350	500	---	(3) #2/0 AWG—400 kcmil (3) 70 MM ² —200 MM ²	(2) #6 AWG—250 kcmil (2) 16 MM ² —120 MM ²
250	250	300	500	600	---	(4) #4/0 AWG—500 kcmil (4) 100 MM ² —240 MM ²	(2) #6 AWG—250 kcmil (2) 16 MM ² —120 MM ²

MOTOR TERMINALS—WIRE CAPACITY AND QUANTITY (CU) 1

MAXIMUM MOTOR HORSEPOWER						WIRE SIZE (CU) PER PHASE
200V	208V	220-240V	380-415V	440-480V	550-600V	
60	60	60	100	150	150	(1) #6 AWG—#2/0 AWG (1) 16 MM ² —70 MM ²
75	75	100	150	200	250	(1) #6 AWG—250 kcmil (1) 16 MM ² —120 MM ²
150	150	150	250	350	450	(1) #4 AWG—400 kcmil (1) 25 MM ² —200 MM ²
---	---	200	300	450	500	(2) #4 AWG—500 kcmil (2) 25 MM ² —240 MM ²
250	250	300	500	600	---	(2) 250 kcmil—500 kcmil (2) 120 MM ² —240 MM ²

- 1 FOR CORRECT WIRE SIZING, REFER TO *NATIONAL ELECTRICAL CODE*, NFPA 70.
- 2 WHEN REQUIRED BY AUTHORITY HAVING JURISDICTION.

<p>THIRD ANGLE PROJECTION</p>	SIZE	A	BY	DATE	UPDATED TITLE BLOCK				E	280937	JMW	TEF	09-20-19
	DRAWN BY	TEF	05-06-12	UPDATED LINE TERMINAL HP/VOLTAGE CHART, CHANGED TO XT4 BREAKERS				D	270091	TEF	TEF	11-30-17	
	FINAL APPROVAL	TEF	05-06-12	REVISION DESCRIPTION				REV	ECN NO	BY	APP	DATE	
	<p>© Firetrol, Inc. Not for construction. Subject to change without notice.</p>				FIELD CONNECTIONS		FTA1350		DRAWING NUMBER				
WYE-DELTA CLOSED TRANSITION FIRE PUMP CONTROLLER LINE AND MOTOR FIELD WIRE TERMINAL CAPACITY						FC1350-51							
								DWG REV	E	ECN NO	280937	SHEET 1 OF 1	

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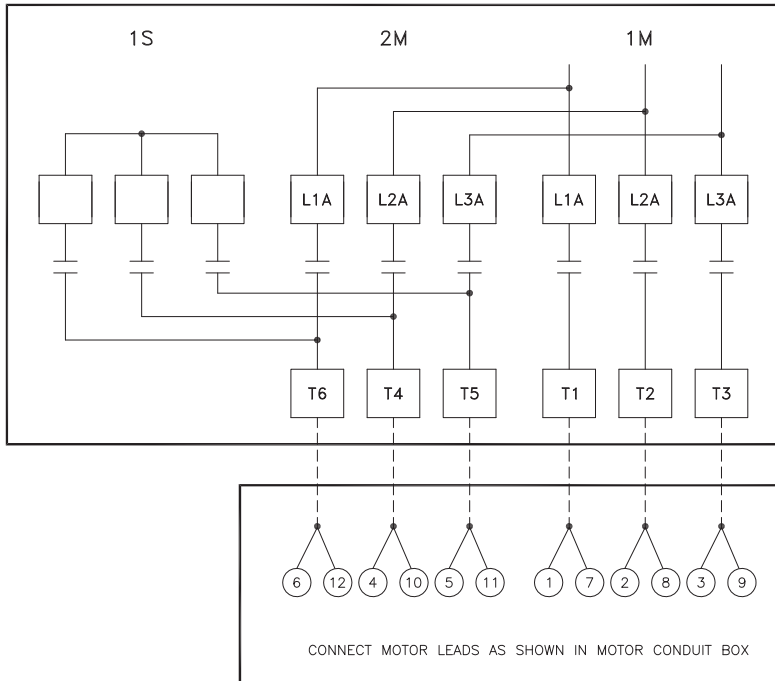


Mark IIx6 Electric Fire Pump Controllers

Typical Motor Connection Diagram

FTA1300 / FTA1350

Wye-Delta Starting (12-Lead Motors)



FOR SINGLE VOLTAGE 12-LEAD WYE-DELTA MOTORS

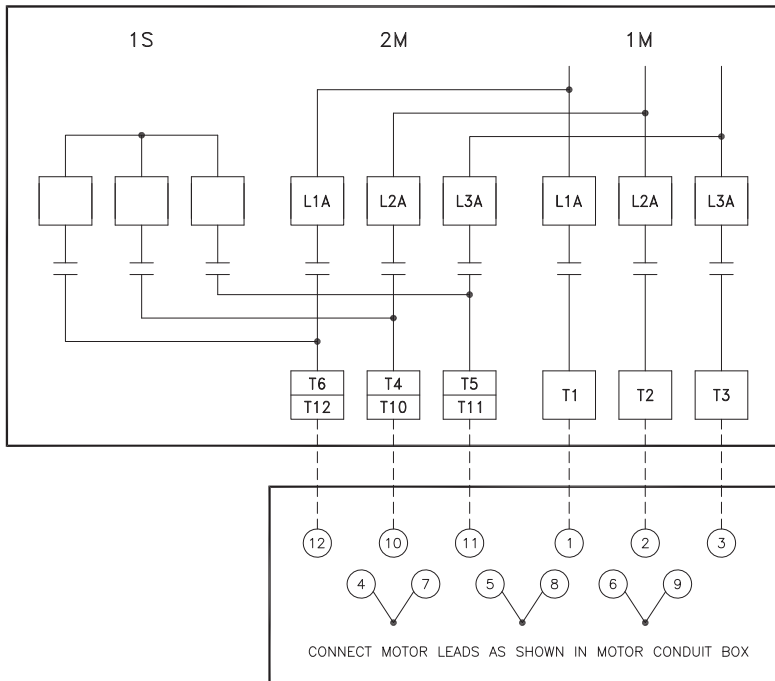
- OR -

FOR DUAL VOLTAGE WYE-DELTA MOTORS CONNECTED TO OPERATE ON THE **LOWER** OF THE TWO VOLTAGES
200-208 FOR 200/400V RATED MOTORS
OR 220-240 FOR 230/460V RATED MOTORS.

SIX (6) WIRES REQUIRED BETWEEN MOTOR AND CONTROLLER.

IMPORTANT:

THIS DRAWING IS FOR GENERAL INFORMATION ONLY. REFER TO MOTOR CONNECTION DIAGRAM FOR SPECIFIC WIRING ARRANGEMENT.



FOR DUAL VOLTAGE WYE-DELTA MOTORS CONNECTED TO OPERATE ON THE **HIGHER** OF THE TWO VOLTAGES
440-480 FOR 230/460V RATED MOTORS
OR 380-415 FOR 200/400V RATED MOTORS.

SIX (6) WIRES REQUIRED BETWEEN MOTOR AND CONTROLLER.

NOTES:

- THREE (3) LEAD AND NINE (9) LEAD MOTORS **CANNOT** BE USED FOR WYE-DELTA STARTING.
- TWELVE (12) LEAD PART WINDING MOTORS **CANNOT** BE USED FOR WYE-DELTA STARTING AT 240/230V.

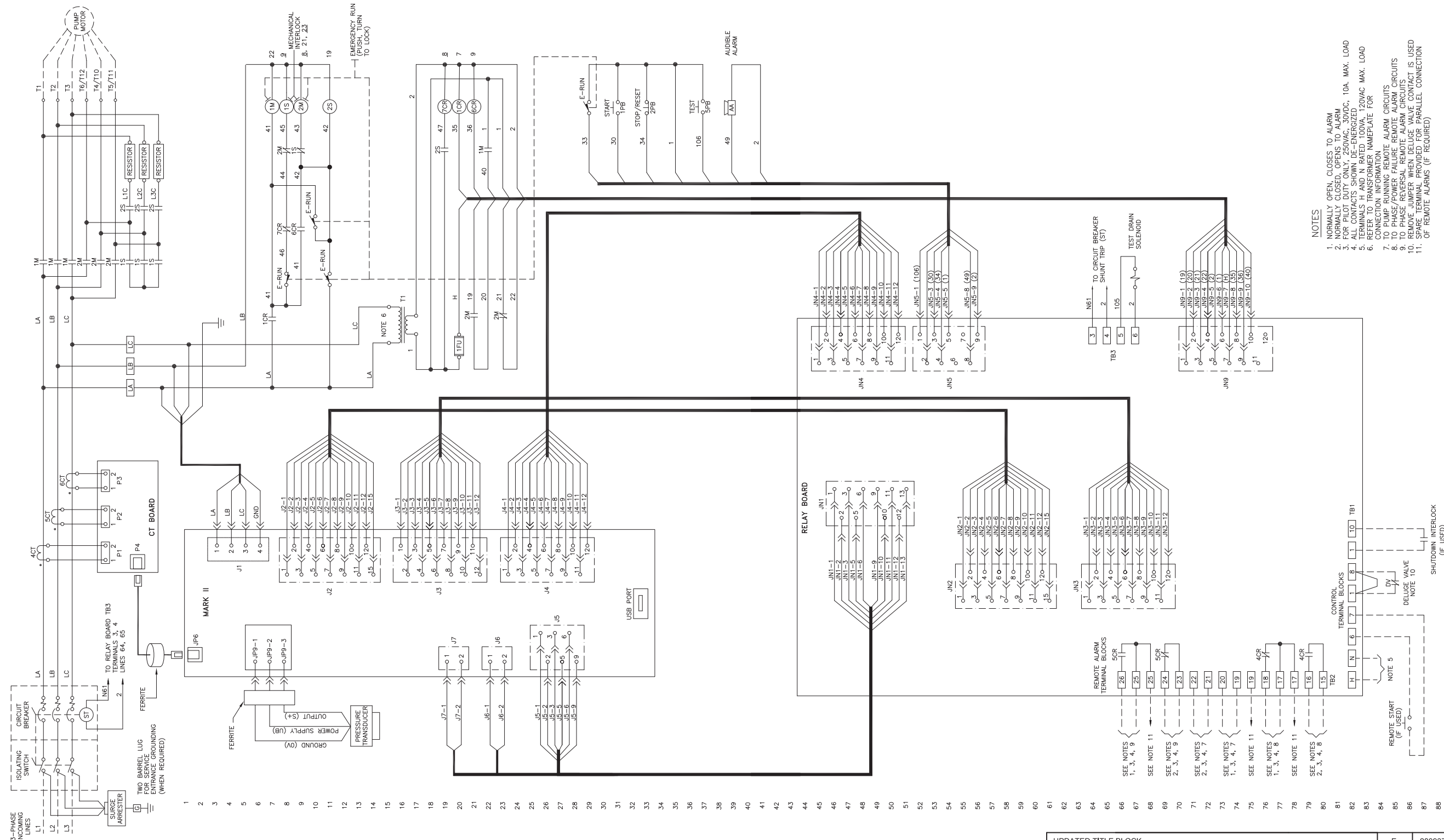
	SIZE A	BY	DATE
	DRAWN BY JMW	JMW	09-12-95
	FINAL APPROVAL	TEF	09-12-95



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UPDATED TITLE BLOCK		B	280820	JMW	TEF	09-12-19
ADDED SINGLE VOLTAGE, 12 LEAD, Y-D MOTORS		A	-	TEF	TEF	11-22-00
REVISION DESCRIPTION		REV	ECN NO	BY	APP	DATE
MOTOR CONNECTIONS		FTA1300 / FTA1350		DRAWING NUMBER		
OPEN/CLOSED TRANSITION WYE-DELTA FIRE PUMP CONTROLLERS				NS1300-01		
DWG REV	B	ECN NO	280820	SHEET 1 OF 1		

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- NOTES**
1. NORMALLY OPEN, CLOSURES TO ALARM CIRCUIT.
 2. NORMALLY CLOSED, OPENING TO ALARM CIRCUIT.
 3. FOR PILOT CIRCUIT, 100VAC, 10A, MAX. LOAD.
 4. ALL CONTACTS SHOWN DE-ENERGIZED.
 5. TERMINALS H AND N RATED 100VA, 120VAC MAX. LOAD.
 6. REFER TO TRANSFORMER NAMEPLATE FOR CONNECTION INFORMATION.
 7. TO PUMP RUNNING REMOTE ALARM CIRCUITS.
 8. TO PUMP/POWER FAILURE REMOTE ALARM CIRCUITS.
 9. RELAY FAILURE REMOTE ALARM CIRCUIT IS USED FOR SHUTDOWN INTERLOCK.
 11. SPARE TERMINAL PROVIDED FOR PARALLEL CONNECTION OF REMOTE ALARMS (IF REQUIRED).

THIRD ANGLE PROJECTION	SIZE	B	BY	DATE
	DRAWN BY	TEF	05-10-02	
	FINAL APPROVAL	TEF	05-10-02	



UPDATED TITLE BLOCK		E	280937	JMW	TE	09-20-19
ADDED TEST SOLENOID AND AUDIBLE ALARM		D	228528	JC	TEF	08-30-10
REVISION DESCRIPTION		REV	ECN NO	BY	APP	DATE
WIRING SCHEMATIC		FTA1350		DRAWING NUMBER		
CLOSED TRANSITION WYE-DELTA FIRE PUMP CONTROLLER				WS1350-50		
DWG REV	E	ECN NO	280937	SHEET 1 OF 1		

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