

FTA550E

Jockeyxg Pump Controllers



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Firetrol JockeyXG Pump Controller

FTA556E - Wye Delta Open Transition Starting

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1.0 Main Fire Pump Controller

The auxiliary jockey pump controller, if required and specified on the plans and specifications, shall be factory assembled, wired, and tested and specifically designed for this type of service. This controller shall be of the same manufacturer as the main fire pump controller.

1.1 Standards, Listings & Approvals

The controller shall conform to all the requirements of the latest editions of: NFPA 70, *National Electrical Code*.

The controller shall be listed by:

Underwriters Laboratories, Inc., in accordance with UL508A, *Standard for Industrial Controls* Canadian Standards Association CSA-C22.2, *Standard for Industrial Control Equipment* (cUL)

1.2 Enclosure

The controller components shall be housed in a NEMA Type 2 (IEC IP22) painted steel, wall mounted enclosure (UL50E Construction).

1.3 Withstand Ratings (Short Circuit Current Ratings w/Circuit Breaker)

The jockey shall have standard short circuit current ratings of: 65kA @ 480 Volts Max. (3-Phase) 14kA @ 600 Volts (3-Phase)

1.4 Construction

The jockey pump controller shall be Wye-Delta Open Transition starting. The controller shall incorporate a circuit breaker and horsepower rated motor starter, control circuit transformer with 24VAC secondary and 200-600V multi-tap primary, main disconnect switch, HAND-OFF-AUTOMATIC selector switch and a 0-300 psi (0-20.7 bar) stainless steel solid state pressure transducer.

1.5 Operator Interface

The fire pump controller shall feature an operator interface with user keypad. The interface shall monitor and display motor operating conditions, including all alarms, events, and pressure conditions. All alarms, events, and pressure conditions shall be displayed with a time and date stamp. The display shall be a 128x64 Backlit LCD capable of customized graphics. The display and interface shall be NEMA rated for Type 2, 3R, 4, 4X, and 12 protection and shall be fully accessible without opening the controller door. The display and user interface shall utilize multiple levels of password protection for system security. A minimum of 3 password levels shall be provided.

1.6 Digital Status/Alarm Messages

The digital display shall indicate text messages for the status and alarm conditions of:

- Pump Running

- Sequential Start Time
 Minimum Run Time Low System Pressure
 Automatic Start
 Main Switch Position
 Sequential start Time
 Pump Restart Timer
 System Overpressure
 User Selectable #2¹ System Overpressure
 User Selectoria (12)

- User Selectable #1¹

¹User may choose from the following to be shown on main display (stop pressure setting, start pressure setting, cycles/period, cycles/month, cycles/day, cycles/hour, total cycle count, pump total run time)

The Sequential Start Timer, Minimum Run Timer/Off Delay Timer and Pump Restart Timer shall be displayed as numeric values reflecting the value of the remaining time.

1.7 LED Visual Indicators

- LED indicators, visible with the door closed, shall indicate:
- Power ON • Alarm
- Pump Running

1.8 Data Logging

The digital display shall monitor the system and log the following data:

- Motor Calls/Starts Pump Total Run Time
 Pump Last Run Time
- Total Controller Pwr On Time
- Min/Max System Pressure
- Cycle Counts
- 1.9 Event Recording

Memory - The controller shall record all operational and alarm events to system memory. All events shall be time and date stamped and include an index number. The system memory shall have the capability of storing 3000 events and allow the user access to the event log via the user interface. The user shall have the ability to scroll through the stored messages in groups of 1 or 10.

2.0 Serial Communications

The controller shall feature a RS485 serial communications port for use with 2 or 4 wire Modbus RTU communications.

2.1 Solid State Pressure Transducer

The controller shall be supplied with a solid state pressure transducer with a range of 0-300 psi (0-20.7 bar) ±1 psi. The solid state pressure switch shall be used for both display of the system pressure and control of the fire pump controller. Systems using analog pressure devices or mercury switches for operational control will not be accepted. The START, STOP and SYSTEM PRESSURE shall be digitally displayed and adjustable through the user interface. The pressure transducer shall be mounted inside the controller to prevent accidental damage. The pressure transducer shall be directly pipe mounted to a bulkhead pipe coupling without any other supporting members. Field connections shall be made externally at the controller coupling to prevent distortion of the pressure switch element and mechanism.

- Last Pump Start
- Last Phase Fail/Reverse

2.2 Seismic Certification

The controller shall be certified to meet or exceed the requirements of the 2012 International Building Code and the 2013 California Building Code for Importance Factor 1.5 Electrical Equipment for Sds equal to 1.88 or less severe seismic regions. Qualifications shall be based upon successful tri-axial shake-table testing in accordance with ICC-ES AC-156. Certification without testing shall be unacceptable. Controller shall be clearly labeled as rated for installation in seismic areas and a Certificate of Conformance shall be provided with the controller.

NOTE: Not available on Model FTA1500 Controllers

2.3 Controller Operation

A digitally set On Delay (Sequential Start) timer shall be provided as standard. Upon a call to start, the user interface shall display a message indicating the remaining time value of the On Delay timer.

The controller shall include a Minimum Run Timer to allow the motor to run for a set period of timer after starting. The timer shall be programmable through the user interface. A pump restart delay timer shall be provided to allow the residual voltage of the motor to decay prior to restarting the motor and to prevent severe short cycling of the motor. The timer shall be programmable through the user interface.

A Lamp Test feature shall be included. The user interface shall also have the ability to display the status of the system inputs and outputs.

An Audible Test feature shall be included to test the operation of the audible alarm device (if supplied).

The disconnect switch shall be mechanically interlocked so that the enclosure door cannot be opened with the handle in the ON position except by a hidden tool operated defeater mechanism. The disconnect switch shall be capable of being padlocked in the OFF position for installation and maintenance safety.

2.4 Manufacturer

The controller shall be a Firetrol brand.

3412 Apex Peakway Apex, North Carolina 27502 P +1 919 460 5200 F +1 919 460 5250 www.firetrol.com





Jockeyxg Pump Controllers - Wye-Delta Open Transition Starting



Description—Firetrol® FTA556E XG Jockey Pump Controllers are intended for use with fire pump systems. They are used for pressure maintenance in fire pump installations to prevent unnecessary operation of the main fire pump.

Approvals—Firetrol jockey pump controllers are listed by Underwriters' Laboratories, Inc., in accordance with UL508A, *Standard for Industrial Controls*, and CSA, *Standard for Industrial Control Equipment*. They are built to meet or exceed the requirements of the approving authorities as well as NEMA and the latest edition NFPA 70, *National Electrical Code*.

Standard Features—The following are included as standard with each controller:

- NEMA Type 2 (IEC IP22) Painted Steel Enclosure
- Circuit Breaker
- Horsepower rated motor starters
- Suitable for use as service equipment
- HAND-OFF-AUTO selector switch
- Minimum run timer
- On-Delay timer
- Pump Restart Timer

- Transition Timer
- Control circuit transformer with 24VAC secondary
- 0-300 psi (0-20.7 bar) stainless steel solid state pressure transducer
- Overpressure indication
- Low Pressure indication
- Failed to start indication
- Main switch not in "Auto" alarm
- Pressure recording
- Event log (3000 events stored in controller memory)
- Data log (including cycle counter)
- Door mounted display/user interface featuring a 128 x 64 pixel backlit LCD Graphical Display, Membrane Type User Controller Push-buttons and LED indication for:
 - Power ON
 - Pump Running
 - Alarm
- 2 lines of user selectable display information

NOTE: FTA556E XG Jockey Pump Controllers are available as standard in the voltage/horsepower combinations shown below and with the options shown on the reverse side. For other combinations and options, please consult your Firetrol representative or the factory.

VOLTAGE 3-PHASEMAX HP Short Circuit (50/60 Hertz) Current Rating

-H -A	200 - 208V 220 - 240V	25 30	65kA 65kA
-F	380 - 415V	40	65kA
-B	440 - 480V	50	65kA
-C	550 - 600V	50	25kA

NOTE: Firetrol Brand Jockey Pump controllers DO NOT CONTAIN MERCURY filled pressure switches.

SPECIAL ENCLOSURES

- -E Enclosure, NEMA Type 4 (IP66), Painted Steel
- -F Enclosure, NEMA Type 4X (IP66), #304 Stainless Steel, Brushed Finish
- -FD Enclosure, NEMA Type 4X (IP66), #316 Stainless Steel, Brushed Finish
- -FDB Enclosure, NEMA Type 4X (IP66), #316 Stainless Steel, 12 Gauge, Seam-Welded, Brushed Finish
- -FDP Enclosure, NEMA Type 4X (IP66), #316 Stainless Steel, Painted Finish
- -FXP Enclosure, NEMA Type 4X (IP66), #304 Stainless Steel, Painted Finish
- -G Enclosure, NEMA Type 12 (IP54), Painted Steel
- -T Enclosure, NEMA Type 3R (IP24), Painted Steel

HIGHER SHORT CIRCUIT CURRENT RATING

(See selection data sheet) Fusible Disconnect Switch with Fuses (200kA)

ANTI-CONDENSATION SPACE HEATERS¹

- -H Space Heater, 120V Externally Powered with Circuit Breaker
- -J Space Heater, 120V Externally Powered with Circuit Breaker and Thermostat
- -K Space Heater, 120V Externally Powered with Circuit Breaker and Humidistat
- -L Space Heater, 240V Externally Powered with Circuit Breaker
- -M Space Heater, 240V Externally Powered with Circuit Breaker and Thermostat
- -N Space Heater, 240V Externally Powered with Circuit Breaker and Humidistat

¹ Power source supplied by others

PRESSURE TRANSDUCERS

- -B Wetted Parts Including Pressure Sensor, 600 PSI (42 Bar), Fresh Water
- -C Wetted Parts Including Pressure Sensor, 300 PSI (21 Bar), Sea Water
- -D Wetted Parts Including Pressure Sensor, 600 PSI (42 Bar), Sea Water

MISCELLANEOUS

- -AC Alarm Output Contacts, Pump Operating (2 Sets)
- -AG Alarm, Audible/Visible, Reservoir Low
- -AM Alarm Output Contacts, Fail To Start
- -AST Input Terminals, Automatic Start
- -AW Alarm Output Contacts, Reservoir Low (Requires option -AG)
- -BW Alarm Output Contacts, Phase Failure/ Phase Reversal
- -BY Alarm Output Contacts, Pump Overload
- -CPL Alarm Output Contacts, Overpressure
- -EF Alarm Output Contacts, Main Switch Not In Auto (1 Set)
- -HV Alarm, Audible
- -IEC Marking, CE With External Wet Parts
- -IECI Marking, CE With Internal Wet Parts
- -KH Alarm Output Contacts, Common Alarm
- -NZ Input Terminals, Shutdown Interlock
- -OSP Marking, OSHPD Seismic Certification (State of California)(Requires option -SEI)
- -PE Alarm Output Contacts, Low System Pressure (Pump On Demand)
- -S Tropicalization
- -SEI Marking, Seismic Certified
- -ZPA Scheduled Service Message
- -ZPJ Data Port, Serial Modbus RTU Over 2-Wire or 4-Wire RS485

*Export Packaging available for additional cost

NOTE: For requirements not listed here, please contact your Firetrol representative or the factory.

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FTA556E JOCKEYXG PUMP CONTROLLERS - WYE-DELTA OPEN TRANSITION

	FTA556E-	<u>A</u> A		_ (Example: FTA556E-AA	4015B-T-BY)
FTA NUMBER FTA556E				PTIONS & MODIFICATIONS See other side)	3
TIMER OPTION -A With Programme Running Period	able Timer		V (!	OLTAGE 3-PHASE 50/60 Hertz)	MAX HP
MOTOR CURRENT PRO -A Circuit Breaker *Suitable for Use of Short Circuit Currer 200-480V - 65kA	DTECTION as Service Equipment* ent Rating		- - - -	H 200 - 208V A 220 - 240V F 380 - 415V B 440 - 480V C 550 - 600V	25 30 40 50 50
-F Fusible Disconnec *Suitable for Use of Short Circuit Curre 200-600V - 100k/	et Switch w/ Fuses as Service Equipment* ent Rating A (3-Phase)				
HORSEPOWER (KW) 014 - 1/4 HP (.18) 013 - 1/3 HP (.23) 012 - 1/2 HP (.37) 034 - 3/4 HP (.56) 001 - 1 HP (.75) 011 - 1 1/2 HP (1.1) 002 - 2 HP (1.5) 003 - 3 HP (2.2)	004 - 4 HP (3) 005 - 5 HP (3.7) 006 - 5 1/2 HP (4) 007 - 7 1/2 HP (5.5) 010 - 10 HP (7.5) 015 - 15 HP (11) 020 - 20 HP (15) 025 - 25 HP (19) 030 - 30 HP (22) 040 - 40 HP (29)				
(See Voltage Selectio HP/Voltage Combinat	n for Maximum tions)		NOTE: Fo ple ta	or requirements not liste ease contact a Firetrol tive or the factory.	ed here represen-

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- -G Enclosure, NEMA Type 12 (IP54), Painted Steel
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HIGHER SHORT CIRCUIT CURRENT RATING

(See selection data sheet)

Fusible Disconnect Switch with Fuses (200kA)

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¹ Power source supplied by others

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- -KH Alarm Output Contacts, Common Alarm
- -NZ Input Terminals, Shutdown Interlock
- -OSP Marking, OSHPD Seismic Certification (State of California)(Requires option -SEI)
- -PE Alarm Output Contacts, Low System Pressure (Pump On Demand)
- -S Tropicalization
- -SEI Marking, Seismic Certified
- -ZPA Scheduled Service Message
- -ZPJ Data Port, Serial Modbus RTU Over 2-Wire or 4-Wire RS485

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FTA556E





	MAXIMU	M HORSE	POWER		DIMENSIONS - INCHES [MILLIMETERS]						APPROX.	
200-208 VOLTS	220-240 VOLTS	380-415 VOLTS	440-480 VOLTS	550-600 VOLTS	A WIDE	B HIGH	C DEEP	D	E	F	G	WEIGHT
20	30	40	50	60	20 [508]	24 [610]	8 [203]	14 [356]	26 [660]	27 [686]	28 [712]	80 [36.2]
40	50	60	75	100	24 [610]	30 [762]	8 [203]	16 [406]	32 [812	33 [838]	32 [812]	100 [45.5]

					UPDATED TITLE BLOCK			280596	JMW T	EF 0	08-28-19	
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THIRD ANGLE		÷			WYE-DELTA JOCKEY XG PUMP CONTROLLER			000000				
PROJECTION	FINAL APPROVAL	TEF	06-12-13	© Firetrol, Inc. Not for construction. Subject to change without notice.				ECN 280)596	SHEE	ET 1 OF 1	



Jockeyxg Pump Controllers - Wye-Delta Open Transition Starting with C.B.



					WIRING SCHEMATIC			280596	JMW	TEF	08-28-19	
	SIZE A	BY	DATE		REVISION DESCRIPTION			ECN NO	BY	APP	DATE	
					WIRING SCHEMATIC	ETA556E	DRAWING	NUMBER				
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THIRD ANGLE					MAYE DELTA LOCKEY VC DUMD CONT				<u>,00 00</u>			
PROJECTION	FINAL APPROVAL	GFD	06-05013	© Firetrol, Inc. Not for construction. Subject to change without notice.	WITH CIRCUIT BREAKER			NO 280	0596	SH	HEET 1 OF 1	
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FTA556E

Jockeyxg Pump Controllers - Wye-Delta Open Transition Starting with C.B.



					UPDATED TITLE BLOCK			280596	JMW	TEF	08-28-19	
	size A	BY	DATE		REVISION DESCRIPTION			ECN NO	BY	APP	DATE	
\Rightarrow	DRAWN BY	TEE	06-05-13	Firetrol, Inc.	WIRING SCHEMATIC	FTA556E						
THIRD ANGLE					WYE-DELTA JOCKEY XG PUMP CONTROLLER OPTIONS AND MODIFICATIONS			_ W3550-00				
PROJECTION	FINAL APPROVAL	TEF	06-05-13	© Firetrol, Inc. Not for construction. Subject to change without notice.				ECN 28)596	SH	IEET 1 OF 1	
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