

October 2004

FPATS - Stand Alone Transfer Switch



Product Description

Eaton's Cutler-Hammer Automatic Transfer Switches provide automatic transfer of an electrical load to a standby power supply in the event of drop or loss of voltage of any or all phases of the normal power supply.

Upon the restoration of the normal supply, the electrical load is automatically retransferred to the normal power supply.

Transfer Switch Features

Electrically and Mechanically Interlocked

The FPATS transfer switch operating mechanisms are mechanically interlocked to prevent the normal and alternate source from connecting at the same time. The switch operates upon signals received from the MP1-E microprocessor.



Test Switch

A test switch is provided on the outside of the controller that can be used to simulate the loss of power on the normal source. As well, a silence pushbutton is provided which de-energizes the alarm bell.

Automatic Transfer

The FPATS transfer switches will perform an automatic transfer from Normal to Alternate source when the Voltage drops to 85% of normal, or there is a loss of any phase and/or Phase Reversal.

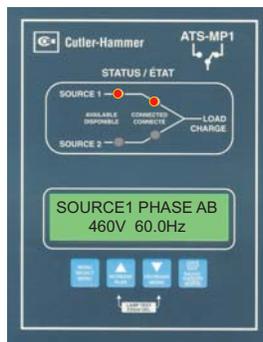


Remote Alarm Contacts

Four remote alarm contacts are available for indication of
 Connected to Normal Power
 Connected to Alternate Source
 Isolation Switch Open
 Normal Power Failure

ATS - MP1-E

The microprocessor based MP1-E controller is an integral part of the FPATS transfer switches. It accurately monitors two power sources and provides the necessary intelligence to operate the transfer switch in an appropriate and timely manner.



Keypad Programming

The MP1-E controller membrane is equipped with four keypad input buttons. In addition, a fifth user input exists via a rear located PC serial port connection, that can be used for programming of options and setpoints.

Lamp Test

(Increase and Decrease Simultaneously)
 Pressing the Increase and Decrease buttons simultaneously will cause all of the LEDs to illuminate for a minimum of ten seconds. During this lamp test the LCD displays the message "Lamp Test."

LED Status Indication

Four red LED's indicate the status of the power sources.

Source 1 Available	Source 1 Connected
Source 2 Available	Source 2 Connected

Source 1 (Normal) Available

This LED is lit when the normal source meets the user programmed setpoint criteria.

Source 2 (Normal) Connected

This LED displays the status of the transfer switch position. It illuminates when the normal source is available and the transfer switch is in normal position. Indication of the transfer switch in normal position is accomplished by sensing the closed A-contact of the normal switch auxiliary.

Source 2 (Emergency) Available

This LED is lit when the emergency source meets the user programmed setpoint criteria.

Source 2 (Emergency) Connected

This LED displays the status of the transfer switch position. It illuminates when the emergency source is available and the transfer switch is in emergency position. Indication of the transfer switch in emergency position is accomplished by sensing the closed A-contact of the emergency switch auxiliary.

Voltage & Frequency Sensing

The MP1-E continuously monitors the normal source for out of range setpoint values. When the source is outside the dropout setpoints, the source will become unavailable.

This prompts a transfer to the alternate source. Retransfer occurs when the normal source's frequency and/or voltage return within pickup setpoints.

Input Pushbuttons

Menu Select

The user can scroll through the available display information. Pushing the Menu Select key will scroll through the voltage and frequency of each source. When in the setpoints menu, pushing the Menu Select key will scroll the user through each of the setpoint options in sequence.

Increase

When the user initiates program mode, each press of the Increase key will increase the displayed value by one. The Increase pushbutton will continue to scroll if it is pressed and not released.

Decrease

When the user initiates program mode, each press of the Decrease key will decrease the displayed value by one. The Decrease pushbutton will continue to scroll if it is pressed and not released.

Save / Exit

When in program mode and the user has selected the desired setpoints for nominal operation, pressing the save button will store all of the settings.

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Technical Data and Specifications

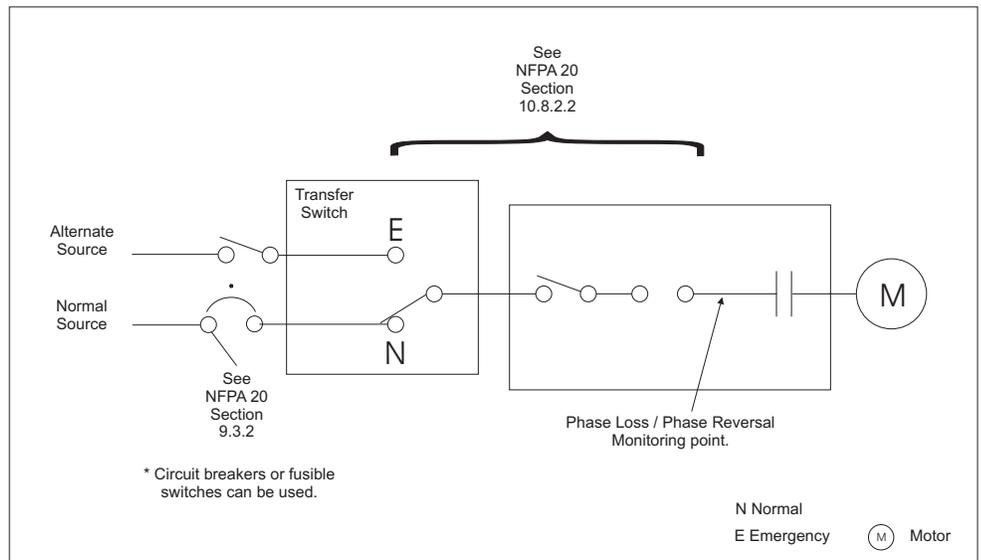
Line Terminals (Incoming Cables)

	Line Terminals on Main Isolation Switch (Incoming Cables)					Qty. & Cable Sizes	Service Entrance GND.LUG Qty. & Cable Sizes
	LINE VOLTAGE						
	200 - 208	220 - 240	380 - 415	440 - 480	550 - 600		
Max. Hp	30	30	60	75	100	(1)#14-1/0 PER Ø (CU/AL)	(1)#14-2/0 (CU/AL)
	40	40	100	100	-	(1)#4-4/0 PER Ø (CU/AL)	(1)#14-2/0 (CU/AL)
	75	75	150	200	200	(1)#3-350MCM Ø (CU/AL)	(1)#4-350MCM (CU/AL)
	100	125	200	250	300	(2)3/0-250MCM Ø (CU/AL)	(2)#4-350MCM (CU/AL)
	150	200	350	400	400	(2)250-350MCM Ø (CU/AL)	(2)#2-600MCM (CU/AL)

Installation Parameters

NFPA 20 - Arrangement II Individually Listed Fire Pump Controllers and Power Transfer Switch

When applying Arrangement II, all installations should comply with NFPA 20 - Section 9.3.2 and Section 10.8.2.2.



NFPA 20 - Arrangement II

Standards & Certification

The FPATS transfer switches meet or exceed the requirements of Underwriters Laboratories, Underwriters Laboratories Canada, Factory Mutual, the Canadian Standards Association, New York City building code and are built to NFPA 20 standards.

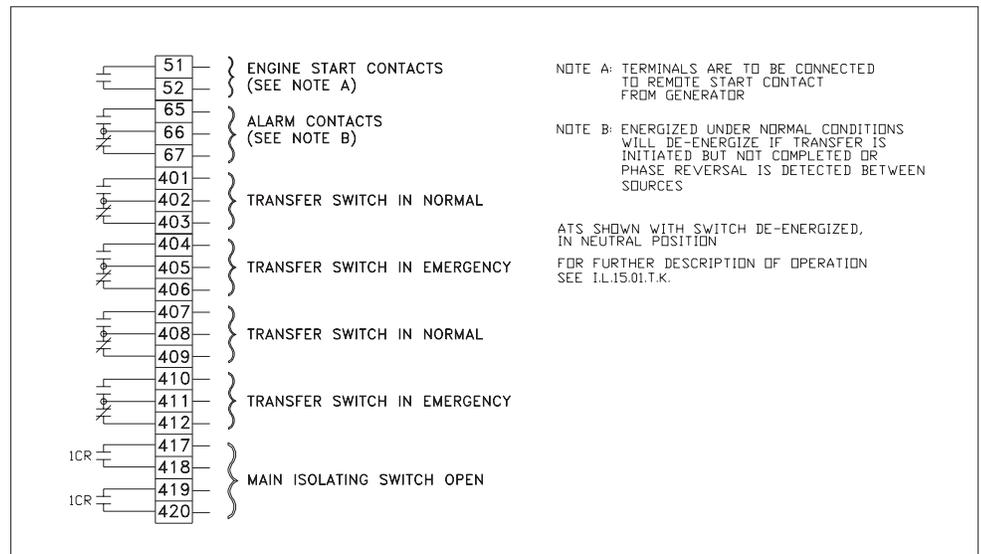


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NEMA 2 Enclosures

All FPATS transfer switches come standard with NEMA 2 enclosures unless otherwise ordered. Available options include: NEMA 3R, 4, 4X, 12.

Transfer Switch Terminal Block

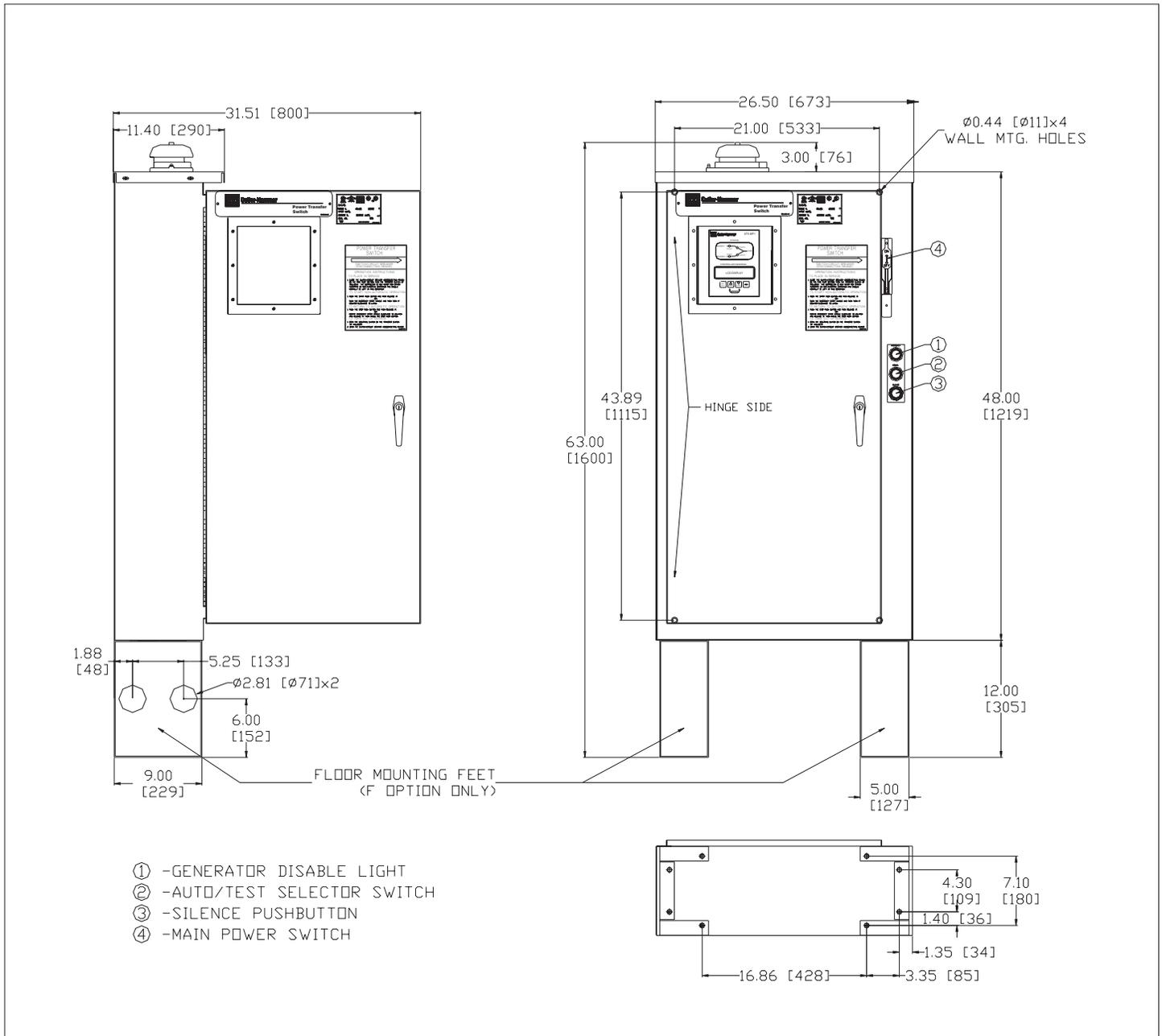


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FPATS - Stand Alone Transfer Switch

Dimensions

FPATS Stand Alone Transfer Switch



Motor Hp	Line Voltage	Withstand Rating			Approx. Weight Lbs. (Kg)
		Standard	Intermediate	High	
5 - 40	200 - 208V	100,000	Consult Factory	Consult Factory	305 (138)
5 - 50	220 - 240V				
5 - 75	380 - 415V	65,000			
5 - 100	440 - 480V				
5 - 100	550 - 600V	25,000			

NOTES:

1. All enclosures finished in FirePump red.
2. Cable Entrance either top or bottom.
3. Standard Enclosure type NEMA 2.

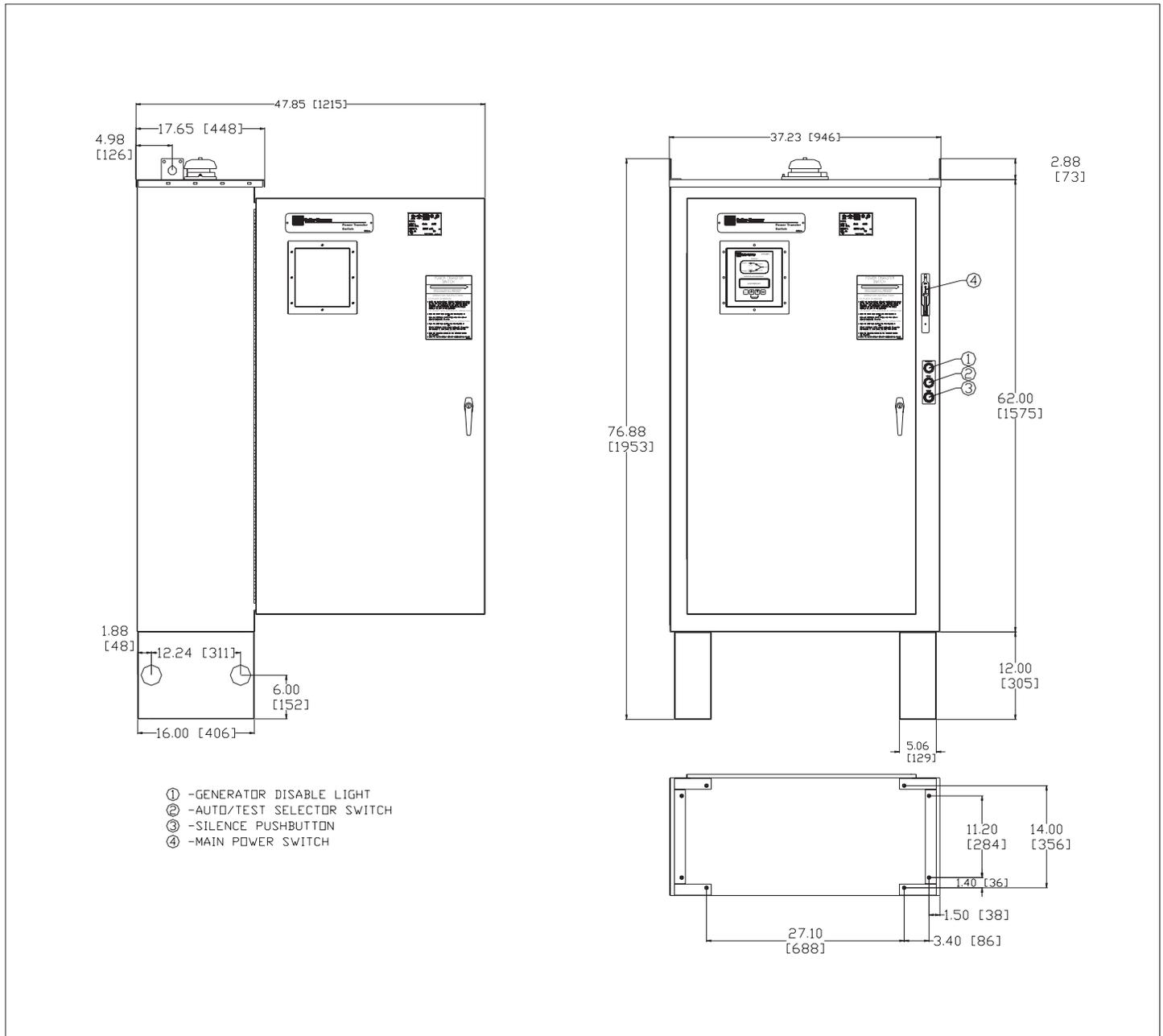


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FPATS - Stand Alone Transfer Switch

Dimensions

FPATS Stand Alone Transfer Switch



Motor Hp	Line Voltage	Withstand Rating			Approx. Weight Lbs. (Kg)
		Standard	Intermediate	High	
50 - 150	200 - 208V	100,000	Consult Factory	Consult Factory	565 (256)
60 - 200	220 - 240V				
100 - 300	380 - 415V	65,000			
125 - 400	440 - 480V				
125 - 500	550 - 600V	25,000			

NOTES:

1. All enclosures finished in FirePump red.
2. Cable Entrance either top or bottom.
3. Standard Enclosure type NEMA 2.

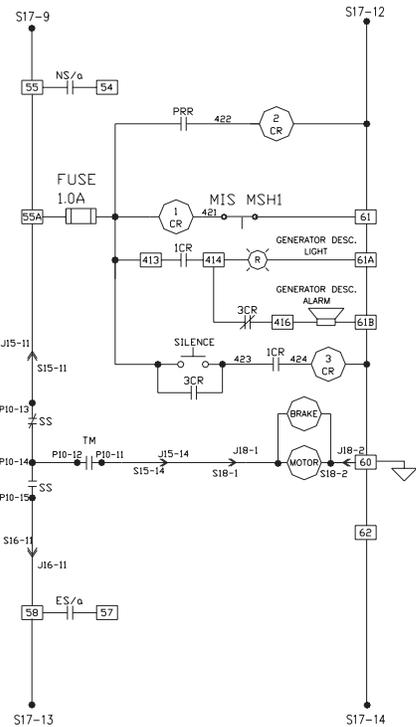
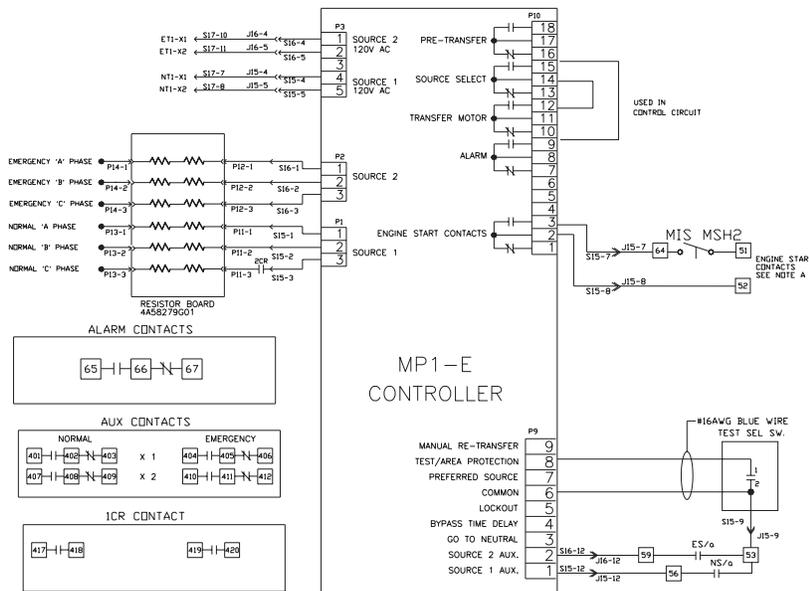
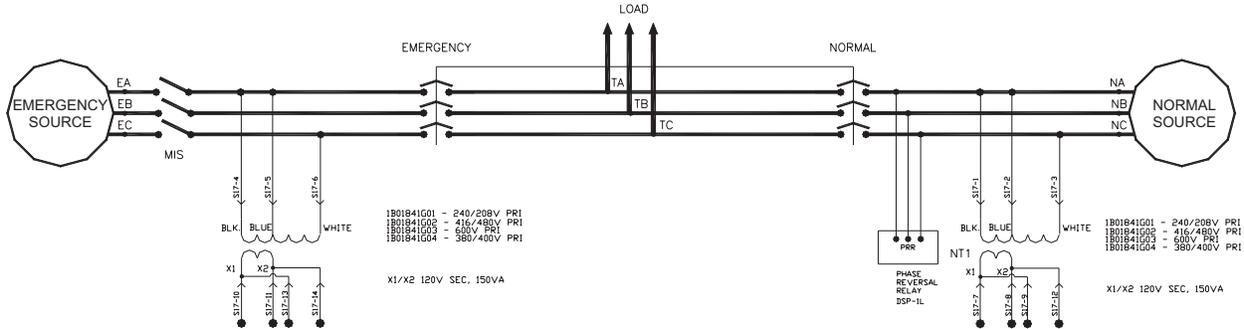


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FPATS - Stand Alone Transfer Switch

Electrical Wiring Schematic
FT Automatic Power Transfer Switch



NORMAL S15/J15 PINOUT

1	4	7	10	13
NT1	S17-7	P10-3	J15-10	P9-5
X1	X1	51	54	63
2	5	8	11	14
NT1	S17-8	P10-2	J15-9	S18-1
X2	X2	52	55	64
3	6	9	12	15
NT1	P9-6	53	56	P9-8
X4	NS/ø	101		

EMERGENCY S16/J16 PINOUT

1	4	7	10	13
E11	S17-10	P10-7	J16-10	P9-5
AL	X1	57	58	63
2	5	8	11	14
E11	S17-11	P10-8	J16-9	S18-1
AL	X2	58	59	64
3	6	9	12	15
E11	P10-9	59	60	P10-18
X4	ES/ø	101		

TRANSFORMER S17/J17 PINOUT

1	4	7	10	13
NA	EA	NT1	E11	E11
(BLK)	(BLK)	X1	X1	X3
2	5	8	11	14
NA	EA	NT1	E11	E11
(BLU)	(BLU)	X2	X2	X4
3	6	9	12	15
NC	EC	NT1	E11	E11
(WH)	(WH)	X3	X4	

- ESx - EMERGENCY AUXILIARY SWITCH
- Ex - EMERGENCY CUSTOMER CONNECTION
- NSx - NORMAL AUXILIARY SWITCH
- Nx - NORMAL CUSTOMER CONNECTION
- Jx - FEMALE CONNECTOR
- Px - BOARD EDGE CONNECTOR
- Sx - MALE CONNECTOR
- Tx - LOAD CUSTOMER CONNECTION

NOTE A: TERMINALS ARE TO BE CONNECTED TO REMOTE START CONTACT FROM GENERATOR

ATS SHOWN WITH SWITCH DE-ENERGIZED, IN NEUTRAL POSITION
FOR FURTHER DESCRIPTION OF OPERATION SEE I.L15.01.K.



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