

NF24 /120 (-S) us Spring return direct coupled air damper actuator



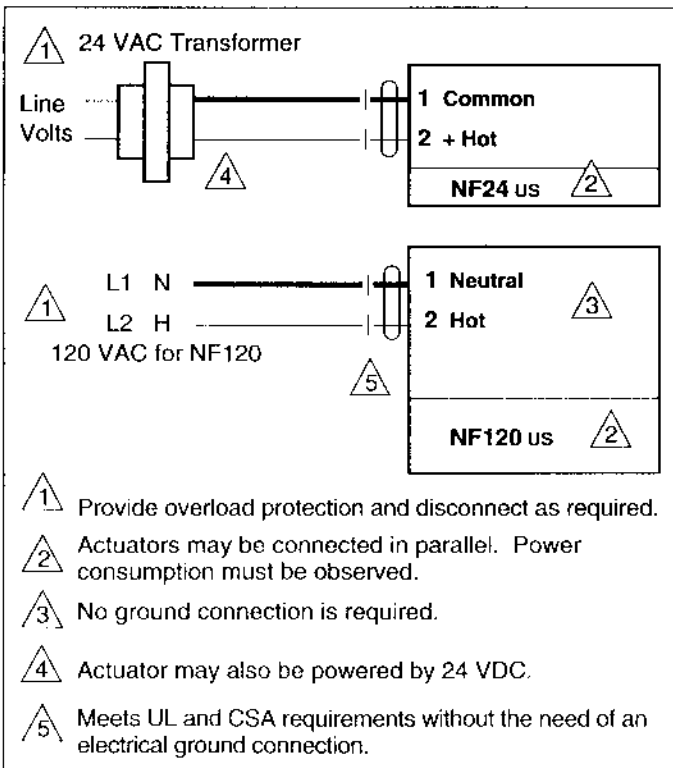
On-off, spring return safety, 24 VAC or VDC; 120 VAC

Accessories

AV 10-18	Shaft extension
IND-AF2	Damper position indicator
K4-1	Universal clamp for up to 1.05" dia jackshafts
K4-H	Universal clamp for hexshafts 3/8" to 5/8"
KH-AF	Crankarm for up to 3/4" round shaft
KH-AF-1	Crankarm for up to 1.05" jackshaft
KH-AFV	V-bolt kit for KH-AF and KH-AF-1
Tool-01	10 mm wrench
ZDB-AF2	Angle of rotation limiter
ZG-100	Universal mounting bracket
ZG-101	Universal mounting bracket
ZG-102	Multiple actuator mounting bracket
ZG-103	Universal mounting bracket
ZG-104	Universal mounting bracket
ZG-106	Mounting bracket for Honeywell® Mod IV replacement or new crankarm type installations
ZG-107	Mounting bracket for Honeywell® Mod III or Johnson® Series 100 replacement or new crankarm type installations
ZG-108	Mounting bracket for Barber Colman® MA 3..4..., Honeywell® Mod III or IV or Johnson® Series 100 replacement or new crankarm type installations
ZG-AF	Crankarm adaptor kit for AF/NF
ZG-AF108	Crankarm adaptor kit for AF/NF
ZS-100	Weather shield (metal)
ZS-150	Weather shield (polycarbonate)
ZS-200	Explosion-proof housing
ZS-250	Explosion-proof housing
ZS-300	NEMA 4X housing

Note: When using NF24 us and NF24-S us actuators, only use accessories listed on this page.

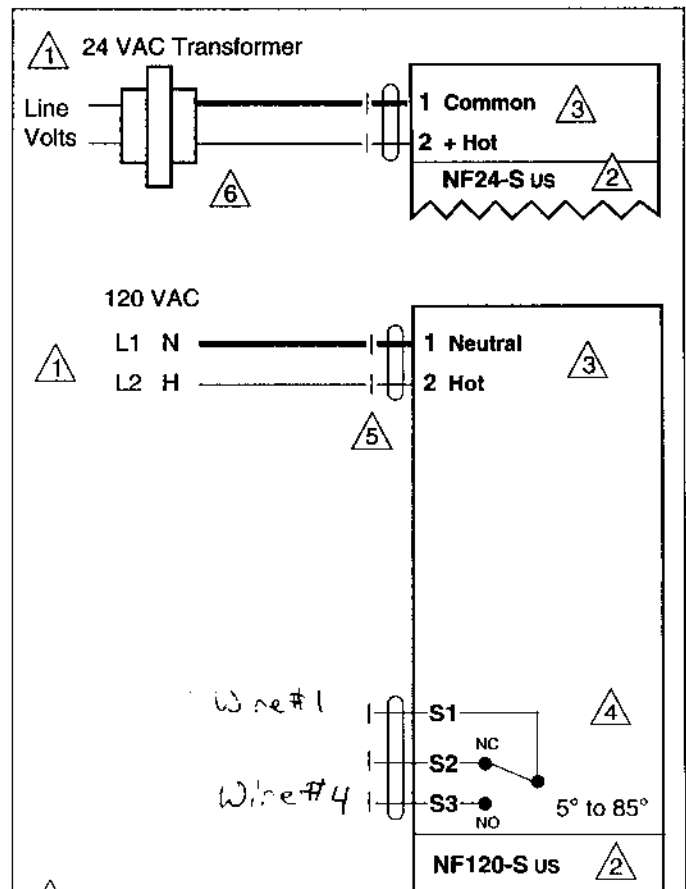
Wiring diagrams



On-off wiring for NF24 /120 us

NF24 us / NF120 us Typical Specification

On-off spring return damper actuators shall be direct coupled type which require no crankarm and linkage and be capable of direct mounting to a jackshaft up to a 1.05" diameter. The actuators must be designed so that they may be used for either clockwise or counterclockwise fail-safe operation. Actuators shall be protected from overload at all angles of rotation. If required, 1 SPDT auxiliary switch shall be provided having the capability of being adjustable. Actuators with switch shall be constructed so an electrical ground connection is not required to meet agency listings. Actuators shall be UL listed and CSA certified, have a 2 year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall be as manufactured by Belimo.



- 1** Provide overload protection and disconnect as required.
- 2** Actuators may be connected in parallel. Power consumption must be observed.
- 3** No ground connection is required.
- 4** For end position indication, interlock control, fan startup, etc., NF...-S us incorporates one built-in auxiliary switch: 1 x SPDT, 6A (2.5A) @240 VAC, UL listed, adjustable 5° to 85°.
- 5** Meets UL and CSA requirements without the need of an electrical ground connection.

On-off wiring for NF24 /120-S us

AM24(-S) US on-off/floating point control direct coupled actuator



On-off/ floating point control, 24 V

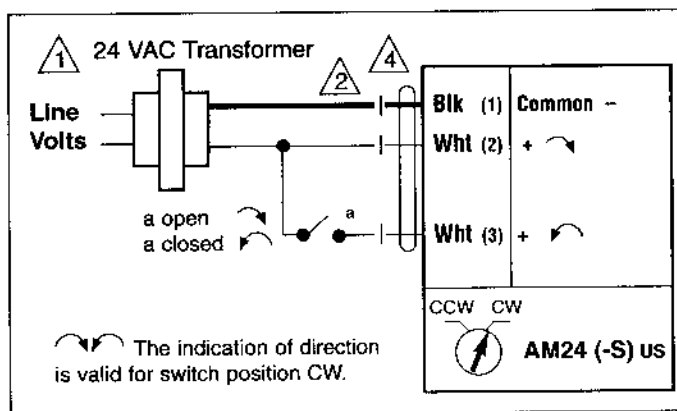
Accessories

AV 1	Damper shaft extension for AM
AV10-18	Universal shaft extension
K4-1	Clamp for 3/4" to 1.05" jackshafts
K4-H	Hex shaft clamp, for 3/8"-5/8" shafts
KH-AM	Crankarm
SA1 us, SA2 us	Auxiliary switches
PA... us	140 Ω, 500 Ω, 1000 Ω, 2800 Ω feedback potentiometers
Tool-01	10 mm wrench
ZG-AM	Crank arm adaptor kit
ZG-100	Mounting bracket
ZG-101	Mounting bracket
ZG-103	Mounting bracket
ZG-104	Mounting bracket
ZS-100	Weather shield (metal)
ZS-150	Weather shield (polycarbonate)
ZS-200	Explosion-proof housing
ZS-250	Explosion-proof housing
ZS-300	NEMA 4X housing

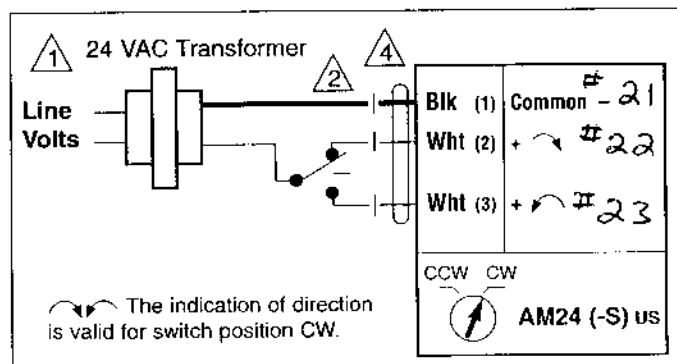
AM24(-S) us - Typical Specification:

Control damper actuators shall be electronic direct coupled type which require no crank arm and linkage and be capable of direct mounting to a jackshaft up to a 1.05" diameter. Actuators shall be UL and CSA listed, have a 2 year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall have reversing switch and manual override on the cover, and be protected from overload at all angles of rotation. If required, two adjustable SPDT auxiliary switches shall be provided (AM24-S us). Actuators shall be as manufactured by Belimo. Actuators with switches must be constructed to meet the requirements for double insulation so an electrical ground connection is not required to meet agency listings.

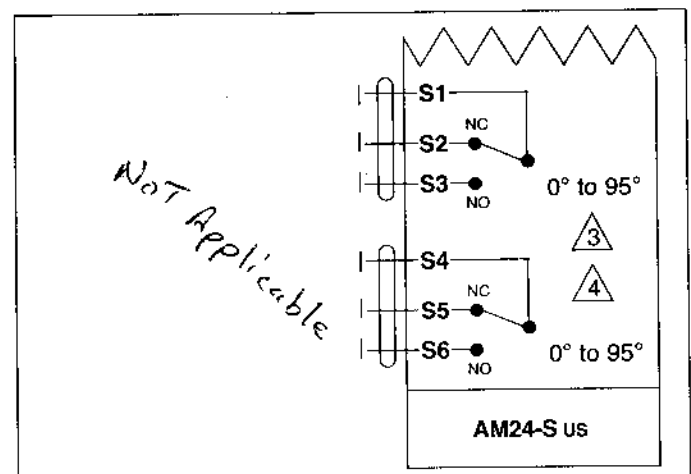
Wiring diagrams



On-off control



Floating point or on-off control



Auxiliary switch wiring for AM24-S us

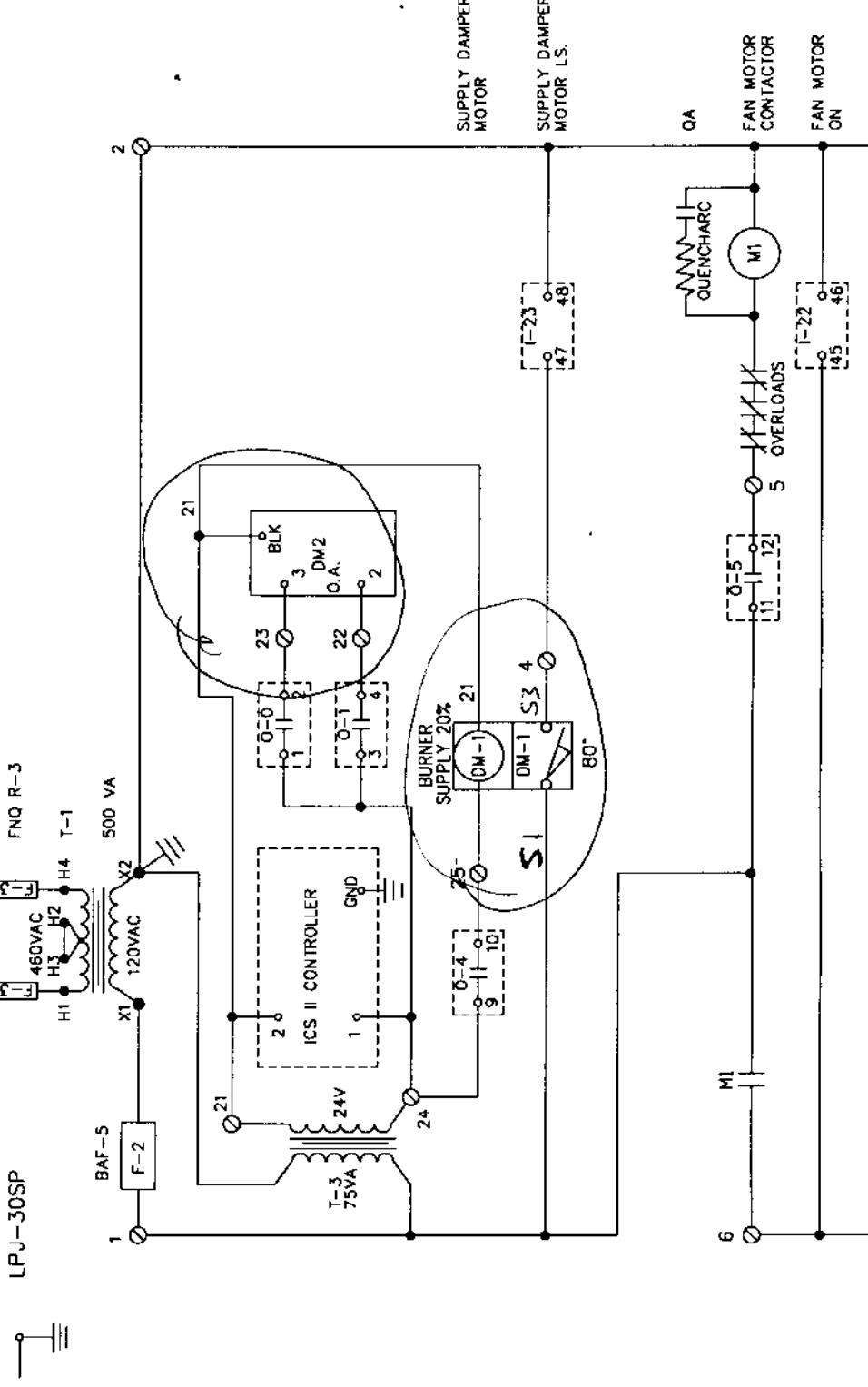
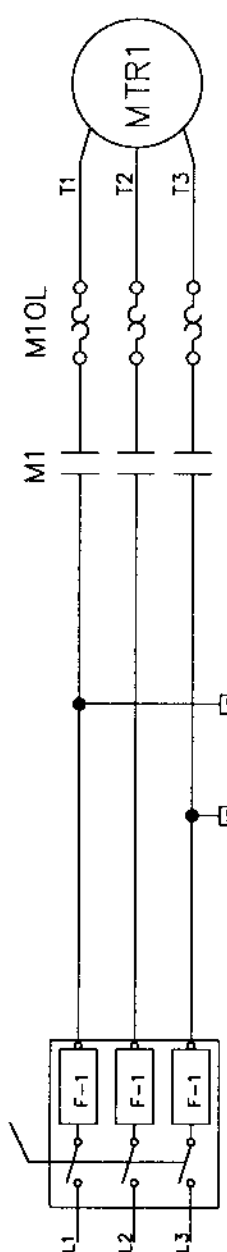
Notes

- 1 Provide overload protection and disconnect as required.
- 2 Actuators may also be powered by 24 VDC
- 3 For end position indication, interlock control, fan startup, etc., AM24-S us incorporates two built-in auxiliary switches: 2 x SPDT, 6A (1.5A) @250 VAC, UL listed, adjustable between 0° and 95°.
- 4 Meets UL and CSA requirements without the need of an electrical ground connection.

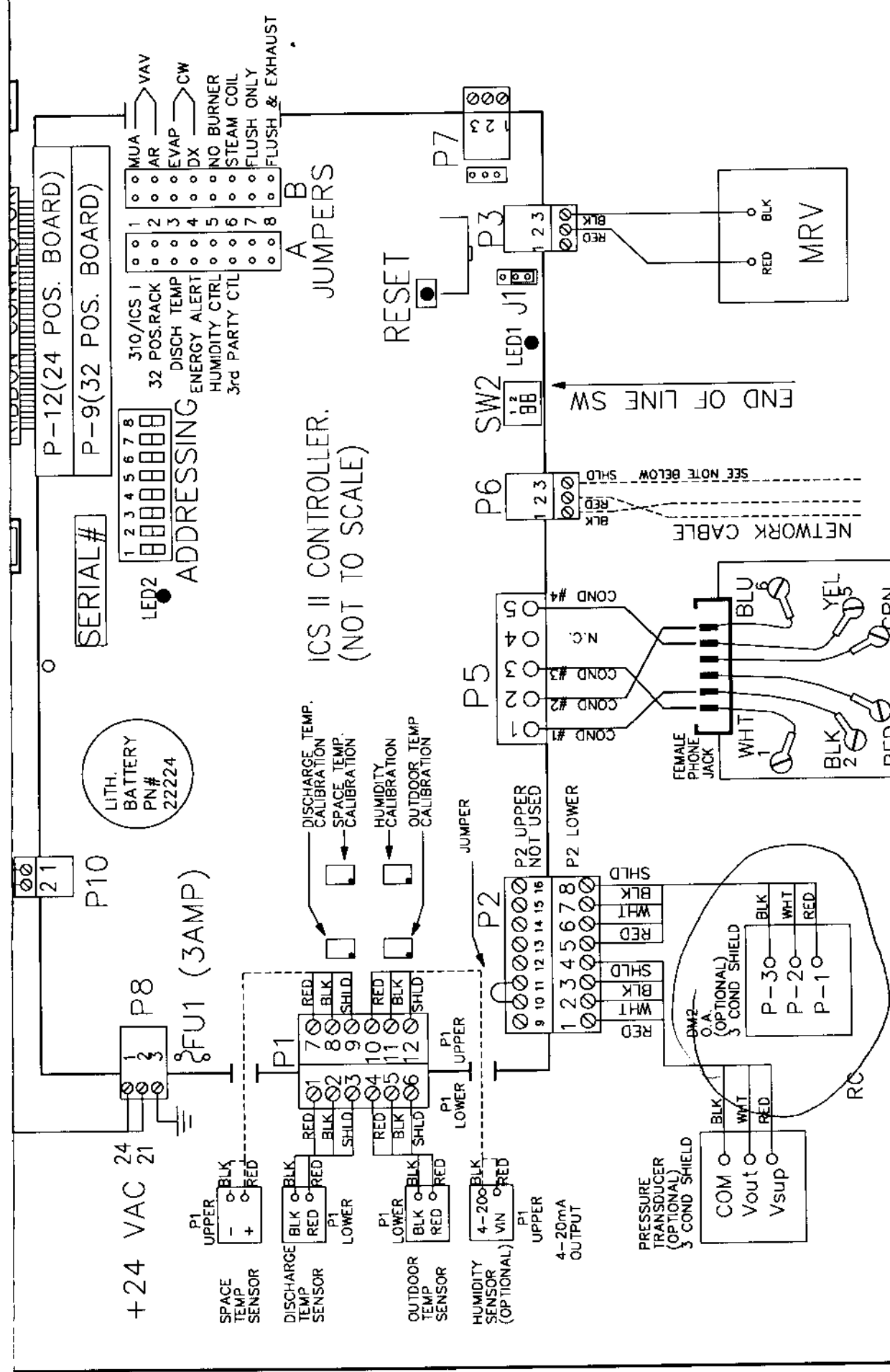
SERVICE
POWER SUPPLY
460 V 3 PH 60 Hz
22.0 FLA

FEEDER PROTECTION
SIZING BY OTHERS
REF: N.E.C. TABLE 4-30-152

SUPPLY FAN MOTOR
15 HP
1800 RPM
19.0 FLA
254T FRAME



17 SAFETY SWITCHES
16 FAN MOTOR ON
15 FAN MOTOR CONTACTOR
14 QUENCH CHARC
13 M1
12 SUPPLY DAMPER MOTOR LS.
11 SUPPLY DAMPER MOTOR
10 BURNER SUPPLY 20%
9 ICS II CONTROLLER
8 DM-1
7 MANUAL RESET HIGH TEMP
6 AIR FLOW AFS-1
5 OVERLOADS
4 LPJ-30SP
3 F-1
2 F-1
1 F-1



P-12(24 POS. BOARD)

P-9(32 POS. BOARD)

SERIAL#

1 2 3 4 5 6 7 8
ADDRESSING

310/ICS 1
32 POS. RACK
DISCH TEMP
ENERGY ALERT
HUMIDITY CTRL
3rd PARTY CTL

1 2 3 4 5 6 7 8
MUA
AR
EVAP
DX
NO BURNER
STEAM COIL
FLUSH ONLY
FLUSH & EXHAUST

A B
JUMPERS

ICS II CONTROLLER.
(NOT TO SCALE)

RESET

SW2

P6

P5

P2 UPPER
NOT USED

P2 LOWER

P1

P1

P1

P1

P1

END OF LINE SW

NETWORK CABLE
SEE NOTE BELOW

FEMALE PHONE JACK
COND #1
COND #2
COND #3
COND #4
N.C.
WHT
BLK
RED
YEL
GRN
BLU

DM2
O.A. (OPTIONAL)
3 COND SHIELD
P-30
P-20
P-10

PRESSURE TRANSDUCER (OPTIONAL)
3 COND SHIELD
COM
Vout
Vsup

4-20mA OUTPUT
P1 UPPER
P1 LOWER

MRV
RED
BLK

RC