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2007 Installation & Operation Manual for Energenics Air-Flow Optimizer

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Receiving and Installation

1. Before you sign delivery documentation, please inspect all packaging to assure there is no freight damage. It is your responsibility because all shipments are FOB Factory. Once freight is on board Energenics is released from all liability for damage caused in transit.
2. All packaging should be kept intact in the unlikely situation where the items have to be returned to the factory for warranty reasons. Some of the components are manufactured by others and they stipulate that all warranty returns must be packaged in the original materials. In the event that packaging is non-standard a 20% restocking fee shall be imposed as we will be expected to pay the manufacturer for non-compliance of their terms.
3. After inspecting the contents the unit should be secured in a safe location as the Air-Flow optimizer is small in size but expensive. Don't lose it.
4. Mount the unit in a convenient location where it will be visible by plant personnel.

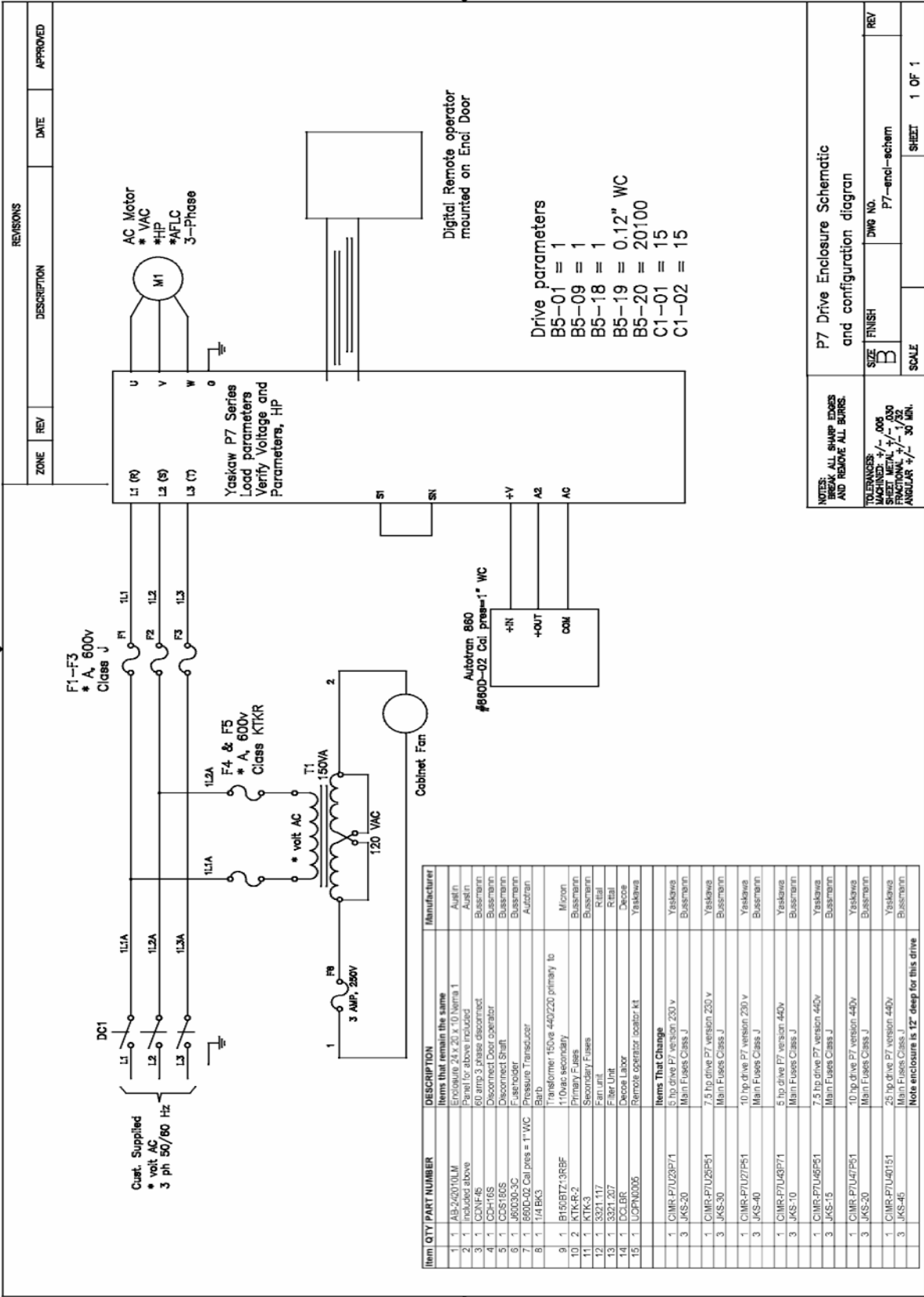
Description of Air-Flow Optimizer Operation

Your new Energenics Air-Flow Optimizer represents the most advanced feature available in the laundry industry to date. The following is a description of its capabilities:

The system consists of 3 components:

1. A pressure standoff which is to be mounted at the single point that will be an accurate depiction of the total affect of the dryers or other devices that result in exhaust air to be ducted outside of the laundry. A single large exhaust manifold containing all of the dryers would be a good example.
2. The Airflow Optimizer consists of 2 components. The Pressure Transducer and the VFD (Inverter).The Pressure Transducer should be mounted on the same structure as the variable frequency drive. There is a hose that should be connected at the pressure standoff and terminated at the pressure control.
3. The Variable Frequency Drive should be located in an area where it will be readily visible to plant personnel. The drive will have a display the percentage of Maximum Hertz (default hertz is 60) at which the fan is being instructed to operate.

As back pressure changes due to various pieces of equipment being on or off the Air-Flow Optimizer will change the speed of the motor to consistently maintain a system back pressure of .2-.4" W.C.



REVISIONS		DATE	APPROVED
ZONE	REV	DESCRIPTION	

AC Motor
* VAC
* HP
* AFLC
3-Phase

Yaskaw P7 Series
Load parameters
Verify Voltage and
Parameters, HP

U
V
W
0

Autotran 860
#6600-02 Cal pres=1" WC

Drive parameters
B5-01 = 1
B5-09 = 1
B5-18 = 1
B5-19 = 0.12" WC
B5-20 = 20100
C1-01 = 15
C1-02 = 15

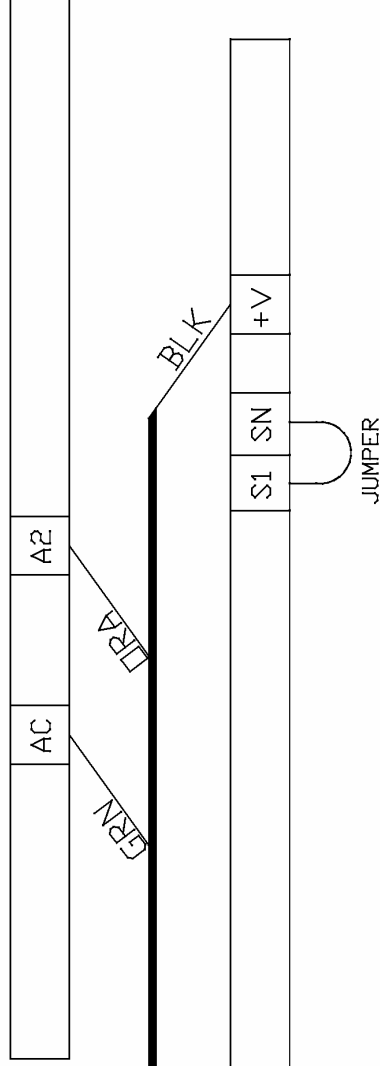
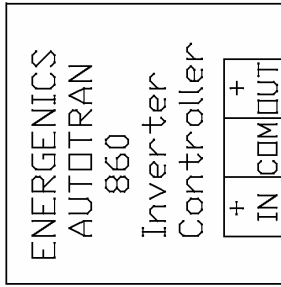
Digital Remote operator
mounted on Encl. Door

NOTES: BREAK ALL SHARP EDGES AND REMOVE ALL BURS.		P7 Drive Enclosure Schematic and configuration diagram	
TOLERANCES: DIMENSIONS: ±.005 HOLE POSITION: ±.010 FRAGMENTAL: ±.010/±.022 ANGULAR: ±.1°/±.30° MIN.	SIZE B	FINISH P7-encl-echam	SCALE 1 OF 1
DWG NO.	REV	SHEET	1 OF 1

Yaskawa P-7 Parameter settings
 PID Mode settings

P-7
PARAMETERS

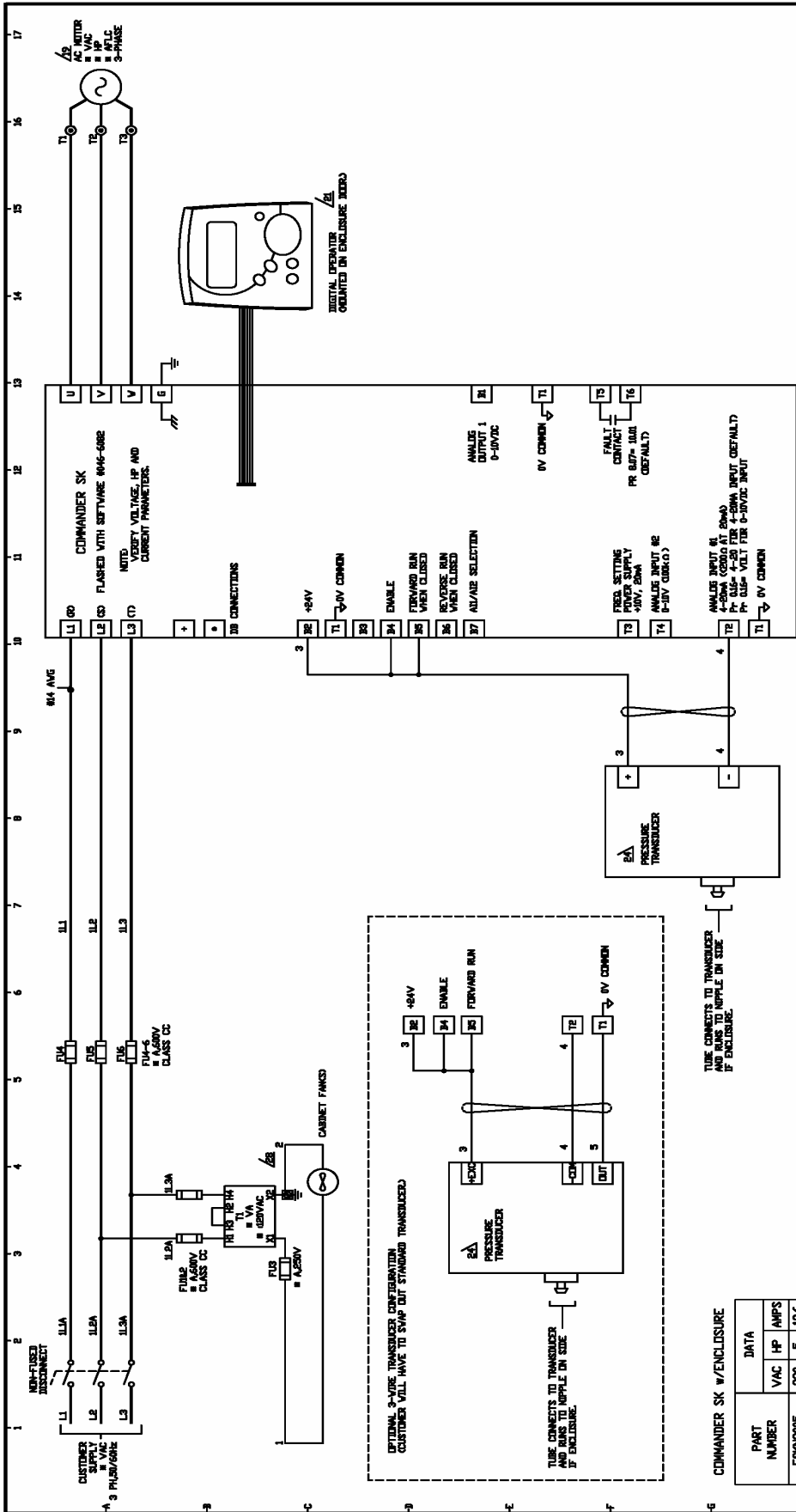
- B5-01=1
- B5-09=1
- B5-18=1
- B5-19=0-12" W.C.
- B5-20=20100
- C1-01=15
- C1-02=15



TO PROGRAM INVERTER, REMOVE S1 OR SN TO DISABLE RUN MODE

ENERGENICS INC.
 YASKAWA
 P-7 Parameters
 Wiring for YASKAWA P-7
 Inverter Controller
 Drawing # IN4007.95

Drawn 02/18/08
 Revised



ENG	KST	10 SEP 07
APP	KST	10 SEP 07

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SAFTRONICS
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SK NI ENCLOSURE CONFIGURATION
 SCHEMATIC DIAGRAM

AUTO CAD # DRAWING/PART NUMBER
 027-6082-1.DWG 1 OF 1 027-6082-1

SPECIAL DRAWING NOTES:

- CUSTOMER/SUPPLIER PROVIDED ON PANEL.
- ALL AC COILS SUPPRESSED

REVISIONS

NO.	DATE	DESCRIPTION
1	07 JUN 07	ISSUED TRANSDUCER CONNECTION
2	07 JUN 07	ISSUED TRANSDUCER CONNECTION
3	07 JUN 07	ISSUED TRANSDUCER CONNECTION

COMMANDER SK W/ENCLOSURE

PART NUMBER	VAC	HP	AMPS
ESKN2005	230	5	13.6
ESKN2775	230	7.5	20
ESKN2010	230	10	26
ESKN2015	230	15	40
ESKN2020	230	20	52
ESKN4005	460	5	7
ESKN4775	460	10	11
ESKN4010	460	7.5	13.3
ESKN4015	460	15	19
ESKN4020	460	20	27

SAFTRONICS/EMERSON PARAMETERS (ENCLOSED BOX)

Parameter Comparison Listing

Project: My Project : evalentin

Drive Name: Drive (Commander SK)

Drive Mode: Open loop

Drive Address: 1

Parameter	Description	Default	Memory	Units
01.41	Analog reference 2 select	OFF	On	
01.51	Power-up keypad reference	0	LASt	
02.04	Ramp mode select	Std	Std.HV	
02.11	Acceleration rate 1	5.0	10.0	s/100 Hz
05.07	Motor rated current	0.00	1.20	A
05.08	Motor rated full load rpm	1800	1700	RPM
05.14	Voltage mode select	Ur I	Fd	
05.15	Low frequency voltage boost	3.0	1.0	%
05.34	Speed display units	Fr	Cd	
05.50	Security unlock	0	1	
06.09	Catch a spinning motor select	0	1	
06.40	Enable sequencer latching	OFF	On	
07.06	Analog input 1 mode (terminal T2)	4-.20	VoLt	
07.14	Analog input 2 destination	1.37	0.00	menu.param
08.22	Terminal B4 digital input destination	6.29	6.39	menu.param
08.23	Terminal B5 digital input destination	6.30	6.34	menu.param
08.24	Terminal B6 digital input destination	6.32	6.31	menu.param
11.21	Customer defined scaling	1.000	0.056	
11.44	Security status	L1	L3	
14.03	PID reference source	0.00	18.12	menu.param
14.04	PID feedback source	0.00	1.36	menu.param
14.05	PID reference source invert	OFF	On	
14.06	PID feedback source invert	OFF	On	
14.08	PID enable	OFF	On	
14.09	Optional PID enable source	0.00	10.02	menu.param
14.11	PID integral gain	0.500	0.400	
14.14	PID lower limit	-100.0	0.0	%
14.16	PID output destination	0.00	1.37	menu.param
18.12	Application menu 1 read-write integer	0	5000	

SAFTRONICS/EMERSON PARAMETERS (NO ENCLOSURE)

00.03	Acceleration Time	5.0
00.04	Deceleration Time	10.0
00.06	Motor Rated current	HP dependent *
00.08	Motor rated Voltage	480 or 240
00.10	Security Level	L3
00.16	Analog input T2	4 to 20
00.23	Speed Display units	Cd
00.24	Custom Defined Scaling	0.056
00.27	Power up keypad reference	LASt
00.30	Ramp mode select	STD.HV
00.39	Motor rated Frequency	60
00.32	Dynamic V to F select	ON
00.33	Catch a spinning motor select	1
00.41	Voltage mode select	FD
00.42	Low Frequency Voltage Boost	1.0
01.01	Minimum Speed	15
01.14	Drive Configuration	A1.A2
01.15	Preset speed selector	6
01.28	Preset speed 8	5.0
01.41	Analog Reference 2 select	on
05.09	Motor rated Voltage	480
06.40	Enable Sequencer Latching	Off
07.10	Analog Input Destination	18.11
14.03	PID main ref. source	18.12
14.04	PID feedback source	18.11
14.05	PID ref. source invert	on
14.06	PID feedback source invert	on
14.08	PID Enable	on
14.09	PID Enable signal	10.02
14.11	PID Integral	0.400
14.14	PID low limit	0.0
14.16	PID output Dest.	1.26

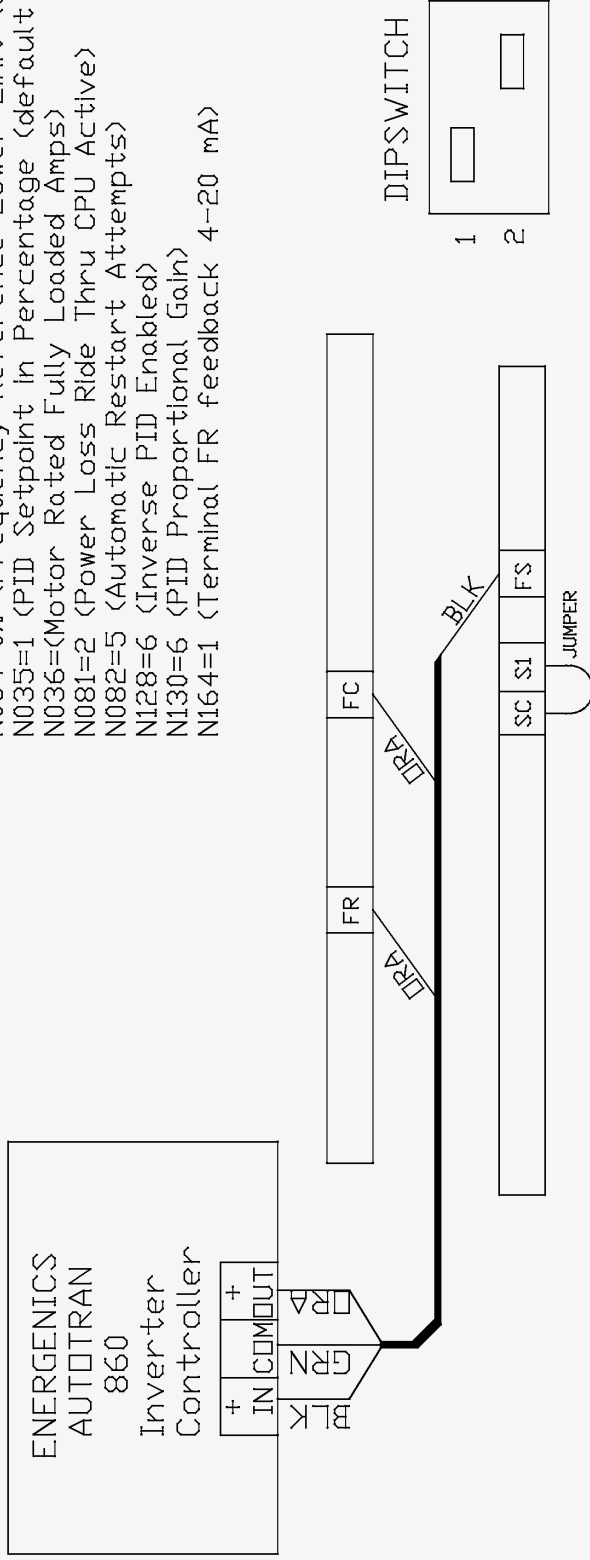
Monitor Parameters

00.81	Set Point Frequency	Should read 5.0 Hz
00.85	Output Frequency	Will vary with suction pressure
00.88	Output amps	Should not exceed motor rated current
00.94	Analog Input 1(T2)	Signal from Pressure transducer

* Motor current need to be set for proper motor thermal protection.
MT082407

Yaskawa V74X Parameter settings
 PID Mode settings

- N001=4 (n001 -n179 can be read set)
- N003=1 (Terminal Operation)
- N004=1 (Digital Operation)
- N011=70 (Maximum output Frequency (Hz))
- N012=(Motor Rated Voltage)
- N019=15
- N020=15
- N034=0% (Frequency Reference Lower Limit (0 Hz))
- N035=1 (PID Setpoint in Percentage (default 58%))
- N036=(Motor Rated Fully Loaded Amps)
- N081=2 (Power Loss Ride Thru CPU Active)
- N082=5 (Automatic Restart Attempts)
- N128=6 (Inverse PID Enabled)
- N130=6 (PID Proportional Gain)
- N164=1 (Terminal FR feedback 4-20 mA)



ENERGENICS INC.
 YASKAWA V74X

Wiring for YASKAWA V74X
 Inverter Controller
 Drawing # IN4007.85
 Drawn 12/30/02
 Revised 08/4/06

TO PROGRAM INVERTER, REMOVE S1 OR SC TO DISABLE RUN MODE