OPTIONAL PROBE CABLE #11211

PROBE CONNECTOR

OAK PROBE CONNECTOR

OAK AXIS DRIVE CABLE

PIN 1	GRN	Z
PIN 2	GRN/BLK	/Z
PIN 3	BLU	B
PIN 4	BLU/WHT	/B
PIN 5	WHT	A
PIN 6	WHT/BLK	/A
PIN 7	GRY/RED	LOGIC GND
PIN 8	GRY/BLU	LOGIC GND
PIN 9	WHT/RED	A POS REQUEST
PIN 10	WHT/BLU	/A POS REQUEST
PIN 11	LBLU	B POS REQUEST
PIN 12	LBLU/BLK	/B POS REQUEST
PIN 13	LGRN	POS ERR CLR
PIN 14	LGRN/BLK	/POS ERR CLR
PIN 16	VIO/WHT	24V COM
PIN 19	VIO	FAULT IN
PIN 17	YEL	BRAKE REQUEST
PIN 18	BRN/WHT	24V COM
PIN 21	BRN	ENABLE
PIN 20	RED/BLK	24V COM
PIN 23	RED	+24VDC
PIN 22	YEL/RED	DRIVE RESET
PIN 25	ORG/BLK	LOGIC GND
PIN 26	ORG	AN REQ
PIN 27	GRN/WHT	LOGIC GND
PIN 28	LGRN/GRN	AN IN
PIN 24	PNK/BLK	LOGIC GND
PIN 30	SHIELD	CHASSIS GND

3 PHASE

GRN

BLK RED WHT

GND LUG

ROTARY DISCONNECT

WIRES, CONTACTORS AND CIRCUIT BREAKER SIZES MUST BE RATED FOR COMPONENTS USED

220VAC 3 PHASE POWER (L3)
220VAC 3 PHASE POWER (L2)
220VAC 3 PHASE POWER (L1)

CB1 CB2 CB3 CB4 CB5 CB6 CIRCUIT BREAKER

220VAC IN

24VAC OUT 110VAC OUT

CNT1 E-STOP

CNT2 FLOOD

OCR2 FLOOD OVERLOAD

SSR1 SSR2 SSR3 SSR4

FLOOD PUMP

5ATD

INVERTER 3 PHASE POWER IN

MOTOR POWER

SEE DRIVE MANUAL FOR WIRE SIZES AND MOTOR CONNECTION

MEANWELL RQ-65D

+5V	RED OAK H1/PIN 4
(ALL) COM	BLK OAK H1/PIN 2 BLK OAK H1/PIN 5 16 BLK OAK H2/24V COM
(+12V) +V2	GRN YEL OAK H1/PIN 1
(24V) V3	15 YEL OAK H2/+24VDC
(-12V) -V4	BLU OAK H1/PIN 3
ACG	GRN OAK H1/PIN 6
ACN	12 110VACN
ACL	11 110VACH

PS1

OPTIONAL Z-AXIS BRAKE

MEANWELL S-25-24 PS3

+V (+24 VDC)
-V (24V COM)
ACG
ACN
ACL

50 OAK H6/OUT 9 COM
52 24VDC COMMON
12 110VACN
11 110VACH

AXIS BRAKE CABLE

BLK 52 PS3-V (24VDC COM)
RED 51 OAK H6/OUT9 NO (+24VDC)

TO IN CABINET PC

11 110VACH
12 110VACN

OPTIONAL PLCADD1616

MEANWELL RT-50B PS2

ACL ACN ACG NC -V(-12V) +V(+12V) +V2 (+12V) COM (ALL) -5V

PLCADD COM CABLE

PLCADD1616
REV 090306
Centroid PN, 11025

SEE MANUAL FOR CONNECTION OF INPUT DEVICES

OUT 16 … OUT 1 with COM / NC / NO

SIP 1 SIP 2 SIP 3 SIP 4

OPTO5 OPTO6 OPTO7 OPTO8

1 IN … 16 IN

1-4 COM 5-8 COM 9-12 COM 13-16 COM

SEE MANUAL FOR CONNECTION OF INPUT DEVICES

WORK LIGHT

MISTER

LUBE PUMP

FAULT NO FAULT COM FAULT NC

CABINET FAN

E-STOP SWITCH

ALL INPUTS WIRED ARE 22 AWG MIN.

SPIN LOW RANGE

INVERTER FAULT

LUBE ALARM

ROTARY HOME

Z AXIS + LIMIT

Z AXIS - LIMIT

Y AXIS + LIMIT

Y AXIS - LIMIT

X AXIS + LIMIT

X AXIS - LIMIT LIMIT SWITCHES 1 POLE 1 THROW NORMALY CLOSED

SHIELDED ETHERNET CABLE TO CONSOLE

ETHERNET

F10 (PROBE)

PROBE CABLE PN:11211

PROBE

JOG PANEL CABLE PN:11014

JOG PANEL

MPG CABLE PN:12806

MPG

DB9 PINOUT
PIN 1 = N/C
PIN 2 = COM (BLK/RED)
PIN 3 = ZI (BLK/GRN)
PIN 4 = AI (BLK/WHT)
PIN 5 = BI (BLK/BLU)
PIN 6 = Z (GRN)
PIN 7 = A (WHT)
PIN 8 = B (BLU)
PIN 9 = +5VDC (RED)

PLC ADD CONNECTORS

H12 H10 H9 H8 H7 DRIVE COM OUT

OAK

LC4D
REV 150209
Centroid PN, 13135

LOOKING AT FRONT OF CONNECTOR

/Z ENCODER			Z ENCODER
/B ENCODER			B ENCODER
/A ENCODER			A ENCODER
5V COM			5V COM
/A POS. REQUEST			A POS. REQUEST
/B POS. REQUEST			B POS. REQUEST
/POS. ERROR CLEAR			POS. ERROR CLEAR
24V COM			N/C
24V COM			BRAKE REQUEST
24V COM			FAULT IN
DRIVE RESET			ENABLE
5V COM			+24VDC
ANALOG REQUEST			5V COM
ANALOG IN			5V COM
GND			N/C

H3 AXIS 1 · H4 AXIS 2 · H5 AXIS 3 · H6 AXIS 4

X-AXIS

SGDV- CN5 CN3 CN7 CN1 CN8 CN2

CNT1/T1 (220VAC L1) CNT1/T2 (220VAC L2) CNT1/T3 (220VAC L3) CB3/2 (220VAC L2) CB3/4 (220VAC L3)

L1 L2 L3 L1c L2c B1 B2 B3 1 2 U V W

X-AXIS MOTOR CABLE X-U X-V X-W GND-X

Y-AXIS

SGDV- CN5 CN3 CN7 CN1 CN8 CN2

Y-AXIS MOTOR CABLE Y-U Y-V Y-W GND-Y

Z-AXIS

SGDV- CN5 CN3 CN7 CN1 CN8 CN2

Z-AXIS MOTOR CABLE Z-U Z-V Z-W GND-Z

4TH-AXIS

SGDV- CN5 CN3 CN7 CN1 CN8 CN2

4TH-AXIS MOTOR CABLE 4TH-U 4TH-V 4TH-W GND-4TH

SEE DRIVE MANUAL FOR WIRE SIZES AND MOTOR CONNECTION

OAK H6/AXIS-4 #13134
OAK H5/AXIS-3 #13134
OAK H4/AXIS-2 #13134
OAK H3/AXIS-1 #13134

OPTIONAL CONSOLE Centroid PN. 13181

USB 3.0 LOCATED ON BACK

MPG

OAK MPG CONN.

OAK JOG PANEL CONNECTOR

E-STOP SWITCH

NUC COMMUNICATION

TOUCH SCREEN KEYBOARD MOUSE

USB 3.0 #8583

NUC #8520 HDMI USB USB ETHERNET MINI DISPLAY 19V POWER

HUB #8283

OAK ETHERNET VGA #8524 RS-75-12

VGA CONTROLER BOARD

CONSOLE E-STOP CABLE

E-STOP CONNECTOR

+V (12VDC) V1 (12VDC COM) ACG ACN ACL

MEANWELL RS-75-12

#13160

TO TB

NETWORK ACCESS #8570

JOG PANEL CONNECTOR

E-STOP SWITCH

OAK JOG PANEL CONNECTOR

OPTIONAL JOG PENDANT #11077

JOG PEN E-STOP CABLE

E-STOP CONNECTOR

MPG CONNECTOR

OPTIONAL MPG CABLE

PIN 1	+5VDC	RED	
PIN 5	AXIS 1	BLK	
PIN 6	AXIS 2	ORG	
PIN 7	AXIS 3	RED/BLK	
PIN 8	AXIS 4	WHT/BLK	
PIN 9	AXIS 5	BLU/BLK	
PIN 10	MPG X 1	GRN/BLK	
PIN 11	MPG X 10	ORG/BLK	
PIN 12	MPG X 100	RED/WHT	
PIN 14	MPG LED	GRN/WHT	
PIN 15	WHEEL +A	BLU	
PIN 16	WHEEL -A	BLU/RED	
PIN 17	WHEEL +B	GRN	
PIN 18	WHEEL -B	RED/GRN	
PIN 19	AXIS 6	WHT/RED	
PIN 20	AXIS 7	ORG/RED	
PIN 21	AXIS 8	BLK/WHT	
PIN 22	5VDC COM	WHT	
PIN 26	GROUND	SHIELD	

SHLD	GROUND
BLK/WHT	AXIS 8
ORG/RED	AXIS 7
WHT/RED	AXIS 6
BLU/BLK	AXIS 5
WHT/BLK	AXIS 4
RED/BLK	AXIS 3
ORG	AXIS 2
BLK	AXIS 1
WHT	5VDC COM
BLU	WHEEL +A
BLU/RED	WHEEL -A
GRN	WHEEL +B
RED/GRN	WHEEL -B
GRN/BLK	MPG X 1
ORG/BLK	MPG X 10
RED/WHT	MPG X 100
GRN/WHT	MPG LED
RED	+5VDC

PLCADD COM CABLE PN:11071

PART	LOCATION	PART	LOCATION
A-AXIS SERVO	C4	MISTER SOLENOID	D3
CB1	D2	MPG	D5,D6,E5,E6
CB2 THUR CB7	B1 THRU D1	OCR2	D2
CNT1	B2	PLCADD1616 (REV 090306)	H2,H3
CNT2	D2	PC	E1
CONSOLE	B5,C5,B6,C6	PROBE	A1
CONSOLE E-STOP SWITCH	B6,C6	PS1 (RQ-65D)	E2
DISCONNECT	C1	PS2 (RT-50B)	H1
DOOR FAN	E4	RANGE SWITCH	E3
E-STOP SWITCH	D3	ROTARY CLAMP SOLENOID	D3
FLOOD PUMP MOTOR	D2	ROTARY HOME SWITCH	E4
GROUND LUG	C1	T1	C2
OAK (REV 15029)	F3,F4,F5	X-AXIS SERVO	A4
INVERTER	D2	Y-AXIS SERVO	B4
JOG PENDANT	C6,D6	Z-AXIS SERVO	C4
JOG PENDANT E-STOP SWITCH	D6		
LIMIT SWITCHES	E4		
LUBE PUMP	D3		

CENTROID (814) 353-9256 www.centroidcnc.com
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Title: BOARD LEVEL M400,M39, 220VAC, 3PH, OAK, OPTIONAL PLCADD1616, YASKAWA SERVO DRIVES, SLIMLINE W/ NUC, GENERIC INVERTER

Size D | Number | Rev A

Date 160314 | Drawn by SPM

Filename S14731.dwg | Sheet 1 of 1