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NOTE:
1. SET SWITCH SW2 (#3) IN MI12 INTERFACE UNIT TO THE AUTO START POSITION
3.1 FANUC OPERATOR DOOR INTERLOCK VMC_SHT1

This circuit has the following functions:

1. Estop shuts down:
   - All drives (180CR2 3&4)
   - All outputs to: motors, pumps, and air solenoids.

2. Do not allow door to unlock if:
   - Spindle is on or moving (standstill monitor and PLC),
   - Axes in motion (PLC),
   - Tool changer in motion (PLC),
   - Pallet changer in motion (PLC).

3. When door is open: drives and tool changer arm (or slide) are disabled.
   (Drives: 180CR2 3&4 and PLC; tool changer: safety relay and PLC)
   Requires manual override to allow axis or spindle movement, then only at reduced feeds and speeds.
   No tool change allowed with door open (PLC and safety relay).
   Chip conveyor is off unless Enable is pressed and held.

4. When tool cage door is open, disables tool magazine (PLC).
   Requires manual override (PLC) to allow movement with door open.

Reference numbers are to Quad drawing 4365-CAD (21 Oct 04).
3.2 FANUC TOOL DOOR INTERLOCK VMC_SHT2

Fanuc DATC Tool Magazine - E855

Tool Door Override Switch
- Normally Closed Contact, Idec HW-F01 (ELE-0094) (qty=1)
- Normally Open Contacts, Idec HW-F10 (ELE-0093) (qty=3)
- Momentary Switch Operator, Idec ABFW-200 (ELE-0670)

Tool Door Interlock
- Switch closed when door is closed.

Tool Magazine Door Interlock
- ELE-1504 Omron D4DS-35FS or equivalent

Fanuc ATC Fault Input - E805

When there is a DATC the ATC Fault inputs are not used and so may be used to signal the PLC that tool magazine is disabled.

SOURCING INPUTS BOARD

X7.2 44805E1944

ATC Fault

INPUT C003 BD

Fanuc ATC Fault Input - E805

C003 BREAKOUT

+24V

ATC Fault

CANNON PLUG

CANNON PLUG

When there is a DATC the ATC Fault inputs are not used and so may be used to signal the PLC that tool magazine is disabled.

Fanuc side:
- 6 Pos Male Connector, Molex 03-09-1064 (WIR-0052)
- Sockets, Molex 02-09-1204 18-22 awg (WIR-0056) qty=6

Interlock side:
- 6 Pos Female Connector, Molex 03-09-2062 (WIR-0051)
- Pins, Molex 02-09-2118 18-22 awg (WIR-0544) qty=6

Reference numbers are to Quad drawing 4365-CAD (21 Oct 04).

TOOL DOOR and REMOTE TURRET INPUTS E802

Reference numbers are to Quad drawing 4365-CAD (21 Oct 04).
4.0 WRG-0136_A

4.1 FANUC NC4 PROBE

SET SWITCH 3 OF SW1 TO POSITION ON
SET SWITCH 1 OF SW2 TO POSITION ON
5.1 OR 01_DRAWING STANDARDS AND INDEX

DEVICE DESIGNATIONS

XXX X X

A - SHEET NUMBER
B - HORIZONTAL GRID LOCATION (LETTER)
C - (OPTIONAL) VERTICAL GRID LOCATION (NUMBER)

REFERENCES (IN BRACKETS)

XXX X X

A - SHEET NUMBER
B - HORIZONTAL GRID LOCATION (LETTER)
C - (OPTIONAL) VERTICAL GRID LOCATION (NUMBER)

SHEET NUMBER DESIGNATIONS

X XXX

A - R - REFERENCE SHEET
B - S - SYSTEM OVERVIEW
C - COMMUNICATIONS OVERVIEW/CONTROL SINGLE LINE
D - DISTRIBUTION SINGLE LINE
E - ELECTRICAL SCHEMATICS
F - MECHANICAL DIMENSIONS
G - SEQUENTIAL DRAWING NUMBER

D I A R Y

R01 DRAWING STANDARDS AND INDEX
C02 OPERATOR STATIONS COMMUNICATION 1 LINE OVERVIEW
F01 230VAC POWER DISTRIBUTION
E02 FANAL SUPPLIED TRANSFORMER DETAIL
E170 115VAC POWER DISTRIBUTION
E171 115VAC POWER DISTRIBUTION
E172 115VAC POWER DISTRIBUTION
E173 115VAC POWER DISTRIBUTION
E176 240VAC POWER DISTRIBUTION
E300 DRIVES POWER SUPPLY WIRING DETAIL
E350 DRIVES CNC CONTROL WIRING DETAIL
E400 SPINDLE AMP DRIVE WIRING DETAIL
E450 SERVO AMP DRIVE WIRING DETAIL FOR X, Y, Z, AXIS MOTORS
E500 OPTIONAL SERVO AMP DRIVE WIRING DETAIL FOR A & B AXIS MOTORS
E501 INPUT CARD FOR CO01 BOARD
E502 INPUT CARD FOR CO01 BOARD
E503 INPUT CARD FOR CO03 BOARD
E504 CO01 BOARD JUMPER SETUP DETAIL
E505 INPUT CARD FOR CO03 BOARD
E506 INPUT CARD FOR CO03 BOARD
E507 INPUT CARD FOR CO03 BOARD
E508 CO03 BOARD JUMPER SETUP DETAIL
E510 CO04 BOARD JUMPER SETUP DETAIL
E550 OUTPUT CARD FOR CO01 BOARD
E551 OUTPUT CARD FOR CO01 BOARD
E552 OUTPUT CARD FOR CO03 BOARD
E553 OUTPUT CARD FOR CO03 BOARD
E554 OUTPUT CARD FOR CO04-1 BOARD
E555 OUTPUT CARD FOR CO04-1 BOARD
E556 OUTPUT CARD FOR CO04-2 BOARD
E557 OUTPUT CARD FOR CO04-2 BOARD
M020 VAC PANEL LAYOUT
M021 REAR PANEL LAYOUT
M022 RIGHT SIDE PANEL LAYOUT
M025 ENCLOSURE PANEL LOCATION DETAILS
M010 VAC PANEL INSTRUCTIONS
M011 REAR CONTROL PANEL INSTRUCTIONS
M012 RIGHT SIDE PANEL INSTRUCTIONS

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5.2 C02_OPERATOR STATIONS COMMUNICATION 1 LINE OVERVIEW
NOTE: Transformer jumpers have to be set according to the voltage showed in the Table 1.

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<tr>
<th>INPUT VOLTAGE</th>
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<th>AC INPUT</th>
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<tr>
<td>500</td>
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</tbody>
</table>
5.9 E180_24VDC POWER DISTRIBUTION

[Diagram of FANUC WIRING DIAGRAM]

NOTE: S, E, & M ON BLOCK TO THE RIGHT ARE FOR USE WHEN SYSTEM IS SHUTDOWN OR TESTED.
5.14 E600_OPTIONAL SERVO AMP DRIVE WIRING DETAIL FOR A & B AXIS MOTORS

[Diagram of wiring detail for A & B axis motors]
5.25 E850_OUTPUT CARD FOR C001 BOARD_SHT1
5.32 E857_OUTPUT CARD FOR C004-2 BOARD_SHT2