
Additional I/O Interface p/n 994-39-107 (Provides for NSK live-tool interface)

This document describes circuit card-equipped spindle drives only. To retro-fit this option to older "TB1" spindle drives, please contact factory.

One 16-pin bulkhead connector on the Spindle Drive Electronics Cabinet provides I/O suitable for many auxiliary applications.

The following interface connections are available:

Outputs: Two NO relay contacts* controlled by M21/M22 & M27/M28.

Inputs: Two delay until condition met (grounded or not grounded) inputs checked by M91 or M92 and M93 or M94

One jump to subroutine #1 input checked by M95 (grounded = jump subroutine)

Clamp collet (hold at ground for ½ sec)

Unclamp collet (hold at ground for ½ sec)

Alarms: Door open on lathe (not grounded)

Lathe or loader has faulted; fault other. Lathe or loader will ground this line to indicate a fault. If grounded, the spindle will stop and m-functions on lathe are reset; servos stay on.

E-stop from loader** (servos go off, spindle stops, all m-functions reset)

Two pins are available to accommodate a collet closed pressure switch output if desired.

**Relay terminals can be changed to NC operation if desired*

***External E-Stop string is not enabled; requires trace-cut on CNC Connect Card. If External E-Stop is used, a bypass key, or 'loop-back' plug, is necessary to allow normal lathe operation with auxiliary function disconnected.*

If more elaborate loader control is required, a Mitsubishi FX1s series PLC option is available.

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Additional I/O Interface, Details

AMP 16 pin CPC bulkhead connector (same as ZipLoader):

Outputs (relay contacts)*:

M21-5 (NO)	Pin9	Relay
M21-9 (COM)	Pin10	Relay
M27-5 (NO)	Pin7	Relay
M27-9 (COM)	Pin8	Relay

Inputs:

M91/M92 (Wait)	Pin4	HDR111-2
M93/m94 (Wait)	Pin5	HDR110-2
M95 (JmpSub1)	Pin6	HDR112-2

ZipLdr HDR108:

TB1-23	Pin1	HDR108-1
Collet Clamp	Pin2	HDR108-2
Collet Unclamp	Pin3	HDR108-3
COM (OV)	Pin15	HDR108-4
Door Open	Pin16	HDR108-5

Ext E-Stop**

Ext E-Stop1	Pin13	HDR103-1
Ext E-Stop2	Pin14	HDR103-2

Spare; Pin11 Pin12

*Relay terminals can be changed to 9 & 1 for NC operation

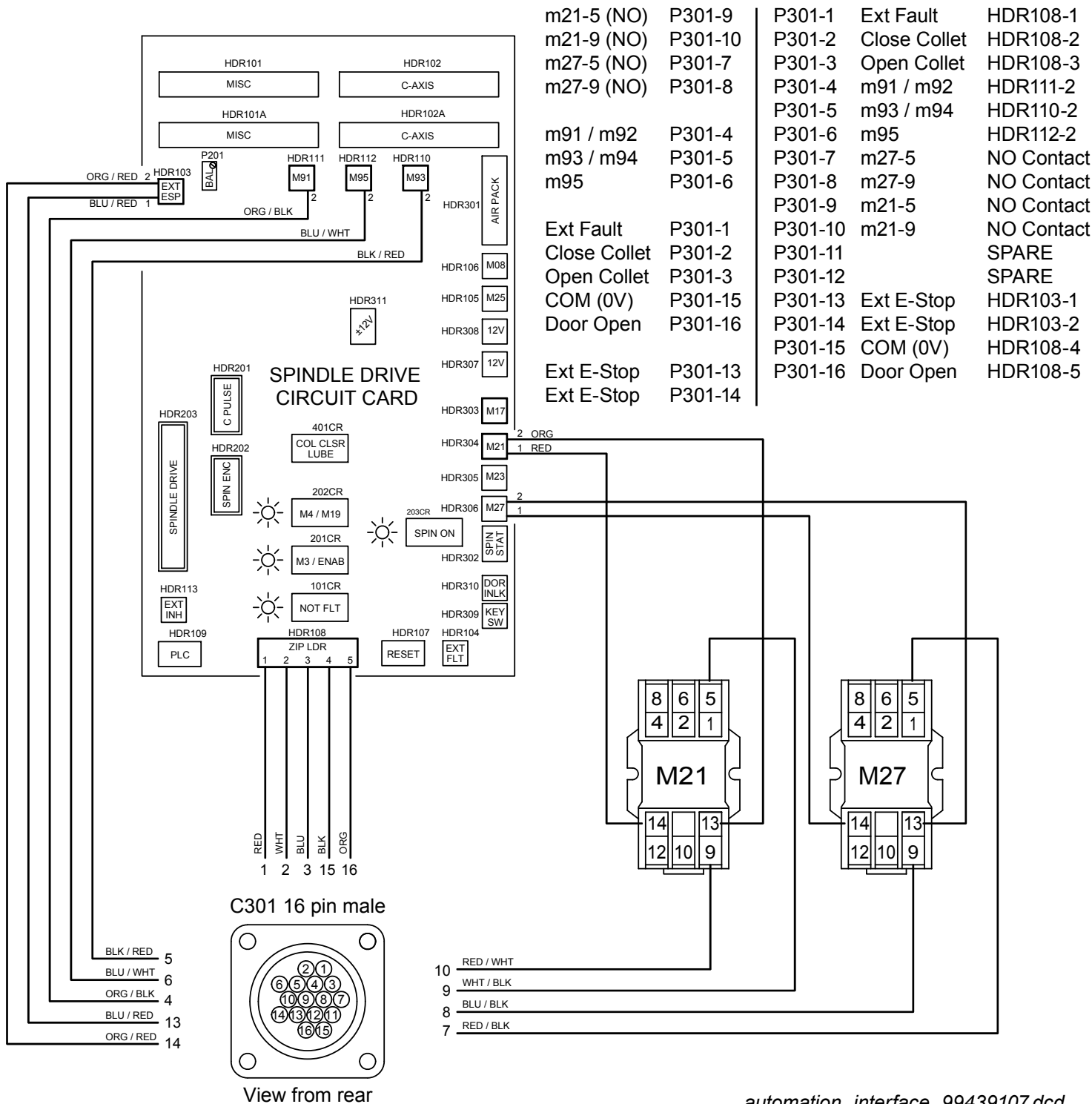
**Ext E-Stop string is not enabled; requires trace-cut on CNC Connect Card. If External E-Stop is used, a bypass key, or 'loop-back' plug, is necessary to allow normal lathe operation with auxiliary function disconnected.

Two pins are available to allow some flexibility.

Collet status indicator is not included in this specification because it is sometimes pressure switch, conventionally mounted on spindle cab with switch contacts inside cab, and sometimes prox switch mounted completely outside the spindle cab.

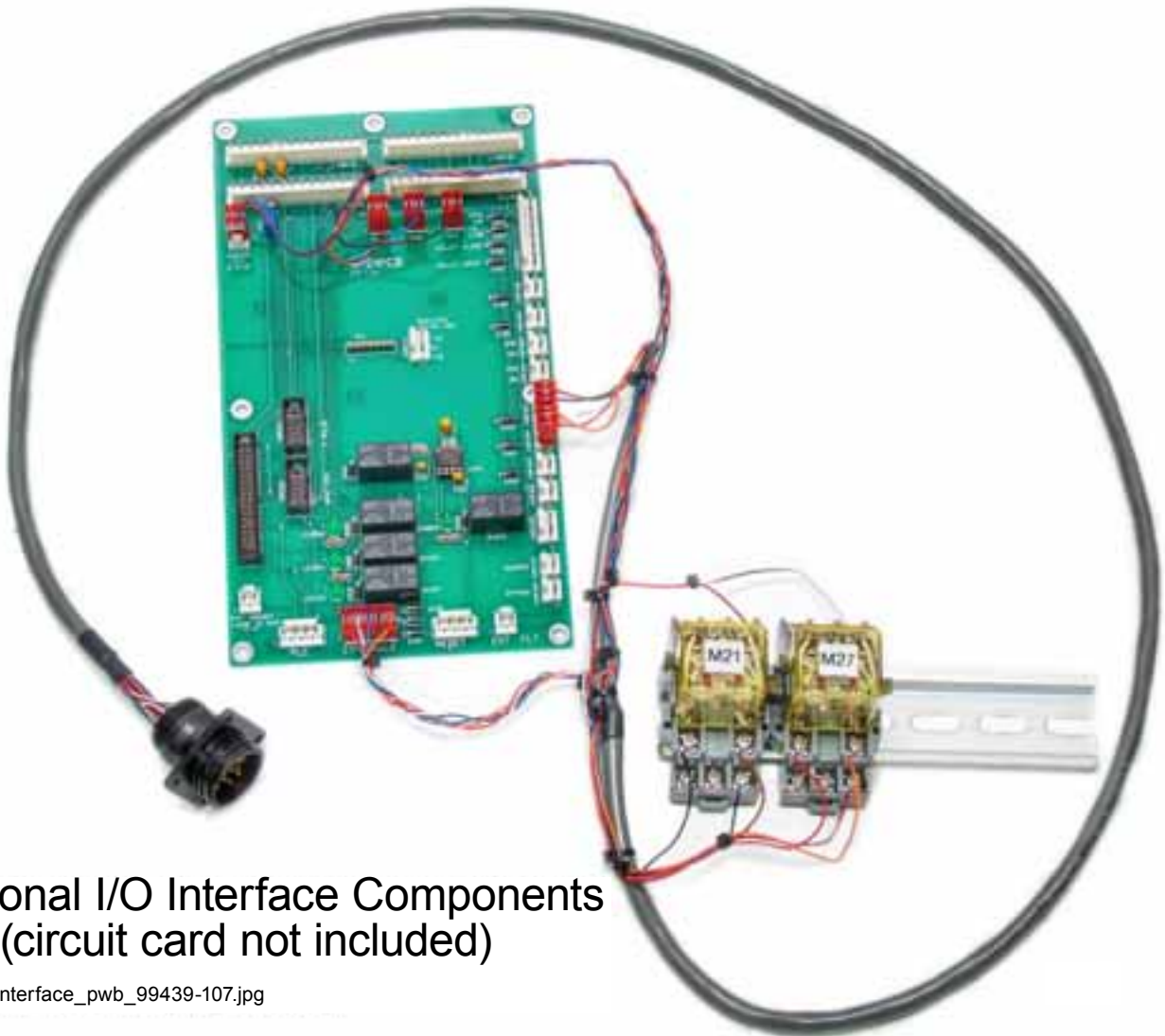
M17 & M23 contacts are not included in this specification because they are reserved for live-tools.

Additional I/O Interface, Schematic



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Additional I/O Interface, Components



Additional I/O Interface Components
(circuit card not included)

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