

System Inputs

Pin	Description
J2-1	+22 V CURRENT LIMITED POWER SUPPLY (250 mA MAX)
J2-2	0 V RETURN
J2-3	NOT AVAILABLE OR ISM USE ONLY
J2-4	NOT AVAILABLE OR ISM USE ONLY
J2-5	NOT AVAILABLE OR ISM USE ONLY
J2-6	NOT AVAILABLE OR ISM USE ONLY
J2-7	NOT AVAILABLE OR ISM USE ONLY
J2-8	ULTRASOUND ACTIVATION INPUT
J2-9	NOT AVAILABLE OR ISM USE ONLY
J2-10	NOT AVAILABLE OR ISM USE ONLY
J2-11	NOT AVAILABLE OR ISM USE ONLY
J2-12	SYSTEM LATCH RESET INPUT
J2-13	ISOLATED COMMON (SOURCING OR SINKING INPUTS)
J2-14	SPARE INPUT
J2-15	ULTRASOUND OUTPUT STOP INPUT

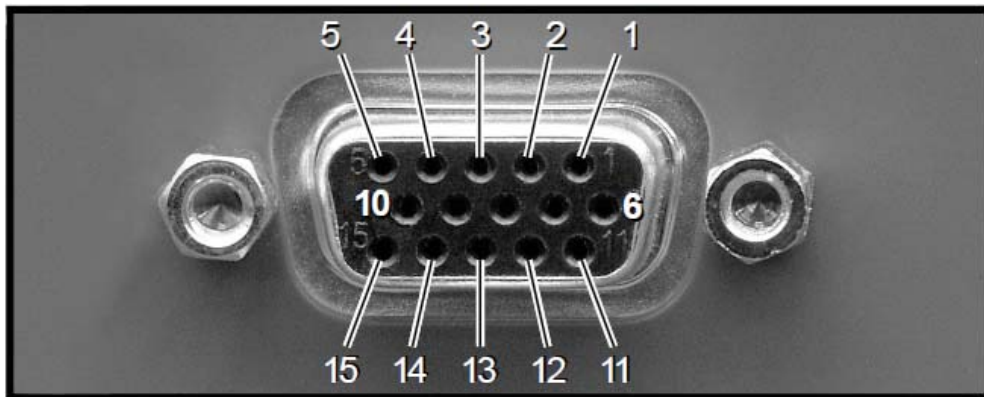
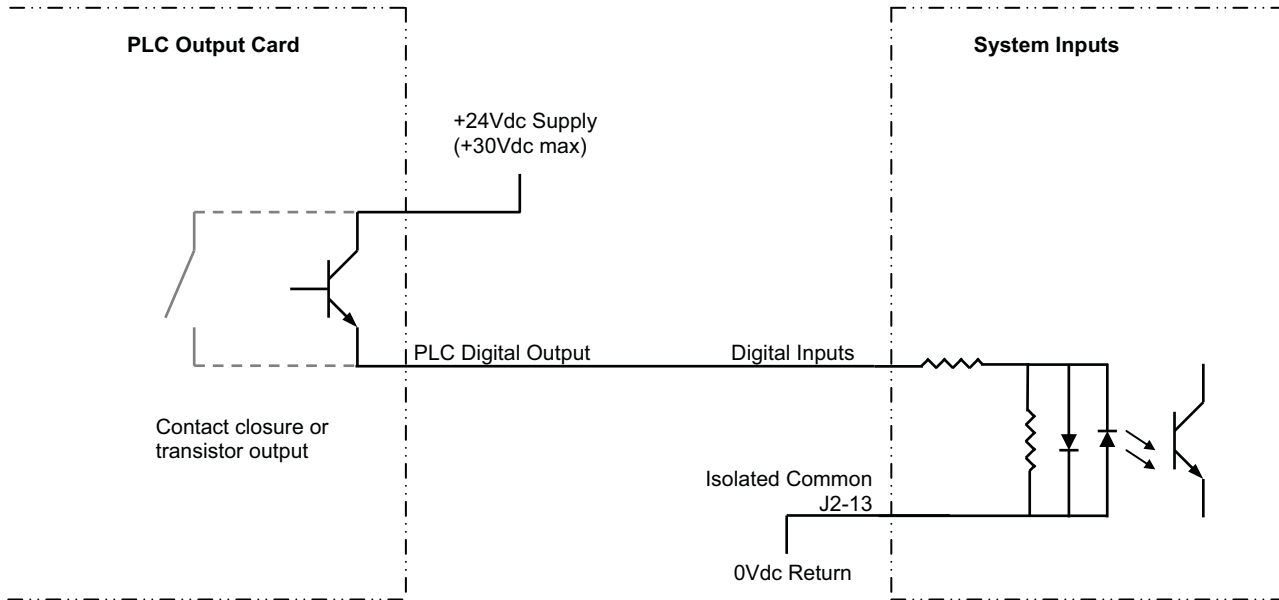


Figure 1. HD-15F for Generator Input Connector

Connecting System Inputs

All System Inputs are optically isolated from the internal circuits and can be connected to sinking or sourcing PLC output cards. The inputs will draw approximately 10mA with a 24Vdc supply. The Systems Inputs can also be configured for a contact closure if necessary.

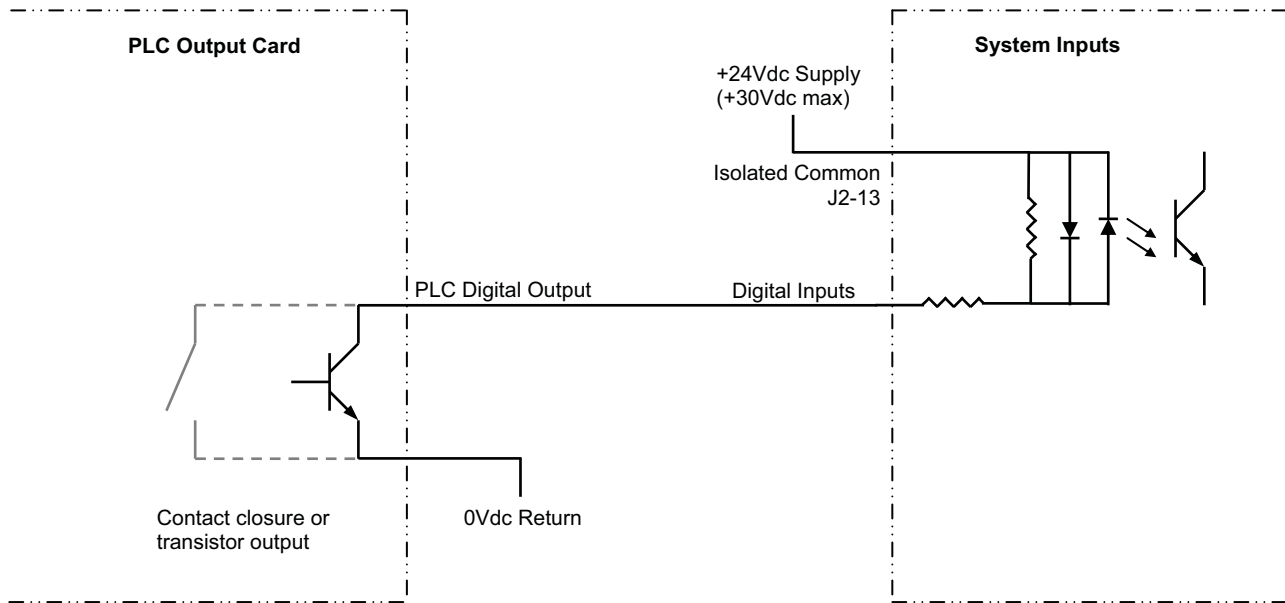
Sourcing (PNP) Output Card



Note: All System Inputs share the same Isolated Common (J2-13).

Warning: Any connection to the Ultrasound Activation Input (J2-8) should be disabled during an emergency stop condition.

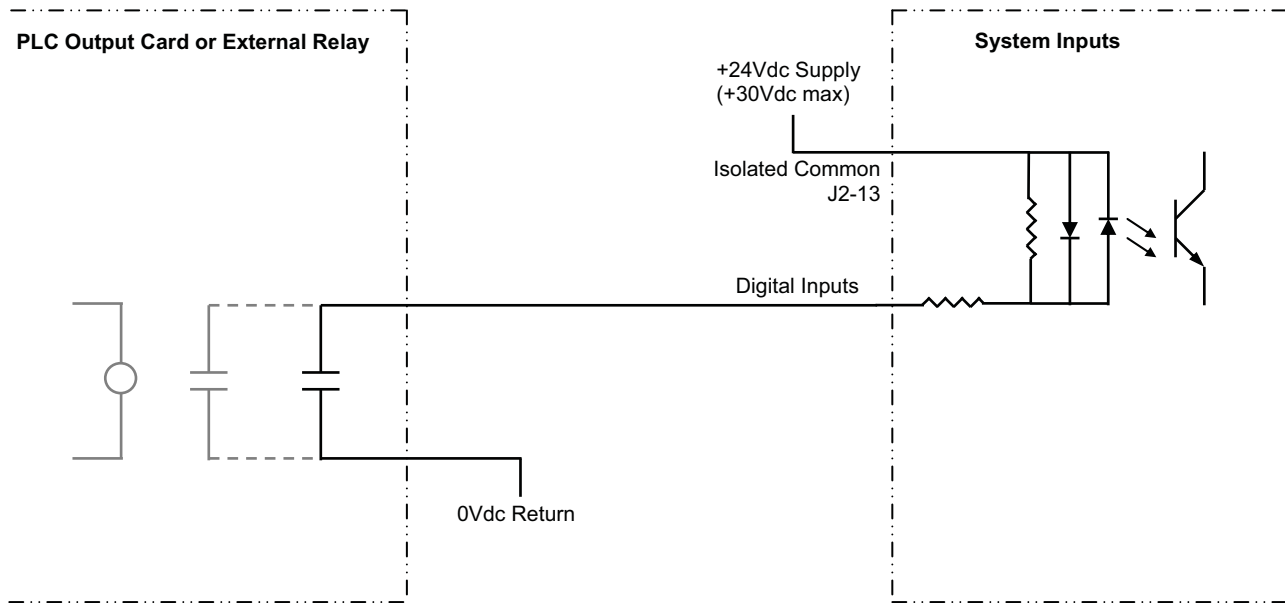
Sinking (NPN) Output Card



Note: All System Inputs share the same Isolated Common (J2-13).

Warning: Any connection to the Ultrasound Activation Input (J2-8) should be disabled during an emergency stop condition.

Relay Contact Closure



Note: Connecting +22V (J2-1) to Isolated Common (J2-13) would allow a dry contact closure between any System Input and 0V Return (J2-2). For example, Ultrasound Activation (J2-8) can be connected to/disconnected from 0V Return (J2-2) to start/stop system operation.

Note: All System Inputs share the same Isolated Common (J2-13).

Warning: Any connection to the Ultrasound Activation Input (J2-8) should be disabled during an emergency stop condition.

System Outputs

Pin	Description
J3-1	+22 V CURRENT LIMITED POWER SUPPLY (250 mA MAX)
J3-2	SPARE OUTPUT
J3-3	0 V RETURN
J3-4	NOT AVAILABLE OR ISM USE ONLY
J3-5	NOT AVAILABLE OR ISM USE ONLY
J3-6	ULTRASOUND ACTIVE STATUS OUTPUT
J3-7	ANY FAULT STATUS OUTPUT
J3-8	NOT AVAILABLE OR ISM USE ONLY
J3-9	SYSTEM OVERLOAD STATUS OUTPUT
J3-10	SYSTEM ONLINE STATUS OUTPUT
J3-11	NOT AVAILABLE OR ISM USE ONLY
J3-12	NOT AVAILABLE OR ISM USE ONLY
J3-13	ANALOG MONITOR OUTPUTS GROUND
J3-14	NOT USED
J3-15	POWER SIGNAL MONITOR OUTPUT (1 mV = 1 WATT)
J3-16	AMPLITUDE MONITOR OUTPUT (10.0 V = 100%)
J3-17	NOT AVAILABLE OR ISM USE ONLY
J3-18	NOT AVAILABLE OR ISM USE ONLY
J3-19	SYSTEM POWER STATUS OUTPUT
J3-20	NOT AVAILABLE OR ISM USE ONLY
J3-21	NOT AVAILABLE OR ISM USE ONLY
J3-22	SYSTEM READY STATUS OUTPUT
J3-23	NOT AVAILABLE OR ISM USE ONLY
J3-24	ISOLATED COMMON (SINKING OUTPUTS ONLY)
J3-25	SPARE OUTPUT

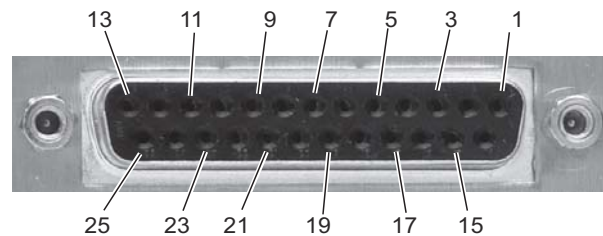


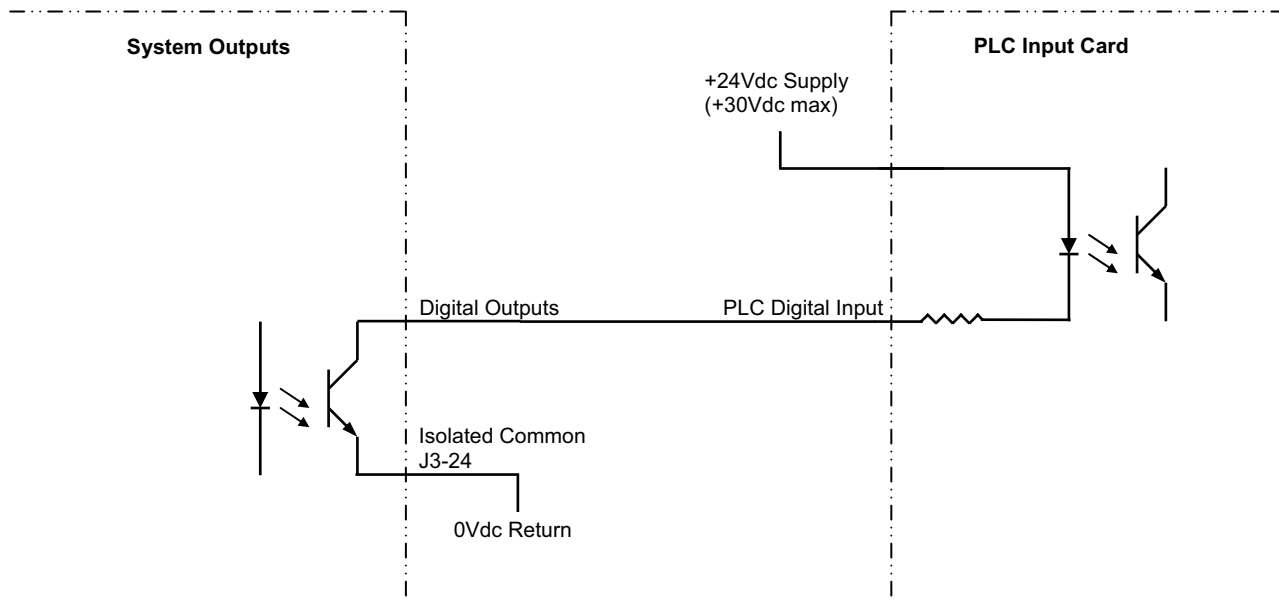
Figure 2. DB 25-F for Generator Output Connector

Connecting System Outputs

All System Outputs are sinking (NPN) outputs and are optically isolated from the internal circuits. The outputs can sink a maximum of 25mA. The outputs can only be connected directly to a sourcing PLC input card.

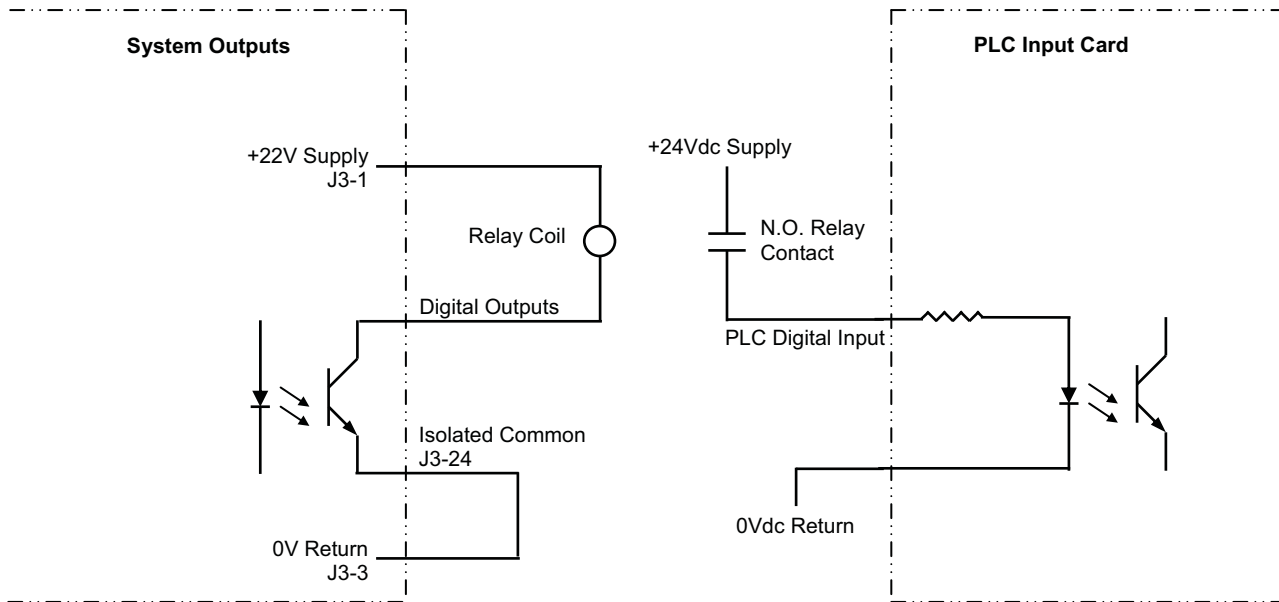
Relays can be used to connect System Outputs to a sinking PLC input card.

Sourcing (PNP) Input Card



Note: All System Outputs share the same Isolated Common (J3-24).

Sinking (NPN) Input Card



Note: All System Outputs share the same Isolated Common (J3-24).

Remote Amplitude Control Module Part Number - BSP-RACM

This optional module enables remote control of output amplitude of the system. The control interface is a 4–20 mA current loop. The current loop connector and fault indicator are shown below in Figure 4. The output can be adjusted from 36% to 100%. The scale factor is a 4% amplitude change for each mA change. A graph of amplitude output as a function of loop current is shown in Figure 3. The current loop compliance voltage is 6 volts minimum.

Failure to provide at least 4mA of loop current is sensed as a fault and will produce minimum amplitude output.

The current loop fault indicator is a bi-color LED. It is GREEN when the current is between 4 and 20mA and RED when the current is below 2mA.

Current Loop Fault

When a current loop fault is active, the minimum ultrasound output is 36%. If a current loop source is not available, an external +24VDC power supply can be connected to the POS and NEG terminals of J7. (See Figure 10-12.) The +22VDC supply on System Output Pins 1(+) and 3(-) can also be used. Using either of these connections will produce the maximum ultrasound output (100%).

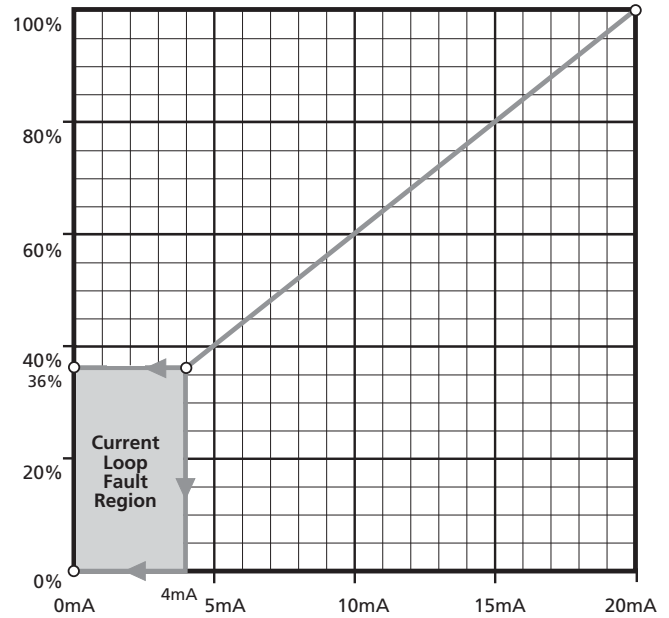


Figure 3 Current Loop Transfer Function Graph

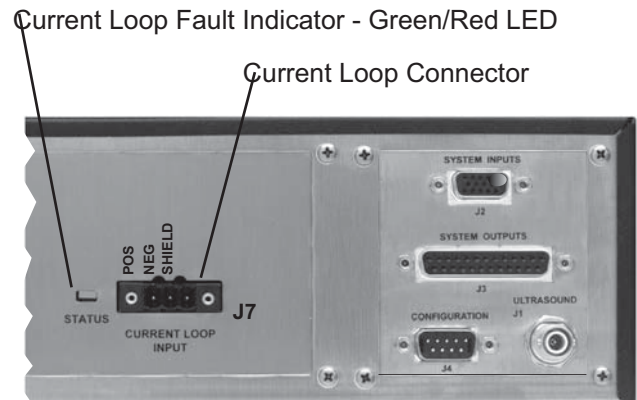


Figure 4 Remote Amplitude Control Module