Slice I/O Master/Slice Slave (Serial)

Slice I/O Master Module

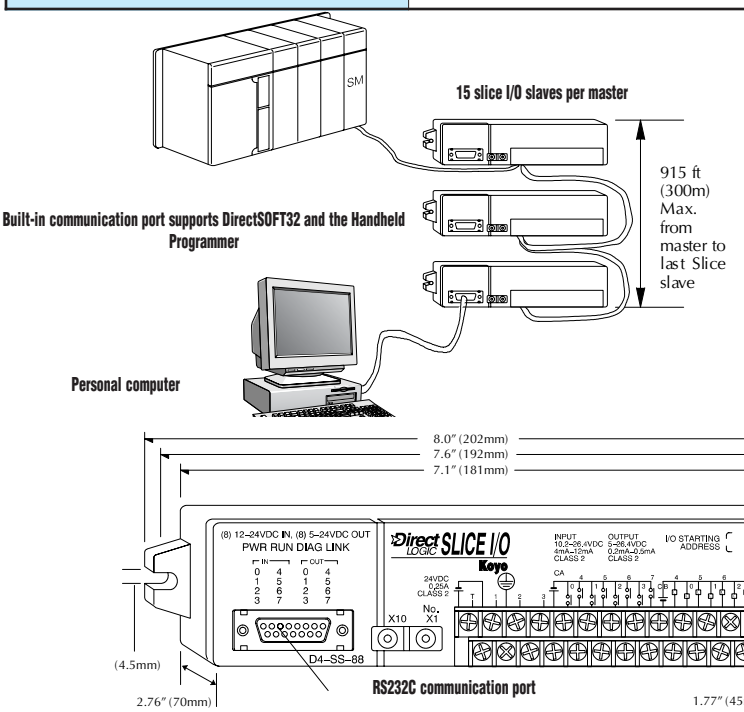
D4-SM

Slice I/O Slave Modules

D4-SS-88
D4-SS-16T
D4-SS-16N
D4-SS-106

	D4-450	D4-440	D4-430
Maximum Number of Slice Masters Supported	2	2	2
Maximum Number of Slice Slaves per Channel	15	15	15
Maximum Number of Slice Slaves per System	30	30	30
Total I/O available (16 pts. per Slice Slave)	480	480	480

Specifications	
Maximum Slave Points per CPU	480 (2 channels, 15 Slice slaves per channel) I/O Addresses Used: Slice I/O modules do not automatically consume any standard input and output points. They consume remote I/O points at a rate equal to the number I/O points in each base. However, you can choose to use standard I/O addresses as an option.
Slave Communication Port	Auxiliary RS232C communication port. Primarily used for programming or monitoring the CPU with a Handheld Programmer or personal computer running *Direct*SOFT32 Accepts any device that can be connected to the top port of the DL405 CPU.
Master to Slave Communications	RS485 via twisted pair @ 600K baud
Recommended Cable	Belden 9841 or equivalent
Operating Environment	0°C to 60°C (32°F to 140°F), 5% to 95% humidity (non-condensing).
Power Consumption	Slice Master: 300mA Slice Slaves:100mA maximum at 24VDC, 250mA maximum with HPP attached at 24VDC
Manufacturer	Koyo Electronics



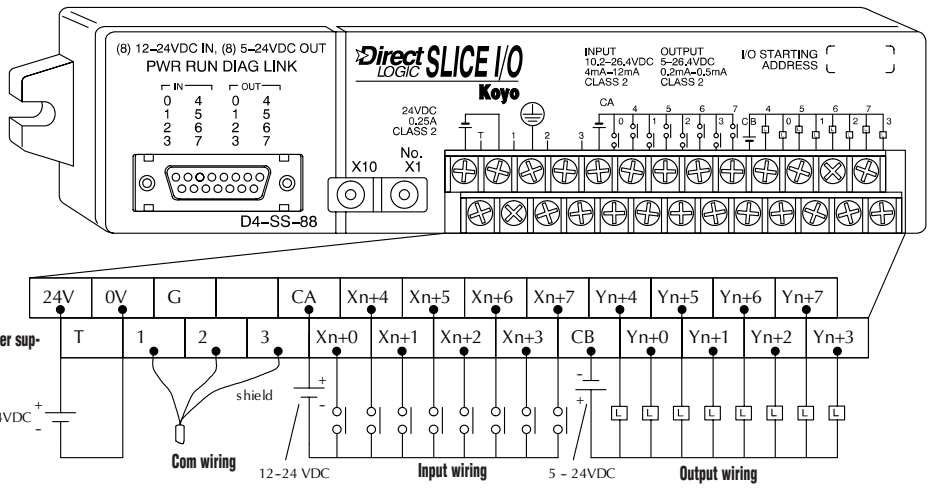
Overview

Slice I/O is a form of remote I/O which also allows the I/O points to be located a long distance away from the CPU. However, Slice I/O is very different from regular remote I/O. With regular remote I/O, you still need a remote I/O base, a remote slave unit (D4-RS), and individual DL405 I/O modules. With Slice I/O, these pieces are all combined into one small "block". This design is especially cost-effective when you need to use a small number of I/O points spread over several remote locations. The chart above shows the capacity for each CPU. The Slice Master module is placed in the CPU base. This Master controls up to 15 Slice Slaves, which are connected to the master in a daisy chain manner over an RS-485 twisted pair communication cable (maximum length of 915 feet/300m). Each slice I/O block contains a fixed number of I/O and an RS232C communication port. The units require 24VDC power to operate. You can assign normal input and output addresses to the remote points, or you can assign special remote I/O addresses. The Slice Master sends the remote I/O information to the CPU. The communication between the Slice Master and the CPU is asynchronous to the CPU scan. For this reason, remote I/O applications should be limited to those that do not require the remote I/O points to be updated with every CPU scan.

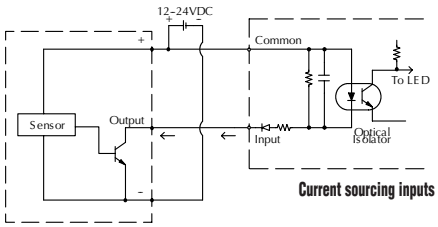
D4-SS-88

DC Input Specifications	
Number of Input Points	8, 1 common
Input Voltage Range	10.2 – 26.4VDC
ON Current/Voltage Level	>3.5mA/9.5VDC
OFF Current/Voltage Level	<1.5mA/4.0VDC
OFF to ON Response	1.0 – 7.0 ms
ON to OFF Response	2.0 – 12.0 ms

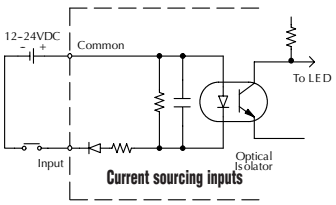
DC Output Specifications	
Number of Output Points	8, 1 common
Output Circuitry	NPN open collector
Input Voltage Range	5-26.4VDC
Peak Voltage	40VDC
ON Voltage	<1.0V at 0.5A
Maximum Current Out (Resistive)	0.5A/point 3A per common
Maximum Leakage Current	0.1mA at 40V
Maximum Inrush Current	2.0A for 10ms 1.0A for 100ms



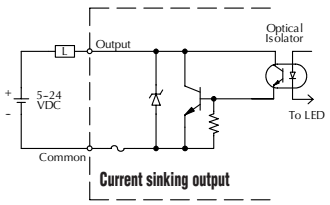
Solid state NPN field device wiring



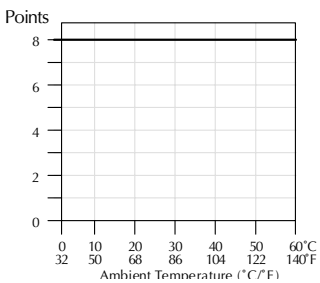
Typical input circuit



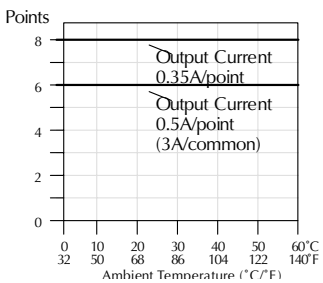
Typical output circuit



Derating Chart for D4-SS-88 Inputs



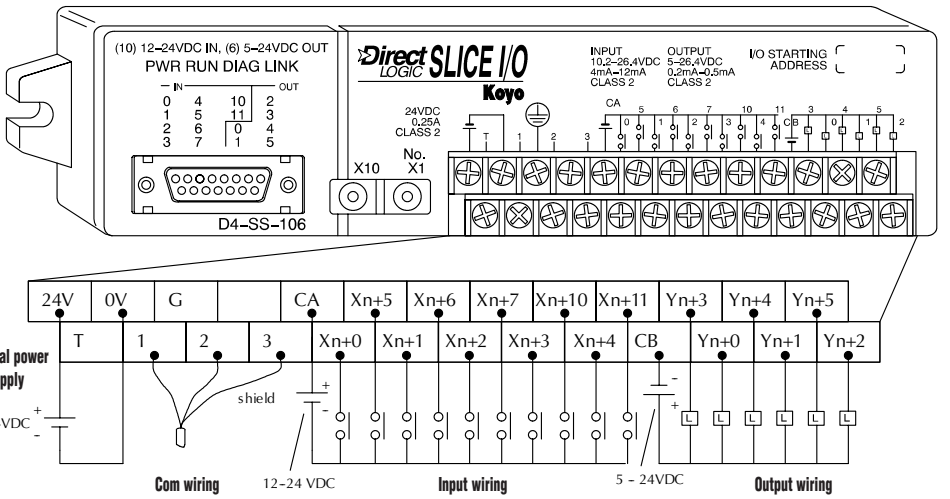
Derating Chart for D4-SS-88 Outputs

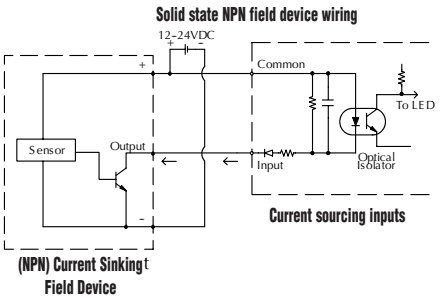


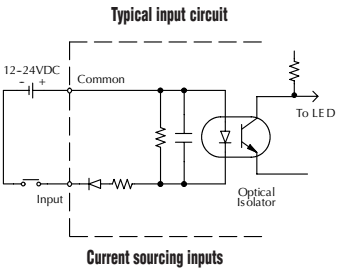
D4-SS-106

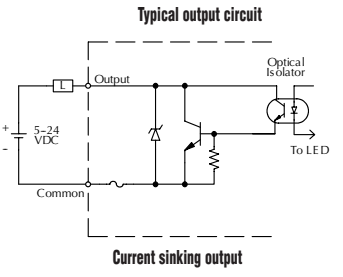
DC Input Specifications	
Number of Input Points	10, 1 common
Input Voltage Range	10.2 – 26.4VDC
ON Current/Voltage Level	>3.5mA/9.5VDC
OFF Current/Voltage Level	<1.5mA/4.0VDC
OFF to ON Response	1.0 - 7.0 ms
ON to OFF Response	2.0 – 12.0 ms

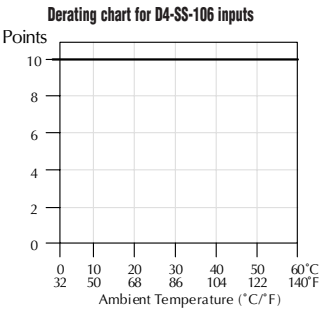
DC Output Specifications	
Number of Output Points	6, 1 common
Output Circuitry	NPN open collector
Input Voltage Range	5-26.4VDC
Peak Voltage	40VDC
ON Voltage Drop	<1.0V at 0.5A
Maximum Current Out (Resistive)	0.5A/point 3A per common
Maximum Leakage Current	0.1mA at 40V
Maximum Inrush Current	2.0A for 10ms 1.0A for 100ms

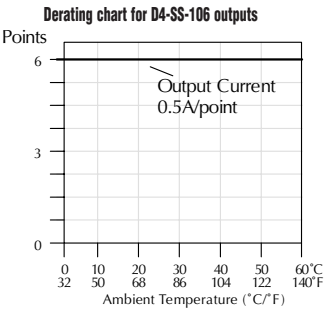






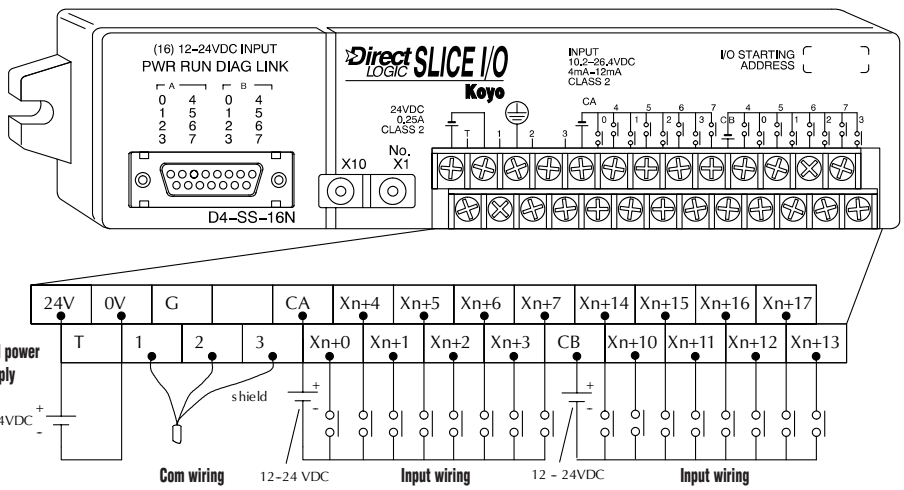


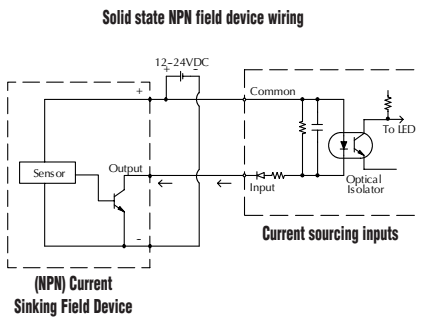


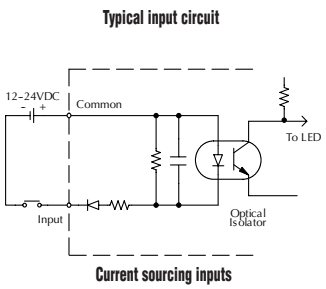


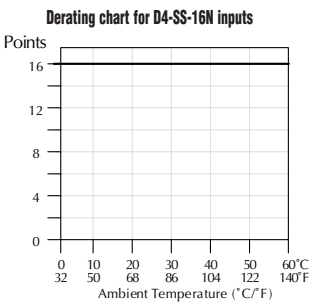
D4-SS-16N

DC Input Specifications	
Number of Input Points	16, 2 commons
Input Voltage Range	10.2 – 26.4VDC
ON Current/Voltage Level	>3.5mA/9.5VDC
OFF Current/Voltage Level	<1.5mA/4.0VDC
OFF to ON Response	1.0 – 7.0 ms
ON to OFF Response	2.0 – 12.0 ms









Communication cables

Each Slave unit has a 15-pin D-shell communications port. This port is the same as the top port on the DL405 CPUs. You can program or monitor the CPU through this port with DirectSOFT32 or the handheld programmer.

You can also connect the DV–1000 Operator Interface to this port. (All DV-1000 units will show the same data.) If you're using the handheld programmer or the DV–1000, remember to add the power requirement for the device when you select your 24VDC power supply. You can order the necessary cables with the following part numbers.

D4-DSCBL—DirectSOFT32 programming cable for the DL405

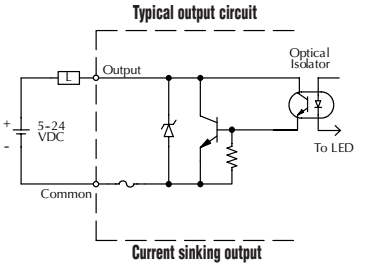
D4-HPCBL-1—-DL405 handheld programmer cable (9.24ft., 3m)

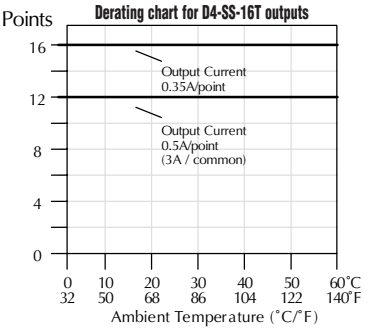
D4-HPCBL-2—DL405 handheld programmer cable (4.6ft., 1.5m)

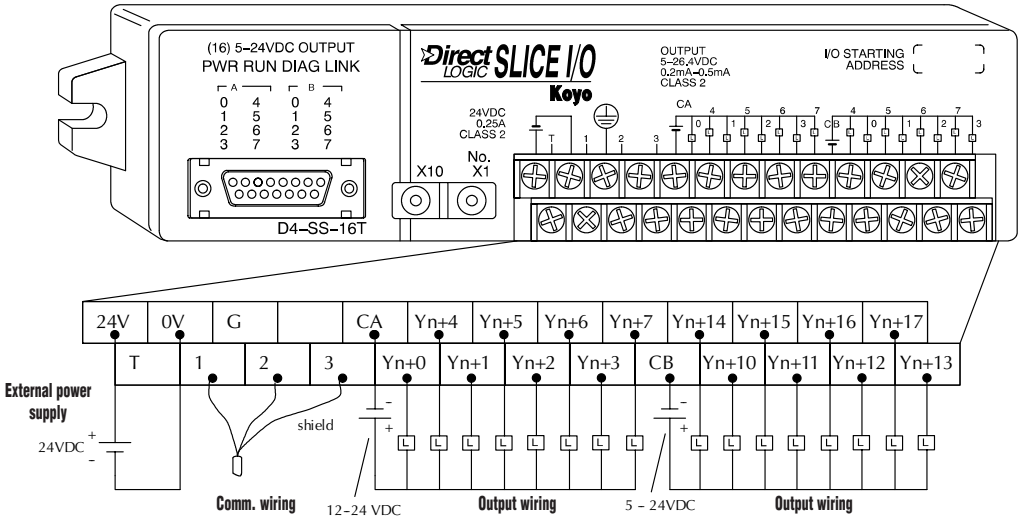
D4-1000CBL—DV-1000 cable used for DL405 top port (works on Slice slave also, 6.56ft., 2m)

D4-SS-16T

DC Output Specifications	
Number of Output Points	16, two commons
Input Voltage Range	NPN Open collector
Peak Voltage	40VDC
ON Voltage Drop	<1.0V at 0.5A
Maximum Current Out (Resistive)	0.5A/point 3A per common
Maximum Leakage Current	0.1mA at 40V
Maximum Inrush Current	2.0A for 10ms 1.0A for 100ms

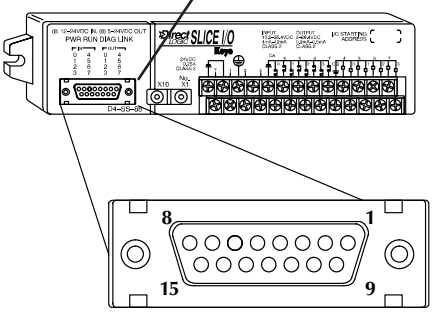






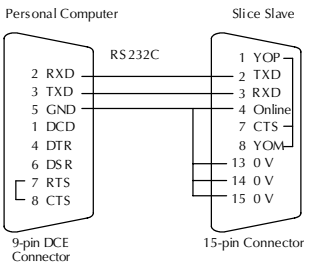
15-pin Female
RS232C
9600 Baud
8 Data Bits
1 Start Bit
1 Stop Bit
Odd Parity
Half-duplex
Asynchronous
DTE

Auxiliary communication port. Can be used for programming with the handheld programmer or DirectSOFT32.



Cable diagrams for custom cables

If one of our cables isn't just right for your application, you may need to build your own custom cable. We suggest a high-quality shielded cable to reduce noise susceptibility.



Pin labeling conforms to the IBM DTE and DCE Standards