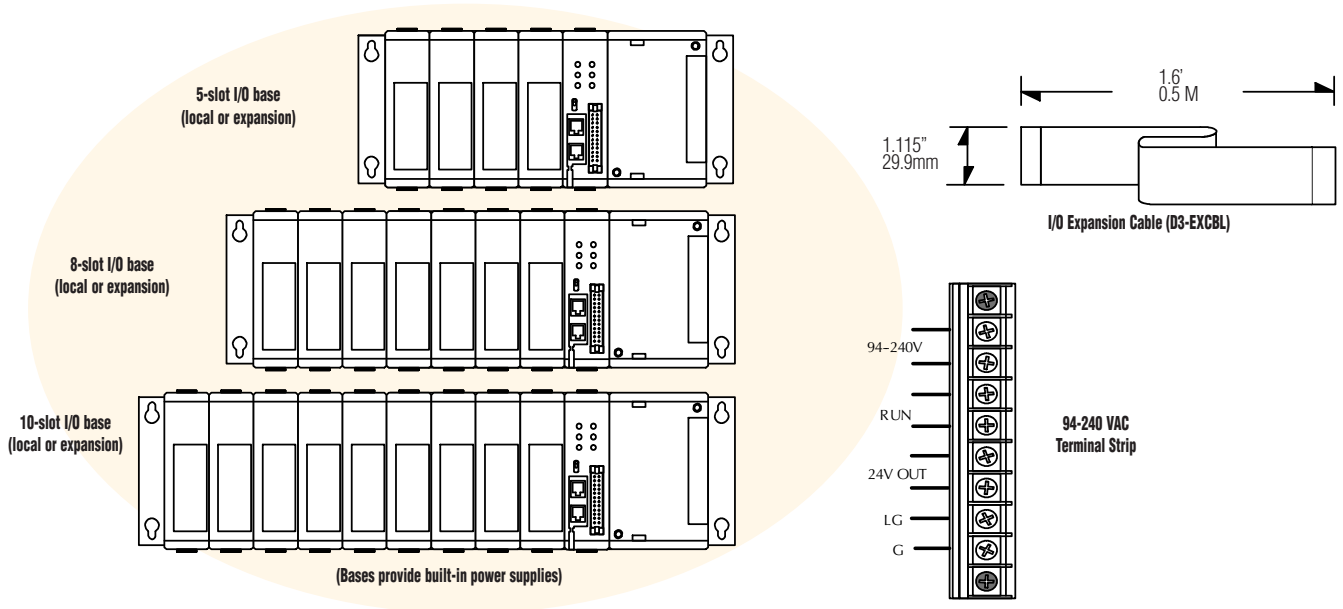


# DL305 Base Specifications



	D3-05B-1 <--->	D3-05BDC <--->	D3-08B-1 <--->	D3-10B-1 <--->	D3-10BDC <--->
<b>Number of Slots</b>	5	5	8	10	10
<b>Local CPU Base</b>	Yes	Yes	Yes	Yes	Yes
<b>Expansion Base</b>	Yes CPU base and two expansion bases. If CPU base is 5-slot, then the expansion bases must be 5-slot also.	Yes CPU base and two expansion bases. If CPU base is 5-slot, then the expansion bases must be 5-slot also.	Yes (D3-350 only) CPU base and two expansion bases. If CPU base is 8-slot, then the expansion bases must be 8-slot or 5-slot	Yes CPU base and one expansion bases. If CPU base is 10-slot, then the expansion bases must be 10-slot or 5-slot	Yes CPU base and one expansion bases. If CPU base is 10-slot, then the expansion bases must be 10-slot or 5-slot.
<b>Input Voltage Range</b>	85-264VAC 47-63Hz	20.5-30VDC <10% ripple	85-264VAC 47-63Hz	85-264VAC 47-63Hz	20.5-30VDC <10% ripple
<b>Base Power Consumption</b>	85 VA Max	48 Watts	85VA Max	85VA Max	65 Watts
<b>Inrush Current Max.</b>	30A 1ms	30A	30A 1ms	30A 1ms	30A
<b>Dielectric Strength</b>	1500VAC for one minute between terminals of AC P/S, run output, common, 24VDC	1500VAC for one minute between 24VDC input terminals and run output	1500VAC for one minute between terminals of AC P/S, run output, common, 24VDC	2000VAC for one minute between terminals of AC P/S, run output, common, 24VDC	1500VAC for one minute between 24VDC input terminals and run output
<b>Insulation Resistance</b>	>10Mohm at 500VDC	>10Mohm at 500VDC	>10Mohm at 500VDC	>10Mohm at 500VDC	>10Mohm at 500VDC
<b>Power Supply Output (Voltage Ranges and Ripple)</b>	(5VDC) 4.75-5.25V 5% ripple (9VDC) 8.5-10V 5% ripple (24VDC) 20-28V 5% ripple	(5VDC) 4.75-5.25V 5% ripple (9VDC) 8.5-10V 5% ripple (24VDC) 20-28V 5% ripple	(5VDC) 4.75-5.25V 5% ripple (9VDC) 8.5-10V 5% ripple (24VDC) 20-28V 5% ripple	(5VDC) 4.75-5.25V 5% ripple (9VDC) 8.5-10V 5% ripple (24VDC) 20-28V 5% ripple	(5VDC) 4.75-5.25V 5% ripple (9VDC) 8.5-10V 5% ripple (24VDC) 20-28V 5% ripple
<b>5 VDC Current Supplied</b>	.7A	1.4A	1.0A	1.0A	1.4A
<b>9 VDC Current Supplied</b>	2.0A	0.8A	2.0A	2.0A	1.7A
<b>24 VDC Current Supplied</b>	0.5A	0.5A	0.5A	0.5A	0.5A
<b>Auxiliary 24 VDC Output</b>	100mA max	None	100mA max	100mA max	None
<b>Run Relay</b>	250VAC 4A (resistive load)	250VAC 4A (resistive load)	250VAC 4A (resistive load)	250VAC 4A (resistive load)	250VAC, 4A (resistive load)
<b>Fuses</b>	2A (250V) Non-replaceable	4A (250V) User-replaceable D3-FUSE-3 <--->	2A (250V) Non-replaceable	2A (250V) Non-replaceable	4A (250V) User-replaceable D3-FUSE-3 <--->
<b>Dimensions W/H/D</b>	11.42x4.85x4.41 in. (290x123x112 mm)	11.42x4.85x4.41 in. (290x123x112 mm)	15.55x4.85x4.41 in. (395x123x112 mm)	18.3x4.85x4.41 in. (465x123x112 mm)	18.34x4.85x4.41 in. (465x123x112 mm)
<b>Weight</b>	37oz. (1050g)	34oz. (964g)	44oz. (1250g)	51.1oz. (1450g)	50.5oz. (1432g)

# Power Budget

## Managing your power resource

The I/O configuration depends on your choice of I/O modules, bases and I/O location. When determining the types and quantity of I/O modules you will be using, it's important to remember there is a limited amount of power available from the power supply.

The chart on the next page indicates the power supplied and used by each DL305 device. The adjacent chart shows an example of how to calculate the power used by your particular system. These two charts should make it easy for you to determine if the devices you have chosen fit within the power budget of your system configuration.

If the I/O you have chosen exceeds the maximum power available from the power supply, you can resolve the problem by shifting some of the modules to an expansion base.

**WARNING:** It is extremely important to calculate the power budget correctly. If you exceed the power budget, the system may operate in an unpredictable manner, which may result in a risk of personal injury or equipment damage.

## Example: how to calculate your power usage

The following example shows how to calculate the power budget for the DL305 system. The examples are constructed around a single 5-slot base using the devices shown. It is recommended you construct a similar table for each base in your DL305 system.

1. Using a chart similar to the one below, fill in column 2.
2. Using the tables on the opposite page, enter the current supplied and used by each device (columns 3, 4, and 5). Devices which fall into the "Other" category (Row D) are devices such as the Handheld Programmer or a Data Communication Unit, which also have power requirements, but do not directly plug into the base.

3. Add the current used by the system devices (columns 3, 4, and 5), starting with Slot 1, then put the total in the row labeled "Maximum Current Required" (Row E).
4. Subtract the row labeled "Maximum Current Required" (Row E), from the row labeled "Current Supplied" (Row B). Place the difference in the row labeled "Remaining Current" (Row F).
5. If "Maximum Current Required" is greater than "Current Supplied" in columns 3, 4 or 5, the power budget will be exceeded. It will be unsafe to use this configuration and you will need to restructure your I/O configuration.

## Use ZIPLinks to reduce power requirements

If your application requires a lot of relay outputs, consider using the ZipLink AC or DC relay output modules. These modules can switch high current (10A) loads without putting a load on your base power budget. Refer to the Wiring Solutions section in this catalog for more information.

This logo is placed next to I/O modules that are supported by the ZIPLink connection systems. See the I/O module specifications at the end of this section.



A	Column 1	Column 2	Column 3	Column 4	Column 5
<b>Base # 0</b>	Device Type		5 VDC (mA)	9VDC (mA)	24V(mA)
<b>B</b>	<b>Current Supplied</b>				
	<b>5-slot Base</b>	D3-05BDC	1400	800	500
<b>C</b>	<b>Current Required</b>				
	<b>CPU Slot</b>	D3-330	300	50	0
	<b>Slot 0</b>	D3-16NE3	0	130	0
	<b>Slot 1</b>	D3-16NE3	0	130	0
	<b>Slot 2</b>	D3-08TA-1	0	160	0
	<b>Slot 3</b>	D3-08TA-1	0	160	0
<b>D</b>	<b>Other</b>				
	Handheld prog D3-HPP		50	50	0
<b>E</b>	<b>Maximum Current Required</b>		360	680	0
<b>F</b>	<b>Remaining Current</b>		1040	120	500

# DL305 Power Requirements

This section shows the amount of power supplied by the base power supplies and the amount of power used by each DL305 device. Note the base power supplies provide three internal voltages (5V, 9V, 24V). The chart shows how much power from each of these power sources is required for each DL305 device. Use this information when calculating the power budget for your system.

In addition to the three internal power sources, the DL305 bases provide an external power connection. There is 24 VDC available from the 24 VDC output terminals on the bases (except D3-05BDC and D3-10BDC).

The 24 VDC can be used to power external devices or DL305 modules that require external 24 VDC. The power used from this external 24 VDC output reduces the internal system 24 VDC that is available to the modules by an equal amount. When using the 24 VDC output at the base terminal, it is recommended that 100 mA not be exceeded.

Power Consumed				
Device	5V(mA)	9V(mA)	24V(mA)	Ext req.
<b>CPUs</b>				
D3-330	300	50	0	0
D3-340	300	20	0	0
D3-350	500	0	0	0
<b>DC Input Modules</b>				
D3-08ND2	0	10	112	0
D3-16ND2-1	0	25	224	0
D3-16ND2F	0	25	224	0
F3-16ND3F	0	148	68	0
<b>AC Input Modules</b>				
D3-08NA-1	0	10	0	0
D3-08NA-2	0	10	0	0
D3-16NA	0	100	0	0
<b>AC/DC Input Modules</b>				
D3-08NE3	0	10	0	0
D3-16NE3	0	130	0	0
<b>DC Output Modules</b>				
D3-04TD1	0	12	5	0
D3-08TD1	0	20	24	0
D3-08TD2	0	30	0	0
D3-16TD1-1	0	40	96	0
D3-16TD2	0	180	0	0
<b>AC Output Modules</b>				
D3-04TAS	0	12	0	0
F3-08TAS-1	0	200	0	0
D3-08TA-1	0	160	0	0
D3-08TA-2	0	160	0	0
F3-16TA-2	0	250	0	0
D3-16TA-2	0	400	0	0

Power Supplied				
Device	5V(mA)	9V(mA)	24V(mA)	24 V (mA)
D3-05B-1	900	2000	500	100
D3-08B-1	900	2000	500	100
D3-10B-1	900	2000	500	100
D3-05BDC	900	2000	500	None
D3-10BDC	900	2000	500	None
D3-05B-NR	900	2000	500	100
D3-08B-NR	900	2000	500	100
D3-10B-NR	900	2000	500	100
D3-05BDC-NR	900	2000	500	None
D3-10BDC-NR	900	2000	500	None
<b>Power Consumed</b>				
Device	5V(mA)	9V(mA)	24V(mA)	External required
<b>Relay Output Modules</b>				
D3-08TR	0	360	0	0
F3-08TRS-1	0	296	0	0
F3-08TRS-2	0	296	0	0
D3-16TR	0	480	0	0
<b>Analog Temperature and Thermocouple Modules</b>				
F3-04ADS	0	183	50	0
F3-08AD-1	0	45	55	0
F3-08THM-n	0	50	34	0
F3-16AD	0	55	65	0
F3-04DA-1	0	144	108	0
F3-04DAS	0	154	145	0
<b>Communications and Networking</b>				
D3-232 DCU	500	0	0	Optional 5V@500mA
D3-422 DCU	500	0	0	Optional 5V@500mA
FA-UNICON	0	0	0	24V or 5V@ 100mA
D3- DCM	0	300	0	0
<b>Specialty Modules</b>				
D3-08SIM	0	10	112	0
D3-HSC	0	70	0	0
D3-TCSU	40	5	0	0
<b>Programming</b>				
D3-HP	50	50	0	0
D3-HPP	50	50	0	0
D2-HP	200	0	0	0
<b>Specialty CPUs</b>				
F3-OMUX-1	409	0	0	0
F3-OMUX-2	262	0	150	0
F3-PMUX	455	0	0	0
F3-RTU	416	0	0	0
<b>Operator Interface</b>				
DV-1000	150	0	0	0
<i>C-more</i> Micro-Graphic	210	0	0	0

# Dimensions and Installation

It is important to understand the installation requirements for your DL305 system. This will help ensure that the DL305 products operate within their environmental and electrical limits.

## Plan for safety

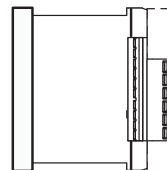
This catalog should never be used as a replacement for the user manual. The user manuals, D3-USER-M and D3-350-M (available for download from our web site), contain important safety information that must be followed. The system installation should comply with all appropriate electrical codes and standards.

## Base dimensions and mounting orientation

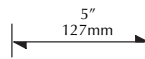
Use the diagrams to the right to make sure the DL305 system can be installed in your application. DL305 bases must be mounted horizontally to ensure proper airflow for cooling purposes. It is important to check these dimensions against the conditions required for your application. For example, it is recommended that you leave 1.5" depth for ease of access and cable clearance. However, your distance may be greater or less. Also, check the installation guidelines for the recommended cabinet clearances.

Specification	Rating
<b>Storage Temperature</b>	-4°F - 158°F (-20°C to 70°C)
<b>Ambient Operating Temperature</b>	32°F - 131°F (0° to 55°C)
<b>Ambient Humidity</b>	30% - 95% relative humidity (non-condensing)
<b>Vibration Resistance</b>	MIL STD 810C, Method 514.2
<b>Shock Resistance</b>	MIL STD810, Method 516.2
<b>Noise Immunity</b>	NEMA (ICS3-304)

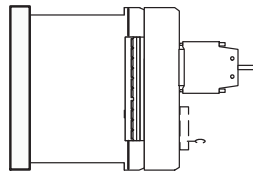
### DL305 mounting depths



Base and CPU



With 8-pt., 16-pt. I/O, or handheld



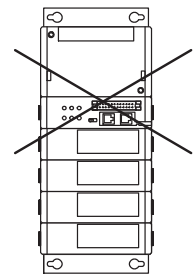
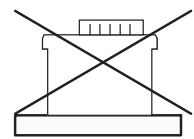
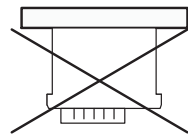
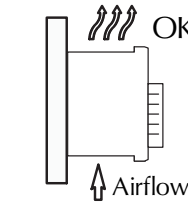
Base and CPU with DCU, or Thumbwheel interface



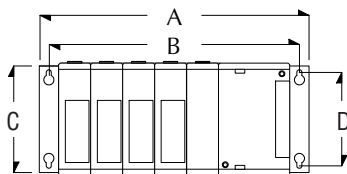
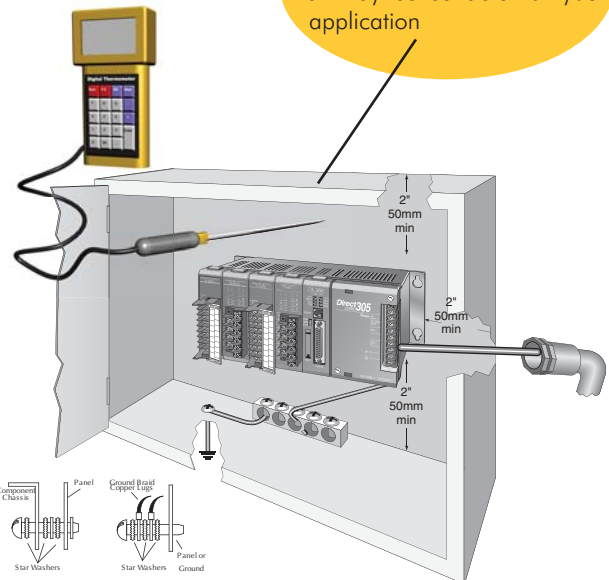
With PROM Writer Unit (-lines)



With DCU and D3-DSCBL-2 connected



See the Enclosures section in this catalog for an enclosure that may be suitable for your application



Base	Price	A	B	C	D				
<b>D3-05B-1</b>	<--->	11.41"	290mm	10.63"	270mm	4.84"	123mm	3.54"	90mm
<b>D3-08B-1</b>	<--->	15.55"	395mm	14.76"	375mm	4.84"	123mm	3.54"	90mm
<b>D3-10B-1</b>	<--->	18.30"	465mm	17.51"	445mm	4.84"	123mm	3.54"	90mm

