Local Expansion Modules

Base Expansion Module

D2-EM $102.00

Expansion Base Controller Module

D2-CM $84.00

Local expansion modules

The D2-262 supports local expansion up to five total bases (one CPU base + four expansion bases). Expansion bases are commonly used when there are not enough slots available in the CPU base, when the base power budget will be exceeded, or when placing an I/O base at a location away from the CPU base but within the expansion cable limits. Expansion base I/O addressing is based on the numerical order of the D2-CM rotary switch selection. The CPU recognizes the expansion bases on power-up.

D2-EM Expansion Module Specifications	
Module Type	Base expansion unit
I/O Slots Consumed	None; attaches to right side of (-1) bases
I/O Points Consumed	None
Expansion Connectors	Two 8-pin RJ45
Cable	Category 5 with RJ45 connectors (straight-through)
Maximum Cable Length	30m (98ft) total expansion system
Power Consumption	130mA @ 5VDC (supplied by base)
Operating Environment	0ºC to 60ºC (32ºF to 140ºF), 5% to 95% humidity (non-condensing)

D2-CM Controller Module Specifications	
Module Type	Expansion base controller module
Modules per Base	One, CPU slot of (-1) base only
I/O Points Consumed	None
Expansion Base Number Select Switch	Rotary switch select 1-4 in any order
Power Consumption	100mA @ 5VDC (supplied by base)
Operating Environment	0ºC to 60ºC (32ºF to 140ºF), 5% to 95% humidity (non-condensing)

CPU Supported / I/O Points				
CPU	***# of Exp. Bases***	***Total I/O[1]***	***Max. Inputs***	***Max. Outputs***
D2-262	4	1280	1024	1024

[1] Includes CPU base and local expansion bases

I/O Considerations

When using expansion bases in a PLC system, the CPU updates all discrete I/O points on every scan. However, if using analog modules in an expansion base, they are updated asynchronous to the CPU scan. Therefore, it is recommended that analog modules be placed in the CPU base.

Local expansion requires (-1) bases

Part number D2-xxB(xxx)-1 I/O bases must be used in local expansion systems. Each expansion base requires that the D2-CM module is placed in the CPU slot. The CPU base and each expansion base require the D2-EM unit that attaches to the right side of the (-1) bases.

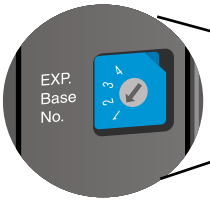
D2-EXCBL-1 local expansion base cable

The category 5 straight-through cable D2-EXCBL-1 (1m) is used to connect the expansion modules together. If longer cable lengths are required, we recommend that you purchase commercially manufactured cables with RJ45 connectors already installed. The maximum total expansion system cable length is 30m (98ft).

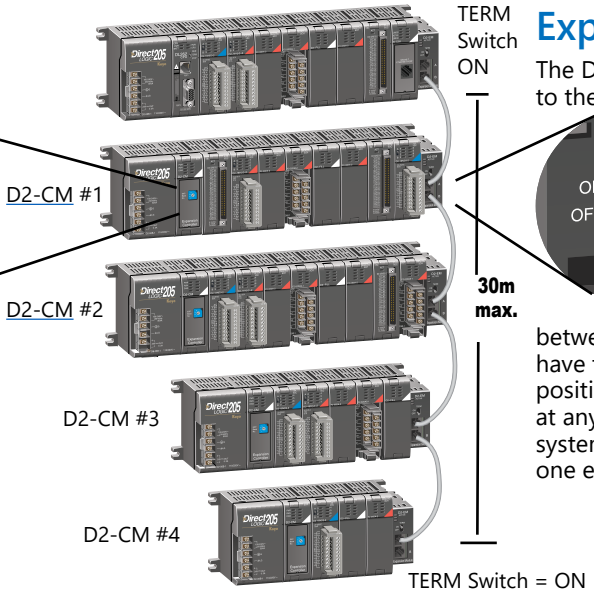
Local Expansion Modules

D2-CM Expansion Base Controller Module

The D2-CM module is placed in the CPU slot of each expansion base. The rotary switch is used to select the expansion base number. The expansion base I/O addressing (Xs & Ys) is based on the numerical order of the rotary switch selection and is recognized by the CPU on power-up. Duplicate expansion base numbers will not be recognized by the CPU. An example of base I/O addressing order is shown to the right.

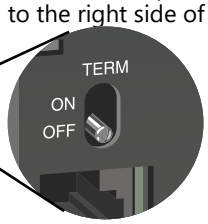


D2-262 expansion system



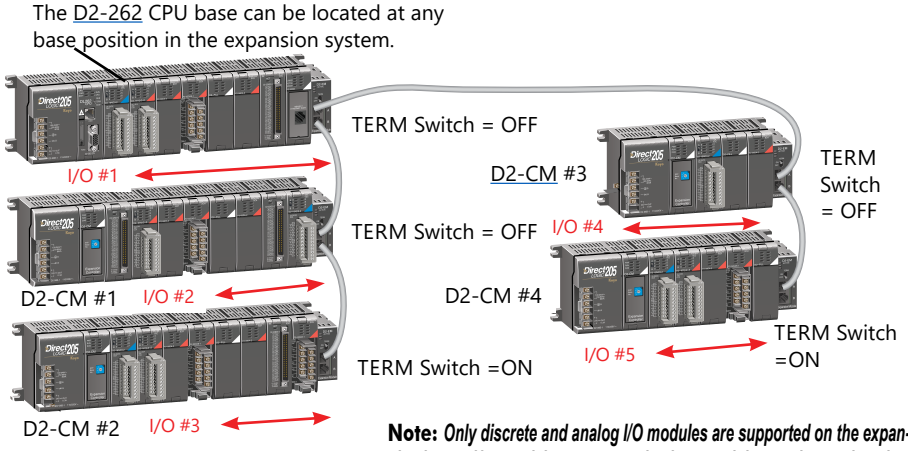
D2-EM Base Expansion Module

The D2-EM expansion unit is attached to the right side of each base in the expansion system. The D2-EMs on each end of the expansion system should have the TERM switch placed in the ON position. The expansion units between the end-most units should have the TERM switch placed in the OFF position. The CPU base can be located at any base position in the expansion system. It does not have to be located at one end or the other.



D2-262 expansion system

The D2-262 supports local expansion up to five total bases (one CPU base + four expansion bases) and up to a maximum of 1280 total I/O points. All local and expansion I/O points are updated on every CPU scan. No specialty modules can be located in the expansion bases. Refer to the Module Placement Table earlier in this section for restrictions. The maximum total expansion system cable length is 30m (98ft). The red text and arrows in the example to the right indicate the I/O addressing order.



Note: ***Only discrete and analog I/O modules are supported on the expansion bases. No specialty or communications modules can be used on the expansion bases at this time.***

Power Requirements

These charts help determine your power requirements

This section shows the amount of power supplied by each of the base power supplies and the amount of power consumed by each DL205 device. The Power Consumed charts list how much INTERNAL power from each power source is required for the DL205 devices. Use this information when calculating the power budget for your system.

In addition to the internal power sources, the DL205 bases offer a 24 VDC auxiliary power supply with external power connections. This auxiliary power supply can power external devices.

Use *ZIP*Links to reduce power requirements

If your application requires a lot of relay outputs, consider using the ***ZIP***Link 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 Terminal Blocks and Wiring Solutions section in this catalog for more information.

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

Power Consumed		
Device	***5V(mA)***	***24V Auxiliary***
Operator Interface		
C-more Micro-Graphic	210	0

Power Supplied			
Device	***Price***	***5V(mA)***	***24V Auxiliary***
Bases			
D2-03B-1	$200.00	2600	300
D2-03BDC1-1	$249.00	2600	None
D2-04B-1	$217.00	2600	300
D2-04BDC1-1	$274.00	2600	None
D2-06B-1	$268.00	2600	300

Power Consumed		
Device	***5V(mA)***	***24V Auxiliary***
CPUs		
D2-262	336	0
DC Input Modules		
D2-08ND3	50	0
D2-16ND3-2	100	0
D2-32ND3	25	0
D2-32ND3-2	25	0
AC Input Modules		
D2-08NA-1	50	0
D2-08NA-2	100	0
D2-16NA	100	0
Input Simulator Module		
F2-08SIM	50	0
DC Output Modules		
D2-04TD1	60	20
D2-08TD1	100	0
D2-08TD2	100	0
D2-16TD1-2	200	80
D2-16TD2-2	200	0
F2-16TD1P	70	50
F2-16TD2P	70	50
D2-32TD1	350	0
D2-32TD2	350	0
AC Output Modules		
D2-08TA	250	0
F2-08TA	250	0
D2-12TA	350	0
Relay Output Modules		
D2-04TRS	250	0
D2-08TR	250	0
F2-08TR(S)	670	0
D2-12TR	450	0
Combination In/Out Module		
D2-08CDR	200	0

Power Supplied			
Device	***Price***	***5V(mA)***	***24V Auxiliary***
Bases			
D2-06BDC1-1	$304.00	2600	None
D2-06BDC2-1	$279.00	2600	300
D2-09B-1	$333.00	2600	300
D2-09BDC1-1	$360.00	2600	None
D2-09BDC2-1	$359.00	2600	300

Power Consumed		
Device	***5V(mA)***	***24V Auxiliary***
Analog Modules		
F2-04AD-1	100	5
F2-04AD-2	110	5
F2-08AD-1	100	5
F2-08AD-2	100	5
F2-02DA-1	40	60 (note 1)
F2-02DA-2	40	60
F2-02DAS-1 F2-02DAS-2	100 100	50 / channel 60 / channel
F2-08DA-1	30	50 (note 1)
F2-08DA-2	60	140
F2-4AD2DA	60	80 (note 1)
F2-8AD4DA-1	35	100 (note 1)
F2-8AD4DA-2	35	80 (note 1)
F2-04RTD	90	0
F2-04THM	110	60
Specialty Modules		
D2-CTRINT	50*	0
D2-CM / D2-EM	100/130	0
H2-CTRIO2	275	0
D2-DCM	300	0
H2-EBC100	300	0
H2-ECOM100	300	0
F2-CP128	235	0
Remote I/O		
H2-ERM100, (-F)	300, (-F: 450)	0
Programming Devices		
D2-HPP	200	0

*** Requires external 5VDC for outputs**

Note 1: Add an additional 20 mA per output loop.