

DL405 CPU Comparisons

DL405 CPU Specifications				
	D4-430	D4-440	D4-450	D4-454
System Capacity				
Total memory available (words)	6.5K	22.5K	30.8K	46.8K
Ladder memory (words)				
built-in memory	3.5K EEPROM	None, requires MC	7.5K flash	31.5K
with memory cartridge	N/A	up to 15.5K	up to 15.5K	N/A
V-memory (words)	3.0K	7.0K	15.3K	15.3K
Battery backup	Yes	Yes	Yes	Yes, MRAM*
Total CPU memory I/O pts. available (actual I/O points depend on I/O configuration selected)	1664 (X+Y+CR+GX)	2688 (X+Y+CR+GX)	8192 (X+Y+GX+GY)	8192 (X+Y+GX+GY)
I/O module point density	2/4/8/16/32/64	2/4/8/16/32/64	2/4/8/16/32/64	2/4/8/16/32/64
I/O module slots per base	4/6/8	4/6/8	4/6/8	4/6/8
Local/local expansion				
Serial Remote I/O (including local & exp. I/O)	320 in/320 out	320 in/320 out	1024 in/1024 out	1024 in/1024 out
Remote I/O Channels	1664 max.	1664 max.	4224 max.	4224 max.
I/O pts. per remote module channel	2	2	3	3
Ethernet Remote I/O (including local/exp. I/O)				
discrete I/O pts.	512	512	512; 2048 (port 3)	512, 2048
Analog I/O channels	Yes	Yes	Yes	Yes,
Remote I/O channels	1664 max.	2688 max.	8192 max.	8192 max.
I/O per remote channel	(Including local and exp.I/O)	(Including local and exp.I/O)	(Including local and exp.I/O)	(Including local and exp. I/O)
	map into V-memory	map into V-memory	map into V-memory	map into V-memory
	Limited by power budget	Limited by power budget	Limited by power budget	Limited by power budget
	16,384 (limited to 1664)	16,384 (limited to 2688)	16,384 (16 fully expanded H4-EBC slaves using V-memory and bit-of-word instructions)	16,384 (16 fully expanded H4-EBC slaves using V-memory and bit-of-word instructions)
Performance				
Contact execution (boolean)	3.0µs	0.33µs	0.96µs	0.96µs
Typical scan (1K boolean)	8-10ms	2-3ms	4-5ms	4-5ms
Programming and Diagnostics				
RLL ladder style	Yes	Yes	Yes	Yes
RLL PLUS/flowchart style (Stages)	Yes/384	Yes/1024	Yes/1024	Yes/1024
Run time editing	No	Yes	Yes	Yes
Supports Overrides	No	No	Yes	Yes
Variable/fixed scan	Variable	Variable	Fixed or variable	Fixed or variable
Instructions	113	170	210	210
Control relays	480	1024	2048	2048
Timers	128	256	256	256
Counters	128	128	256	256
Immediate I/O	Yes	Yes	Yes	Yes
Subroutines	No	Yes	Yes	Yes
For/next loops	No	Yes	Yes	Yes
Timed interrupt	No	Yes	Yes	Yes
Integer math	Yes	Yes	Yes	Yes
Floating-point math	No	No	Yes	Yes
Trigonometric functions	No	No	Yes	Yes
Table instructions	No	Yes	Yes	Yes
PID	No	No	Yes	Yes
Drum sequencers	No	No	Yes	Yes
Bit of word	No	No	Yes	Yes
Real-time clock/calendar	No	Yes	Yes	Yes
Internal diagnostics	Yes	Yes	Yes	Yes
Password security	No	Yes	Multi-level	Multi-level
System and User error log	No	Yes	Yes	Yes
IBox instructions	No	No	Yes	Yes
CPU Ports Communications				
Built-in ports	2 ports	2 ports	4 ports	4 ports
K-sequence (proprietary protocol)	Yes	Yes	Yes	Yes
DirectNET	Yes	Yes	Yes	Yes
Modbus master/slave	No	No	Yes	Yes
ASCII out (Print)	No	No	Yes	Yes
Maximum baud rate	19.2K	19.2K	38.4K	38.4K

*Battery used for Real Time Clock backup