DL405 Error Codes

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— Error Code Table

Error Code	Name	Description
E001	CPU FATAL ERROR	You may possibly clear the error by power cycling the CPU. If the error returns, replace the CPU.
E003	SOFTWARE TIME-OUT	This error will occur if the program scan time exceeds the time allotted to the watchdog timer. SP51 will be on and the error code will be stored in V7755. To correct this problem, add RSTWT instructions in FOR NEXT loops and subroutines or using AUX 55 extend the time allotted to the watchdog timer.
E004	INVALID INSTRUCTION (DL440)	The application program has changed for some reason. SP44 will be on and the error code will be stored in V7755. This problem may possibly be due to electrical noise. Use AUX21 to check the program syntax and correct where necessary or clear the memory and re-download the program. Correct any grounding problems. If the error returns replace the CPU.
E041	CPU BATTERY LOW	The CPU battery is low and should be replaced. SP43 will be on and the error code will be stored in V7757.
E042	NO CPU BATTERY (DL450)	The CPU battery is not installed. SP43 will be on and the error code will be stored in V7757.
E043	MEMORY CARTRIDGE BATTERY LOW (DL440/DL450)	The Memory Cartridge battery is low and should be replaced. SP43 will be on and the error code will be stored in V7757.
E044	NO MEMORY CARTRIDGE BATTERY (DL450)	The Memory Cartridge battery is not installed. SP43 will be on and the error code will be stored in V7757.
E099	PROGRAM MEMORY EXCEEDED	If the compiled program length exceeds the amount of available CPU RAM this error will occur. SP52 will be on and the error code will be stored in V7755. Reduce the size of the application program.
E101	CPU MC MISSING (DL440/DL450)	The CPU Memory Cartridge has failed or is missing. SP44 will be on and the error code will be stored in V7755. Install or replace the Memory Cartridge.
E104	WRITE FAILED (DL440/DL450)	A write to the CPU Memory Cartridge was not successful. The Memory Cartridge may be write protected. Disassemble and check the jumper. If the error still occurs replace the Memory Cartridge.
E151	INVALID COMMAND	A parity error has occurred in the application program. SP44 will be on and the error code will be stored in V7755. This problem may be due to electrical noise (correct any grounding problems). Clear the memory and re-download the program. If the error returns replace the Memory Cartridge or CPU.
E155	RAM FAILURE	A checksum error has occurred in the system RAM. SP44 will be on and the error code will be stored in V7755. This problem may possibly be due to a low battery, electrical noise or a CPU RAM failure. Clear the memory and re-download the program. Correct any grounding problems. If the error returns replace the CPU.
E2**	I/O MODULE FAILURE	An I/O module has failed. Run AUX42 to determine the actual error.
E201	TERMINAL BLOCK MISSING	A terminal block is loose or missing from an I/O module. SP45 will be on and the error code will be stored in V7756.

Error Code	Name	Description
E202	MISSING I/O MODULE	An I/O module has failed to communicate with the CPU or is missing from the base. SP45 will be on and the error code will be stored in V7756. Run AUX42 to determine the slot and base location of the module reporting the error.
E203	BLOWN FUSE	A fuse has blown in an I/O module. SP45 will be on and the error code will be stored in V7756. Run AUX42 to determine the slot and base location of the module reporting the error.
E206	USER 24V POWER SUPPLY FAILURE.	The 24VDC power supply being used to power output modules has failed. SP45 will be on and the error code will be stored in V7756. Run AUX42 to determine the slot and base location of the module reporting the error.
E210	POWER FAULT (DL440)	A short duration power drop-out occurred on the main power line supplying power to the base.
E250	COMM. FAILURE IN THE I/O CHAIN	A failure has occurred in the local I/O system. The problem could be in the base, expansion cable or I/O Expansion Unit power supply. Check all cabling between bases and replace faulty hardware, if necessary. SP45 will be on and the error code will be stored in V7755. Run AUX42 to determine the base location reporting the error.
E251	I/O PARITY ERROR	A communication parity error has occurred in the I/O communication chain.
E252	NEW I/O CFG	This error occurs when the auto configuration check is turned on in the CPU and the actual I/O configuration has changed, either by moving modules in a base or changing types of modules in a base. You can return the modules to the original position/types or run AUX45 to accept the new configuration. SP47 will be on and the error code will be stored in V7755.
E261	I/O ADDRESS CONFLICT (DL440/DL450)	Overlapping addresses have been assigned while manually configuring the I/O. Correct the address assignments using AUX46. SP45 will be on and the error code will be stored in V7755.
E262	I/O OUT OF RANGE	An out of range I/O address has been encountered in the application program. Correct the invalid address in the program. SP45 will be on and the error code will be stored in V7755.
E263	CONFIGURED I/O ADDRESS OUT OF RANGE (DL440/DL450)	Out of range addresses have been assigned while manually configuring the I/O. Correct the address assignments using AUX46. SP45 will be on and the error code will be stored in V7755.
E264	DUPLICATE I/O REFERENCE (DL440/DL450)	Duplicate addresses have been assigned while manually configuring the I/O. Correct the address assignments using AUX46.
E311	HP COMM ERROR 1	A request from the handheld programmer could not be processed by the CPU. Clear the error and retry the request. If the error continues, replace the CPU. SP46 will be on and the error code will be stored in V7756.
E312	HP COMM ERROR 2	A data error was encountered during communications with the CPU. Clear the error and retry the request. If the error continues, check the cabling between the two devices, replace the handheld programmer; then if necessary replace the CPU. SP46 will be on and the error code will be stored in V7756.

Error Code	Name	Description
E313	HP COMM ERROR 3	An address error was encountered during communications with the CPU. Clear the error and retry the request. If the error continues, check the cabling between the two devices, replace the handheld programmer; then if necessary replace the CPU. SP46 will be on and the error code will be stored in V7756.
E316	HP COMM ERROR 6	A mode error was encountered during communications with the CPU. Clear the error and retry the request. If the error continues, replace the handheld programmer; then if necessary replace the CPU. SP46 will be on and the error code will be stored in V7756.
E320	HP COMM TIME-OUT	The CPU did not respond to the handheld programmer communication request. Check to ensure cabling is correct and not defective. Power cycle the system. If the error continues, replace the CPU first and then the handheld programmer if necessary.
E321	COMM ERROR	A data error was encountered during communication with the CPU. Check to ensure cabling is correct and not defective. Power cycle the system. If the error continues, replace the CPU first and then the handheld programmer if necessary.
E352	BACKGROUND COMM ERROR	Communications error between CPU and intelligent module. Incorrect slot reference while attempting to use the READ/WRITE commands, such as from DCM interface. The slot number of the module which has the I/O error is stored in V7660–V7764. You must power cycle the PLC to clear this error.
E360	HP PERIPHERAL PORT TIME-OUT	The device connected to the peripheral port did not respond to the handheld programmer communication request. Check to ensure cabling is correct and not defective. The peripheral device or handheld programmer could be defective.
E4**	NO PROGRAM	A syntax error exist in the application program. The most common is a missing END statement. Run AUX21 to determine which one of the E4** series of errors is being flagged. SP52 will be on and the error code will be stored in V7755.
E401	MISSING END STATEMENT	All application programs must terminate with an END statement. Enter the END statement in appropriate location in your program. SP52 will be on and the error code will be stored in V7755.
E402	MISSING LBL (DL440/DL450)	A GOTO, GTS, MOV MC or LD LBL instruction was used without the appropriate label. Refer to the programming section for details on these instructions. SP52 will be on and the error code will be stored in V7755.
E403	MISSING RET (DL440/DL450)	A subroutine in the program does not end with the RET instruction. SP52 will be on and the error code will be stored in V7755.
E404	MISSING FOR (DL440/DL450)	A NEXT instruction does not have the corresponding FOR instruction. SP52 will be on and the error code will be stored in V7755.
E405	MISSING NEXT (DL440/DL450)	A FOR instruction does not have the corresponding NEXT instruction. SP52 will be on and the error code will be stored in V7755.
E406	MISSING IRT	An interrupt routine in the program does not end with the IRT instruction. SP52 will be on and the error code will be stored in V7755.
E412	SBR/LBL>64 (DL440/DL450)	There is greater than 64 SBR, LBL or DLBL instructions in the program. This error is also returned if there is greater than 128 GTS or GOTO instructions used in the program. SP52 will be on and the error code will be stored in V7755.
E413	FOR/NEXT>64 (DL440)	There is greater than 64 FOR/Next loops in the application program. SP52 will be on and the error code will be stored in V7755. (The DL450 allows unlimited FOR-NEXT usage).

Error Code	Name	Description
E421	DUPLICATE STAGE REFERENCE	Two or more SG or ISG labels exist in the application program with the same number. A unique number must be allowed for each Stage and Initial Stage. SP52 will be on and the error code will be stored in V7755.
E422	DUPLICATE SBR/LBL REFERENCE (DL440/DL450)	Two or more SBR or LBL instructions exist in the application program with the same number. A unique number must be allowed for each Subroutine and Label. SP52 will be on and the error code will be stored in V7755.
E423	NESTED LOOPS (DL440/DL450)	Nested loops (programming one FOR/NEXT loop inside of another) is not allowed in the DL440 series. SP52 will be on and the error code will be stored in V7755.
E431	INVALID ISG/SG ADDRESS	An ISG or SG must not be programmed after the end statement such as in a subroutine. SP52 will be on and the error code will be stored in V7755.
E432	INVALID JUMP (GOTO) ADDRESS (DL440/DL450)	A LBL that corresponds to a GOTO instruction must not be programmed after the end statement such as in a subroutine. SP52 will be on and the error code will be stored in V7755.
E433	INVALID SBR ADDRESS (DL440/DL450)	An SBR must be programmed after the end statement, not in the main body of the program or in an interrupt routine. SP52 will be on and the error code will be stored in V7755.
E434	INVALID RTC ADDRESS (DL440/DL450)	An RTC must be programmed after the end statement, not in the main body of the program or in an interrupt routine. SP52 will be on and the error code will be stored in V7755.
E435	INVALID RT ADDRESS (DL440/DL450)	An RT must be programmed after the end statement, not in the main body of the program or in an interrupt routine. SP52 will be on and the error code will be stored in V7755.
E436	INVALID INT ADDRESS	An INT must be programmed after the end statement, not in the main body of the program. SP52 will be on and the error code will be stored in V7755.
E437	INVALID IRTC ADDRESS	An IRTC must be programmed after the end statement, not in the main body of the program. SP52 will be on and the error code will be stored in V7755.
E438	INVALID IRT ADDRESS	An IRT must be programmed after the end statement, not in the main body of the program. SP52 will be on and the error code will be stored in V7755.
E440	INVALID DATA ADDRESS (DL440/DL450)	Either the DLBL instruction has been programmed in the main program area (not after the END statement), or the DLBL instruction is on a rung containing input contact(s).
E441	ACON/NCON (DL440/DL450)	An ACON or NCON must be programmed after the end statement, not in the main body of the program. SP52 will be on and the error code will be stored in V7755.
E451	BAD MLS/MLR	MLS instructions must be numbered in ascending order from top to bottom.
E452	X AS COIL	An X data type is being used as a coil output.
E453	MISSING T/C	A timer or counter contact is being used where the associated timer or counter does not exist.
E454	BAD TMRA	One of the contacts is missing from a TMRA instruction.
E455	BAD CNT	One of the contacts is missing from a CNT or UDC instruction.
E456	BAD SR	One of the contacts is missing from the SR instruction.
E461	STACK OVERFLOW	More than nine levels of logic have been stored on the stack. Check the use of OR STR and AND STR instructions.

Error Code	Name	Description
E462	STACK UNDERFLOW	An unmatched number of logic levels have been stored on the stack. Insure the number of AND STR and OR STR instructions match the number of STR instructions.
E463	LOGIC ERROR	A STR instruction was not used to begin a rung of ladder logic.
E464	MISSING CKT	A rung of ladder logic is not terminated properly.
E471	DUPLICATE COIL REFERENCE	Two or more OUT instructions reference the same I/O point.
E472	DUPLICATE TMR REFERENCE	Two or more TMR instructions reference the same number.
E473	DUPLICATE CNT REFERENCE	Two or more CNT instructions reference the same number.
E480	INVALID CV ADDRESS (DL440/DL450)	The CV instruction is used in a subroutine or program interrupt routine. The CV instruction may only be used in the main program area (before the END statement).
E481	CONFLICTING INSTRUCTIONS (DL440/DL450)	An instruction exists between convergence stages.
E482	MAX. CV INSTRUCTIONS EXCEEDED (DL440/DL450)	Number of CV instructions exceeds 17.
E483	INVALID CV JUMP ADDRESS (DL440/DL450)	CV JMP has been used in a subroutine or a program interrupt routine.
E484	MISSING CV INSTRUCTION (DL440/DL450)	CV JMP is not preceded by the CV instruction. A CV JMP must immediately follow the CV instruction.
E485	MISSING REQUIRED INSTRUCTION (DL440/DL450)	A CV JMP instruction is not placed between the CV and the [SG, ISG, ST BLK, END BLK, END] instruction.
E486	INVALID CALL BLK ADDRESS (DL440/DL450)	CALL BLK is used in a subroutine or a program interrupt routine. The CALL BLK instruction may only be used in the main program area (before the END statement).
E487	MISSING ST BLK INSTRUCTION (DL440/DL450)	The CALL BLK instruction is not followed by a ST BLK instruction.
E488	INVALID ST BLK ADDRESS (DL440/DL450)	The ST BLK instruction is used in a subroutine or a program interrupt. Another ST BLK instruction is used between the CALL BLK and the END BLK instructions.
E489	DUPLICATE CR REFERENCE (DL440/DL450)	The control relay used for the ST BLK instruction is being used as an output elsewhere.

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Error Code	Name	Description
E490	MISSING SG INSTRUCTION (DL440/DL450)	The ST BLK instruction is not immediately followed by the SG instruction.
E491	INVALID ISG INSTRUCTION ADDRESS (DL440/DL450)	There is an ISG instruction between the ST BLK and END BLK instructions.
E492	INVALID END BLK ADDRESS (DL440/DL450)	The END BLK instruction is used in a subroutine or a program interrupt routine. The END BLK instruction is not followed by a ST BLK instruction.
E493	MISSING REQUIRED INSTRUCTION (DL440/DL450)	A [CV, SG, ISG, ST BLK, END] instruction must immediately follow the END BLK instruction.
E494	MISSING END BLK INSTRUCTION (DL440/DL450)	The ST BLK instruction is not followed by a END BLK instruction.
E499	INVALID PRINT INSTRUCTION	Invalid PRINT instruction usage. Quotation marks and/or spaces were not entered or were entered incorrectly.
E501	BAD ENTRY	An invalid keystroke or series of keystrokes was entered into the handheld programmer.
E502	BAD ADDRESS	An invalid or out of range address was entered into the handheld programmer.
E503	BAD COMMAND	An invalid instruction was entered into the handheld programmer.
E504	BAD REF/VAL	An invalid value or reference number was entered with an instruction.
E505	INVALID INSTRUCTION	An invalid instruction was entered into the handheld programmer.
E506	INVALID OPERATION	An invalid operation was attempted by the handheld programmer.
E520	BAD OP-RUN	An operation which is invalid in the RUN mode was attempted by the handheld programmer.
E521	BAD OP-TRUN	An operation which is invalid in the TEST RUN mode was attempted by the handheld programmer.
E523	BAD OP-TPGM	An operation which is invalid in the TEST PROGRAM mode was attempted by the handheld programmer.
E524	BAD OP-PGM	An operation which is invalid in the PROGRAM mode was attempted by the handheld programmer.
E525	KEYSWITCH	An operation was attempted by the handheld programmer while the CPU keyswitch was in a position other than the TERM position.
E526	OFF LINE	The handheld programmer is in the OFFLINE mode. To change to the ONLINE mode use AUX64.
E540	CPU LOCKED (DL440/DL450)	The CPU has been password locked. To unlock the CPU use AUX82 with the password.
E541	WRONG PASSWORD (DL440/DL450)	The password used to unlock the CPU with AUX82 was incorrect.

Error Code	Name	Description
E542	PASSWORD RESET (DL440/DL450)	The CPU powered up with an invalid password and reset the password to 00000000. A password may be re-entered using AUX81.
E601	MEMORY FULL	Attempted to enter an instruction which required more memory than is available in the CPU.
E602	INSTRUCTION MISSING	A search function was performed and the instruction was not found.
E603	DATA MISSING (DL440/DL450)	A search function was performed and the data was not found.
E604	REFERENCE MISSING	A search function was performed and the reference was not found.
E610	BAD I/O TYPE	The application program referenced an I/O module as the incorrect type of module.
E620	OUT OF MEMORY	An attempt to transfer more data between the CPU and handheld programmer than the receiving device can hold.
E621	MC NOT BLANK	An attempt to write to a non-blank Memory Cartridge was made. Erase the cartridge and then retry the write.
E622	NO HP MC	A data transfer was attempted with no Memory Cartridge or possibly a faulty Memory Cartridge in the handheld programmer.
E623	SYSTEM MC	A function was requested with a Memory Cartridge which contains system information only.
E624	V-MEMORY ONLY	A function was requested with a Memory Cartridge which contains V-memory data only.
E625	PROGRAM ONLY	A function was requested with a Memory Cartridge which contains program data only.
E626	PROM MC	An attempt to transfer data from a tape to a UVPROM Memory Cartridge. This transfer must be made using a CMOS RAM Cartridge.
E627	BAD WRITE	An attempt to write to a write-protected or faulty Memory Cartridge was made. Check the write-protect jumper inside the cartridge, then replace if necessary.
E640	COMPARE ERROR	A compare between the Memory cartridge and the source data was found to be in error. Erase the Memory Cartridge and retry the operation, replace the Memory Cartridge if necessary.
E641	VOLUME LEVEL	The volume level of the cassette player is not set properly. Adjust the volume and retry the operation.
E642	CHECKSUM ERROR	An error was detected while data was being transferred to the handheld programmer's Memory Cartridge. Check cabling and retry the operation.
E650	HP SYSTEM ERROR	A system error has occurred in the handheld programmer. Power cycle the handheld programmer. If the error returns, replace the handheld programmer.
E651	HP ROM ERROR	A ROM error has occurred in the handheld programmer. Power cycle the handheld programmer. If the error returns, replace the handheld programmer.
E652	HP RAM ERROR	A RAM error has occurred in the handheld programmer. Power cycle the handheld programmer. If the error returns, replace the handheld programmer.
E653	MC BATTERY LOW	The battery in the CMOS RAM cartridge is low and should be replaced.