DOCUMENT
Diagnostic and fault codes
LADV-DC

PROJECT
Wartens LADV virtual PLCs
Rev 1.0

Diagnostic and fault codes

Every code the LADV diagnostic buffer can show, what it means, and what to do.

Document	Diagnostic and fault codes
Code	LADV-DC
Revision	1.0, 1 November 2026
Firmware	V1.0.0
Issued by	Wartens, makers of LADX

Codes begin with a letter for their level: I information, E an operation refused, W a warning, F a fault. A fault stops the program, turns the outputs off and lights ERROR until it is reset.

Code	Level	Meaning	Action
I001	Info	Powered on in STOP.	None.
I002	Info	Restored from a save, in STOP, with or without memory.	Check the program, then RUN.
I010	Info	Ladder program downloaded, with its size.	None.
I011	Info	Structured Text program compiled and downloaded, with its size.	None.
I020	Info	RUN, with a warm or a cold restart.	None.
I021	Info	A download put the controller in STOP.	Press RUN when ready.
I022	Info	A download cleared a fault.	None.
I023	Info	STOP. Outputs are off.	None.
I024	Info	Fault reset. The controller is in STOP.	Find the cause before RUN.
I025	Info	Cold restart: memory back to initial values.	None.
I401	Info	A force was removed.	None.
I402	Info	All forces were removed.	None.
I410	Info	A value was modified online.	None.
E101	Warning	Download refused. The text gives the first reason: a compile error with its line, a channel the CPU does not have, memory, or a task faster than the CPU.	Fix the reason and download again. The previous program is still loaded.
E102	Warning	A saved Structured Text program no longer compiles.	Download it again.
E110	Warning	RUN refused while faulted.	Reset the fault first.
E111	Warning	RUN refused with no program loaded.	Download a program.
W200	Warning	Ladder check at download: something legal but probably wrong.	Read it; the program still runs.
W201	Warning	Structured Text compiler warning at download, with its line.	Read it; the program still runs.
W210	Warning	Ladder rung error during the scan, reported once.	Fix the rung.
W310	Warning	The browser fell behind and scans were skipped.	Keep the tab in front; slow programs need a faster CPU or fewer scans.

Code	Level	Meaning	Action
W400	Warning	Force on: an I/O point is held at a value.	Remove it when finished. The MAINT lamp stays lit.
F300	Fault	Watchdog: a scan took longer than the CPU allows, or a loop never ended.	Find the loop or the heavy code; reset the fault.
F310	Fault	Integer division or MOD by zero, with the line.	Guard the divisor.
F311	Fault	Array index out of range, with the line.	Check the index against the bounds.
F312	Fault	MUX selector outside its inputs, with the line.	Limit the selector.
F313	Fault	BCD_TO_INT given a value that is not BCD, with the line.	Check the source of the value.
F314	Fault	Calls nested more than 32 deep, with the line.	Flatten the calls.
F399	Fault	An internal runtime error.	Report it with the program.