DOCUMENT
CPU 120 datasheet
LADV-DS-120

PROJECT
Wartens LADV virtual PLCs
Rev 1.0

CPU 120 datasheet

LADV100 basic controller. Order number LV100-C120-20DDT-A3.

Document	CPU 120 datasheet
Code	LADV-DS-120
Revision	1.0, 1 November 2026
Firmware	V1.0.0
Issued by	Wartens, makers of LADX

> Wartens LADV controllers are virtual PLCs that run in a web browser, for learning, for testing logic and for preparing for commissioning. They are not real time, not safety rated, and they cannot control equipment.

Overview

Small fixed-I/O controllers for learning ladder logic. Enough inputs and outputs for a motor station, a set of traffic lights or a garage door, and small enough that every channel is in view.

12 digital in, 8 digital out, 2 analog in, 1 analog out.

Technical data

Property	Value
Series	LADV100 Basic
CPU	CPU 120
Order number	LV100-C120-20DDT-A3
Variant, as printed	DC/DC/DC
Digital inputs	12
Digital outputs	8
Analog inputs	2 (INT, 0 to 1000 is 0 to 100 percent)
Analog outputs	1 (INT, 0 to 1000 is 0 to 100 percent)
Expansion slots	None, fixed I/O
Program memory, ladder	128 tags, 64 rungs, 4 routines
Program memory, Structured Text	128 variables, 512 statements, 8 program organisation units
Fastest scan	20 ms
Watchdog	150 ms per scan
Retentive memory	Yes. A warm restart keeps RETAIN variables, and ladder memory
Languages	Ladder (LADX), IEC 61131-3 Structured Text
Tasks	Cyclic and event tasks, priorities from 0, non-preemptive

Property	Value
Online functions	Watch, modify, force I/O, 64-entry diagnostic buffer
Status lamps	RUN, STOP, ERROR, MAINT
Firmware	V1.0.0
Serial number, as printed	WL26-120-50280
Availability	Available in the VPLC lab

Addressing

Structured Text names a channel by its IEC 61131-3 direct address. Ladder wires tags to channels in the order the tags are listed.

Channels	Count	Structured Text addresses
Digital inputs	12	%IX0.0 to %IX1.3
Digital outputs	8	%QX0.0 to %QX0.7
Analog inputs	2	%IW0 to %IW1
Analog outputs	1	%QW0

Status lamps

Lamp	Colour	Meaning
RUN	Green	The program is executing and outputs are live.
STOP	Amber	Stopped. Outputs are off.
ERROR	Red	Faulted. Outputs are off until the fault is reset. The diagnostic buffer gives the code.
MAINT	Amber	At least one I/O point is forced.

Not included

- No fieldbus, no network protocols and no physical I/O.
- No hard real-time guarantee: scans run on simulated time in the browser.
- No safety rating. Safety functions belong in a safety-rated controller.

Related documents

- LADV system manual, LADV-SM
- Structured Text programming manual, LADV-PM-ST
- Ladder instruction reference, LADV-IR-LD
- Diagnostic and fault codes, LADV-DC