# 2098-DSD-010X-DN

Ultra3000 controlled installation and commissioning

Use the complete catalog marking, actual drive series and machine-approved axis record throughout this sequence. The source rating table covers the 2098-DSD-010 class; exact connector and setup figures are in the manufacturer excerpts.

## System paths

**AC LINE**

100–240 V AC; single phase

**POWER STAGE**

1 kW at 230 V; 5 A continuous

**MOTOR**

Matched feedback and shielded cable

**CONTROL**

CN1 I/O and CN3 setup

## Variant check before work

This full -DN suffix adds DeviceNet hardware. Compare the connector, node-address/data-rate switches and module/network LEDs with the installed controller and network drawing.

## Isolation and baseline record

| Record | Field evidence |
| --- | --- |
| Marking | Drive model, series, motor and feedback labels |
| Power | AC rating, protective device, PE and bus-discharge state |
| Control | CN1 assignment, parameter backup and travel limits |
| Network | DeviceNet node, rate and cable map |

# Connect the axis

Hardware and configuration checks before torque

## Connection map

| Path | Location | Verification |
|---|---|---|
| AC and motor | TB1 / motor power | Earth ground, voltage, shield and cable route |
| User I/O | CN1, 44-pin | Enable, limits, command and machine interlocks |
| Feedback | CN2, 15-pin | Motor selection, connector and shield continuity |
| Setup | CN3, 9-pin | Ultraware connection and saved parameter file |
| DeviceNet | Network connector | Node, rate, cable power and controller map |

## Setup sequence

**1 Identify series** — Apply the series-specific inrush and power-cycle limits.

**2 Select motor** — Compare catalog code and feedback with the installed motor.

**3 Save parameters** — Preserve the baseline before tuning or changing index data.

**4 Confirm I/O** — Check CN1 enable, limits and fault assignments.

**5 Plan first motion** — Restrict the load and agree safe direction and test range.

## DeviceNet preflight

Check network topology, supply voltage, address and selected 125/250/500 kbps rate. Read the module and network status LEDs before trying a controller-issued index.

## Configuration values to capture

| Item | Read back from the installed axis |
|---|---|
| Motor and feedback | Selected motor code, feedback type and connector record |
| Index profile | Distance, direction, speed and acceleration limits |
| Digital I/O | Enable, travel limit, fault and reset assignments |
| Communication | DeviceNet node/rate and controller map |

# Prove motion

Controlled acceptance matrix and fault response

## Stage-by-stage acceptance

| Stage | Observe | If unexpected |
|---|---|---|
| No motion | Drive status and saved motor file | Check line, faults and motor selection |
| Network | Module/network LEDs and node | Check address, rate, cabling and mapping |
| Enable | CN1 input and interlocks | Trace source, logic and limit state |
| First move | Low-risk non-indexing direction | Stop; compare feedback and motor wiring |
| Index move | Commanded distance and repeatability | Review index setup and limits |
| Protection | Fault/reset and machine stop | Capture code and correct before release |

## Rating and duty gate

The 2098-DSD-010 class is 5 A continuous and 15 A intermittent, both zero-to-peak. Output power is 1.0 kW at 230 V AC and 0.5 kW at 115 V AC. Confirm motor thermal duty; do not use the intermittent figure as a steady-state target.

## Power cycling gate

The 2098-DU003B update distinguishes Series A/B and Series C inrush behavior and contactor-cycle limits. Read the actual series marking and observe its limit while diagnosing a start fault.

## Handover evidence

Record the full drive and motor codes, series, saved parameters, supply, I/O and feedback tests, fault history and signed motion acceptance. Add DeviceNet address, rate, LED observations and controller map.

## Stop and escalate when

| Observation | Required controlled response |
|---|---|
| Unexpected direction | Inhibit torque; compare command polarity and feedback wiring |
| Unstable feedback | Isolate; inspect CN2 cable, shield and motor record |
| Repeated inrush fault | Stop power cycling; verify series limit and upstream protection |

# Service decisions

Model-specific checks and portfolio navigation

## First diagnostic branch

| Symptom | Evidence | Next step |
|---|---|---|
| Dark status | AC path and protective device | Isolate, inspect and restore safely |
| No enable | CN1 signal and interlock state | Compare wiring to saved I/O setup |
| Wrong direction | Command and feedback sense | Inhibit and re-test restrained |
| Early limit | Duty and drive/motor selection | Read current and thermal record |
| Network fault | Address, rate, LEDs, voltage | Inspect trunk/drop and mapping |

## Manufacturer source set

Rockwell Automation Ultra3000 Digital Servo Drives Installation Manual 2098-IN003E-EN-P with 2098-DU003B update, and Commissioning Your Ultra3000 Drive 2098-IN005C-EN-P. Check exact series and installed system before action.

## More Allen-Bradley catalogue references

These are navigation choices; confirm complete catalog numbers and system fit.

**Allen-Bradley 1746-HSCE**
SLC 500 counter

**Allen-Bradley 1794-IV16**
FLEX I/O sourcing input

**Allen-Bradley 1398-DDM-009**
ULTRA 100 drive

**Allen-Bradley 1756-L62**
ControlLogix CPU

**Allen-Bradley 1756-DNB**
DeviceNet bridge

**Allen-Bradley 1756-OV32E**
Output module

## Maintenance handover record

| Retain | Why it matters on the next service visit |
|---|---|
| Complete catalog + series | Separates -DN network hardware and inrush behavior |
| Saved motor + index file | Lets the next engineer reproduce the accepted motion |
| Fault and test log | Distinguishes wiring, setup and load conditions |

**Product enquiry**

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