Allen-Bradley 2198-P141

Engineering Installation, Diagnostic and Acceptance Guide

Kinetix 5700 three-phase DC-bus supply for powering a modular common-bus servo drive group.

01 Work package

Complete model	2198-P141
Product type	Kinetix 5700 DC-bus power supply
Manufacturer	Allen-Bradley
Technical source	Rockwell Automation 2198-P141 product data and Kinetix 5700 design information

Field decisions

1 Establish identity

Capture the full marking, installed companion components and baseline before disconnection.

2 Inspect interfaces

Verify mounting, cable, connector, armor, approval and environmental boundaries.

3 Fit the exact chain

Preserve the documented probe-cable-Proximitor or sensor-monitor relationship.

4 Prove response

Use the approved stopped-machine and operating acceptance procedure.

5 Record as left

Save markings, configuration, test values and operating observations.

Pre-work evidence

Installed drawing	Record the approved cabinet, rail, slot, terminal, cable and system references that govern 2198-P141.
Complete marking	Capture the complete order identity and every revision or approval marking on the delivered item.
Mechanical reference	Record mounting position, fasteners, connector orientation, access clearance and support points.
Electrical interfaces	Confirm supply, signal, bus, terminal and protective-conductor assignments against the installed drawing.
Configuration state	Record jumpers, switches, addresses, firmware or project settings that apply to this hardware.

Selected order-code snapshot

Bus source	Converts three-phase mains input into the common Kinetix 5700 DC bus.
Rated class	47 A input class with 46.9 A rms continuous DC-bus output.
Mechanical format	85 mm wide module for the Kinetix 5700 modular drive line.

Evidence boundary

The technical values are limited to published Rockwell Automation product data for the exact catalog number. No adjacent power-supply rating is transferred.

Initial quality controls

Traceability	Each value is tied to 2198-P141, the asset location, test state, instrument and date.
Repeatability	The same approved method and comparable operating state are used for before-and-after readings.
Resolution	Recorded precision does not exceed the capability of the instrument or source document.
Reference state	Stopped, energized, loaded and process-running observations are clearly distinguished.

02 Interface and configuration map

Power-supply role	Kinetix 5700 DC-bus supply
Input class	480 V AC, three-phase
Input current class	47 A
Continuous DC-bus current	46.9 A rms
Continuous output at 480 V	31 kW
Continuous output at 240 V	15.5 kW
Module width	85 mm
Bus architecture	Common DC bus for Kinetix 5700 inverter modules
Lifecycle status	Active product

Application checks

Common-bus source

Supply the shared DC bus for a documented Kinetix 5700 inverter group.

High-axis-count machine

Coordinate the 31 kW at 480 V continuous class with simultaneous axis demand and duty cycle.

Panel replacement

Retain the 85 mm position, line protection, grounding and bus-bar arrangement from the approved drawing.

Drive-system expansion

Recalculate input, bus and regenerative capacity before adding inverter modules or changing motion profiles.

Interpretation boundaries

Product boundary	Apply the listed facts to 2198-P141 and the documented Kinetix 5700 servo drive system context only.
Interface boundary	Connector, terminal, bus, cable and companion-device assignments must match the installed drawing.
Electrical boundary	Use exact-model values only; system-level ratings remain conditional on the complete installed configuration.
Configuration boundary	Switches, jumpers, addresses, firmware and project settings must be reconciled before energization.
Diagnostic boundary	Interpret indicators and fault states together with measured inputs, outputs and host-system status.
Acceptance rule	Use the approved system baseline and maintenance procedure for the final as-left decision.

System verification controls

Traceability	Each value is tied to 2198-P141, the asset location, test state, instrument and date.
Repeatability	The same approved method and comparable operating state are used for before-and-after readings.
Resolution	Recorded precision does not exceed the capability of the instrument or source document.
Reference state	Stopped, energized, loaded and process-running observations are clearly distinguished.

Technical notes

Power relationship	The published kW value changes with the applied input-voltage class.
Bus relationship	Connected inverter demand and regenerative energy are evaluated at the common DC bus.
Acceptance focus	Verify input protection, grounding, bus polarity, precharge and connected-axis diagnostics.

03 Installation workflow

Isolate line and bus

Apply the documented discharge wait and prove both mains and DC-bus absence before service.

Confirm three-phase input

Verify the approved 480 V-class source, phase sequence and protective device selection.

Protect bus polarity

Inspect bus bars and connectors before energizing the common DC bus.

Check connected load

Sum inverter continuous and peak demand against the approved power-system design.

Control regenerative energy

Verify the installed braking or regenerative solution for the machine duty cycle.

Record commissioning data

Capture input voltage, bus voltage, current loading and diagnostic state under the approved test.

Controlled sequence

01 Isolate	Place the monitored machine and channel in the approved maintenance state; prove the required isolation.
02 Photograph	Capture 2198-P141, the installed datum, connector, route and companion-component markings.
03 Measure	Record mechanical position and the applicable stopped-machine electrical reading before removal.
04 Compare	Check delivered identity, interfaces and evidence against the approved drawing and spare-parts record.
05 Install	Fit without twisting the lead; preserve thread engagement, target clearance, bend radius and strain relief.
06 Set point	Establish the operating gap or datum only with the approved stopped-machine procedure.
07 Prove	Compare local reading, monitor indication and controlled operating response with the accepted baseline.
08 Handover	Record as-left values, photographs, deviations, responsible technician and release approval.

Release review

Power relationship	The published kW value changes with the applied input-voltage class.
Bus relationship	Connected inverter demand and regenerative energy are evaluated at the common DC bus.
Acceptance focus	Verify input protection, grounding, bus polarity, precharge and connected-axis diagnostics.

Installation evidence package

Nameplate evidence	Overall and close photographs showing 2198-P141, revision, approval and serial details where present.
Installation evidence	Views of the rack position, mechanical datum, terminal assignment, cable route and strain relief.
Configuration evidence	Export or screenshots identifying the approved hardware assignment and parameters without exposing credentials.
Baseline evidence	As-found readings with units, test conditions, machine state and the instrument used.
Inspection evidence	Connector, contact, insulation, fastener, contamination and heat-condition observations.
Functional evidence	As-left readings and the controlled input, output or channel response used for acceptance.
Change evidence	Any wiring, setting, firmware or mechanical change linked to its approved work reference.
Release evidence	Technician, reviewer, date, asset reference and the maintenance-record location for traceability.

04 Diagnostic decision table

What role does 2198-P141 perform in a Kinetix 5700 system?	It converts the three-phase mains input into the common DC bus used by compatible Kinetix 5700 inverter modules.
What continuous DC-bus current is published for 2198-P141?	The published continuous DC output is 46.9 A rms for the documented supply configuration.
How does line voltage affect 2198-P141 output power?	The published continuous output is 31 kW at 480 V and 15.5 kW at 240 V, so apply the value for the installed line class.
How wide is 2198-P141 in the modular drive lineup?	The module width is 85 mm; preserve the approved panel spacing and bus arrangement.
What must be checked before replacing 2198-P141?	Record the line source, protection, grounding, bus bars, inverter inventory, braking arrangement and active fault history.
Can additional inverters be added behind 2198-P141 without review?	No. Recalculate continuous and peak bus demand, mains current and regenerative duty before changing the axis group.
What polarity checks apply to 2198-P141?	Inspect the common-bus connectors and bus-bar polarity against the system drawing before any energization.
How should 2198-P141 be accepted after installation?	Verify phase sequence, input voltage, bus precharge and steady voltage, connected-axis recognition and absence of supply faults.

Escalation triggers

Identity conflict	Stop if the complete marking, suffix, revision or approval identity differs from the approved record.
Host mismatch	Escalate if the rack, carrier, backplane, terminal unit or controller assignment is not documented for 2198-P141.
Interface damage	Do not energize with bent contacts, damaged insulation, loose retainers, contamination or heat discoloration.
Environmental breach	Review any exposure beyond the documented temperature, vibration, humidity, contamination or enclosure boundary.
Unapproved substitution	Do not transfer ratings or compatibility from an adjacent order code without manufacturer evidence.
Configuration conflict	Stop if hardware settings, firmware, channel assignment or project configuration disagree with the installed record.
Unstable measurement	Investigate noise, drift, intermittent status or inconsistent readings before replacing another component.
Failed functional proof	Keep the asset in the approved maintenance state until the complete acceptance sequence is passed and recorded.

Evidence quality controls

Traceability	Each value is tied to 2198-P141, the asset location, test state, instrument and date.
Repeatability	The same approved method and comparable operating state are used for before-and-after readings.
Resolution	Recorded precision does not exceed the capability of the instrument or source document.
Reference state	Stopped, energized, loaded and process-running observations are clearly distinguished.
Change control	Every changed setting, connection or mechanical datum has an approved reason and reviewer.
Retention	Evidence remains accessible with the maintenance record for future troubleshooting and replacement review.

05 Acceptance, handover and support

Release the channel only after the exact marking, installed-chain identities, mechanical datum, electrical baseline and controlled operating proof have all been recorded.

As-left verification worksheet

Exact delivered marking	2198-P141; photograph and record any additional label detail.
Installed asset reference	Machine, bearing, train, channel and drawing identifiers.
Mechanical as found	Reach, lock position, gap reference, cable route and connector support.
Static reading as found	Gap, bias, continuity or channel value appropriate to the installed system.
Companion identities	Extension cable, Proximitor or conditioner and monitor channel markings.
Mechanical as left	Final reach, lock position, target clearance and route protection.
Static reading as left	Final gap, bias, continuity or channel value with test conditions.
Operating proof	Monitor response and machine observation accepted by the responsible authority.
Deviation record	Any difference from drawing or baseline, disposition and approval reference.
Release signatures	Technician, reviewer, operations owner and date.

Lifecycle status

Published lifecycle	Rockwell Automation lists 2198-P141 as an active Kinetix 5700 product.
System position	It is the DC-bus source for compatible Kinetix 5700 inverter modules.
Change boundary	A different supply rating requires recalculation of mains protection, bus capacity, axis loading and enclosure design.

Available unit details

Offered hardware	One 2198-P141 47 A Kinetix 5700 DC-bus supply.
Published class	85 mm module with 46.9 A rms continuous bus output.
Separate scope	Inverters, bus hardware, line filter, protection, cabling and braking components are separate unless itemized.

Verified related product references

Related product	Allen-Bradley 2711-T10C8X
Related product	Allen-Bradley 1746-NIO4I
Related product	Allen-Bradley 1734-EP24DC
Related product	Allen-Bradley 2711-T9C1X

Engineering contact

Discuss the exact marking and installed application with Apter Power.
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