

KJ2005X1-SQ1-12P6383X022

DeltaV SQ Controller

Emerson KJ2005X1-SQ1-12P6383X022 is a DeltaV SQ controller for small-to-moderate process-control applications. It executes control logic, communicates with DeltaV I/O and network nodes, and supports simplex or 1:1 redundant controller operation.

BRAND	Emerson	FAMILY	Emerson DeltaV S-series controller system
PART	KJ2005X1-SQ1-12P6383X022	SYSTEM ROLE	Executes scheduled DeltaV control strategies

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KJ2005X1-SQ1-12P6383
X022

MANUFACTURER SOURCE RECORD

DeltaV SQ Controller Product Data Sheet and DeltaV Controller Redundancy
Emerson, January 2018 and October 2023

Product Overview

SYSTEM FUNCTION

Emerson KJ2005X1-SQ1-12P6383X022 is a DeltaV SQ controller for small-to-moderate process-control applications. It executes control logic, communicates with DeltaV I/O and network nodes, and supports simplex or 1:1 redundant controller operation.

FUNCTION 1

Executes scheduled DeltaV control strategies

FUNCTION 2

Supports traditional, CHARM and WirelessHART I/O

FUNCTION 3

Uses Explorer Auto-Sense for controller commissioning

FUNCTION 4

Supports simplex or one-to-one redundant operation

System Components

COMPONENT	DOCUMENTED ROLE
Host / carrier	Emerson DeltaV S-series controller system
Primary interface	Executes scheduled DeltaV control strategies
Engineering context	The SQ controller operates with traditional, CHARM and WirelessHART I/O through the documented DeltaV architecture. Explorer Auto-Sense commissioning, controller software compatibility and redundancy configuration must agree with the installed system.
Commissioning duty	Review diagnostics and complete a controlled process test and redundancy transfer before release.

TECHNICAL NOTE

Mount KJ2005X1-SQ1-12P6383X022 on the documented S-series power/controller carrier with its dedicated power supply, and record both RJ45 control-network paths before removal. Restore the approved DeltaV software, redundancy license and I/O topology, then verify controller diagnostics and a controlled primary-to-standby transfer where redundancy is installed.

Technical Data

PARAMETER	VALUE	PARAMETER	VALUE
Controller model	SQ	Module execution rates	100 ms to 60 s
DeltaV model number	SE3008	Typical power dissipation	5.0 W
User memory	48 MB	Maximum power dissipation	7.0 W
DST limit	750	Operating temperature	-40 to +70 deg C
SCADA tags	3200	Storage temperature	-40 to +85 deg C
Maximum data values sent	2000 per second	Relative humidity	5 to 95 percent, non-condensing
Maximum data values received	250 per second	Protection rating	IP20
Maximum unsolicited client nodes	64	Primary/secondary network	8-pin RJ45

Related Products on Apter Power

MODEL	SYSTEM ROLE	APTER POWER PAGE
KC4011X1-BZ1	redundant mass terminal	View KC4011X1-BZ1 page
KJ2201X1-HA1	DeltaV logic-solver assembly	View KJ2201X1-HA1 page
KJ2201X1-BA1	DeltaV SIS logic solver	View KJ2201X1-BA1 page
KJ3221X1-BA1	analogue input module	View KJ3221X1-BA1 page
KJ4001X1-BE1	eight-wide I/O carrier	View KJ4001X1-BE1 page
KJ2005X1-BK1	DeltaV SX controller	View KJ2005X1-BK1 page
KJ3003X1-EA1	DeltaV analogue input module	View KJ3003X1-EA1 page
KJ4006X1-BD1	DeltaV I/O terminal block	View KJ4006X1-BD1 page

ENGINEERING BOUNDARY

Confirm KJ2005X1-SQ1-12P6383X022, SQ model SE3008, carrier, dedicated supply, controller hardware version, both RJ45 network paths, DeltaV software, I/O topology, redundancy license, grounding, diagnostics and controlled switchover results before commissioning.

Applications and Precautions

Common Applications

Small process-unit control

Executes regulatory and sequence strategies for a compact DeltaV process area.

CHARMs electronic marshalling

Coordinates controller execution with the documented CHARM I/O topology.

Distributed DeltaV I/O

Exchanges process data with traditional and remote I/O nodes over the approved network.

Redundant controller modernization

Provides a one-to-one standby arrangement with controlled switchover verification.

Product Precautions

- 1

Confirm KJ2005X1-SQ1-12P6383X022, DeltaV SQ model SE3008 and the installed carrier position.
- 2

Place the controlled process and all final elements in the approved maintenance state.
- 3

Isolate the dedicated controller supply and apply ESD controls before handling the unit.
- 4

Record primary and secondary RJ45 network connections and every assigned I/O node.
- 5

Confirm the S-series power/controller carrier, dedicated supply and cabinet grounding.
- 6

Restore the approved DeltaV project, software version and Explorer controller assignment.
- 7

For redundant service, confirm same-series hardware, redundancy license and standby commissioning.
- 8

Review diagnostics and complete a controlled process test and redundancy transfer before release.

IMPORTANT NOTICE

Confirm KJ2005X1-SQ1-12P6383X022, SQ model SE3008, carrier, dedicated supply, controller hardware version, both RJ45 network paths, DeltaV software, I/O topology, redundancy license, grounding, diagnostics and controlled switchover results before commissioning.

ACCEPTANCE CHECK	REQUIRED EVIDENCE
Identity	KJ2005X1-SQ1-12P6383X022
Configuration	For redundant service, confirm same-series hardware, redundancy license and standby commissioning.
Functional release	Review diagnostics and complete a controlled process test and redundancy transfer before release.

Engineer FAQ

Q1 Which carrier and supply are required for KJ2005X1-SQ1-12P6383X022?

Use the documented S-series power/controller carrier and a dedicated controller power supply; preserve the installed carrier and grounding arrangement.

Q3 How is KJ2005X1-SQ1-12P6383X022 connected to the DeltaV control network?

Record and restore the primary and secondary control-network connections on the two 8-pin RJ45 ports.

Q5 What controller capacity should be checked for KJ2005X1-SQ1-12P6383X022?

Confirm the 48 MB user-memory execution, 750 DST limit, 3200 SCADA tags and the documented send/receive limits against the project.

Q7 Can KJ2005X1-SQ1-12P6383X022 be used in a redundant controller pair?

Yes. Use a one-to-one SQ controller pair with compatible same-series hardware, dedicated supplies, the approved software and the required redundancy license.

Q2 Which I/O architectures can KJ2005X1-SQ1-12P6383X022 coordinate?

The SQ controller supports traditional DeltaV I/O, CHARM I/O and WirelessHART I/O in the approved project topology.

Q4 What execution-rate choices are documented for KJ2005X1-SQ1-12P6383X022?

The documented module execution rates are 100 ms, 200 ms, 500 ms, 1 s, 2 s, 5 s, 10 s, 30 s and 60 s.

Q6 Which environmental limits apply to KJ2005X1-SQ1-12P6383X022?

The documented operating range is -40 to +70 deg C with 5 to 95 percent non-condensing humidity and IP20 protection.

Q8 What proves KJ2005X1-SQ1-12P6383X022 is ready after replacement?

Verify Explorer commissioning, network and I/O diagnostics, strategy execution and a controlled primary-to-standby transfer when redundancy is configured.

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