

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

DELTA V

PK750

750-DST PROCESS CONTROLLER

Used with the applicable DeltaV PK controllers configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Emerson official manufacturer documentation

Product Description

The DeltaV PK Controller executes control logic based on the process signals derived from the I/O and Ethernet Device subsystems.

Control modules are automatically scheduled by the controller, based on their assigned scan rates. This allows each control function to be optimized based on the process dynamics. Modules scan times can be set as fast as 25ms, and as slow as 60 seconds. The number of control modules that can be assigned to a controller depends on the complexity and scan rate of each modules. For the fastest loop execution time, use the supported High Density cards in a simplex configuration.

Each controller node can be installed as a simplex or redundant node. Redundancy is provided by adding a second controller, mounted adjacent to the primary controller. Controllers may be connected to DeltaV traditional I/O carriers, which are mounted to the right of the controller carrier. Up to 8 carriers with 8 cards each can be connected to the local bus I/O, for a total of 64 traditional I/O cards. 4-wide I/O carriers may be used in combination with 8-wide I/O carriers, and in this case, the maximum of 8 total I/O carriers is retained.

In addition to traditional I/O cards, the local bus supports fieldbus technologies, including FOUNDATION Fieldbus, DeviceNet, Profibus DP, and AS-I protocols, as well as Serial interface cards. These various I/O products provide a wide range of interfaces to meet the needs of your control application. The DeltaV PK Controller also supports CHARMS and WirelessHART I/O cards. The CHARM I/O Card (CIOC) connects via the redundant Ethernet ports of the controller carrier to provide Electronic Marshalling capabilities. A DeltaV PK Controller can communicate with up to 16 CIOCs. Starting in v15.FP3, the limit is increased to 32, but going beyond 16 requires the use of CIOC2s. Each CIOC provides up to 96 individually configurable signal types (limited by the DST capacity of the installed DeltaV PK Controller). The WirelessHART I/O card (WIOC) provides redundant communication for up to 100 WirelessHART devices, providing high availability and reliability of wireless data. DeltaV PK Controller can communicate with up to 16 WIOCs.

The DeltaV PK Controller is designed for harsh environments and is rated for G3 corrosive environments, with an operating temperature range from -40 to 60°C. It is ideally suited for remote installation close to the process

equipment. For more traditional installations with central marshalling cabinets, the PK Controller can utilize any DeltaV I/O solution, including Electronic Marshalling and traditional I/O, providing the flexibility to install it wherever the application requires.

Sizing

The DeltaV PK Controller can be installed as simplex or redundant node, and can be used for applications of a wide variety of sizes, depending on which capacity controller is selected. For Ethernet Device Control, the DeltaV PK Controller can be used with a variety of Ethernet Devices, supporting Modbus TCP client or EtherNet/IP interface on port P01 and PROFINET on port PN1. Port P01 and PN1 can be enabled at the same time for greater functionality. DeltaV PK Controller is offered in 4 sizes with the following capacities:

Sizing	#DSTs	#Ethernet Devices (P01)	#PROFINET Devices (PN1) v15.FP1/FP2	#PROFINET Devices (PN1) v15.FP3 or later	# Batch Units (Standalone)
PK100	100	16	50	100	2
PK300	300	32	100	250	4
PK750	750	64	150	250	8
PK1500	1500	128	250	250	12



Simplex DeltaV PK Controller.