

3.2. Model Numbers

The Model Numbers of C300 controller are shown as below:

Model Number	Description
8C-PCNT03	Series 8 C300 Controller, Coated ^{1,3,4}
8C-PCNT05	Series 8 C300 Controller, V5, Coated ^{5,6}
8C-TCNTA1	Series 8 C300 Controller I/O Termination Assembly(IOTA), Coated ¹
51305980-836	Cable, Redundant C300 Controller ²
<p>Note 1 – Conformal coating applied on the module and the IOTA</p> <p>Note 2 – Redundancy is implemented with two modules/IOTAs and a redundancy cable (51305980-836)</p> <p>Note 3 – Optional rechargeable battery pack for C300 Memory Backup is available, details are provided in section 5.4</p> <p>Note 4 – 8C-PCNT02 part number is replaced by 8C-PCNT03. The new controller (8C-PCNT03) is compatible with all current and previous PC/LX releases.</p> <p>Note 5 – 8C-PCNT05 is the new S8 C300 controller, and only supports Experion R520 and later releases. Both 8C-PCNT03 and 8C-PCNT05 supports Experion R520 releases. While 8C-PCNT03 also supports all previous Experion releases. 8C-PCNT05 is not interoperable with 8C-PCNT03 controller.</p> <p>Note 5 – 8C-PCNT05 uses the same S8 C300 IOTA, i.e. 8C-TCNTA1 and controller redundancy cable.</p>	

3.3. C300 Controller Specifications

3.3.1. C300 Control Execution Environment (CEE)

The C300 CEE provides an execution and scheduling environment in which Control Modules (CMs) and Sequential Control Modules (SCMs) execute user-configured control strategies. The CEE also support peer to peer communications with other C300 controllers and communication modules like Foundation Fieldbus and Profibus. The C300 CEE is configured using the Control Builder Engineering environment. The Control builder provides a graphical engineering environment where engineers can configure the Experion system and create control strategies by using the various function blocks available in the Library. The C300 CEE based control strategies can be configured with minimum execution rates of 50 msec.

3.3.2. C300 Hardware Specifications

Specifications	8C-PCNT03	8C-PCNT05
Power requirement	24 V (provided through cables by the Series 8 power system)	
IOTA Dimension	220 mm (9 ") height, 120 mm (4,75 ") width	
Program Memory	16MB	32MB
Processor core	Single	Dual
Supported Releases	Experion R110, 120, R500, R51x and R520	Experion R520 and onwards

Specifications	8C-PCNT03	8C-PCNT05
Features		
Module Removal and Insertion Under Power	Supported	
Conformal Coated	Yes, G3 level of Harsh Environment (ANSI/ISAS71.04-1985 corrosion standard)	
Redundancy	IOTA based design, no single point of failure for IOM, Termination, and Communication links (Downlink and Uplink)	
RAM Retention	50 hour through rechargeable battery backup pack (Optional)	
Switchover	Bump less, Internal parameters, variables and outputs are maintained during transition	
Programing Language	Function Block Design (FBD) via Experion Control Builder	
Supported I/Os and Uplink Communication		
Supported I/O type	Series 8	
Supported I/O Links	2 I/O Links, each I/O Link configurable for Series 8 I/Os	
Supported I/O Link Speed	750 kbps	
Supported number of I/O Modules per Controller	80 I/O Units (Redundant or Non-Redundant IOMs)	
Supported number of I/O Modules per I/O Link	40 I/O Units (Redundant or Non-Redundant IOMs)	
Maximum number of I/Os per Controller	2560 ¹	
Number of Uplink (FTE) Connection	Dual uplink FTE ports, 100Mbps speed	
Control Capacity		
Execution Units	5500 Execution Units (single or redundant)	9000 Execution Units (single or redundant)
Tagged Objects	4095 objects	
Memory Units	16384 Memory Units	32768 Memory Units
Execution Period	50 msec – 60000 msec (adjustable per control strategy, configurable)	
Minimum Reserved CPU to be maintained During Runtime	20% for each CPU	
Controller Communication		
CEE-based Platforms	Native peer to peer with other Series 8 C300s, C200 and ControlEdge UOC controllers ²	
Supervisory Control Network	Fault Tolerant Ethernet (FTE)	