

## Controllers

### Accessories—Controllers

#### Memory Cards

Memory cards offer nonvolatile memory to permanently store a user program and tag data on a controller. The ControlLogix 5570 controllers come with a 1784-SD1 Secure Digital card already installed. ControlLogix 5560 controllers support an optional CompactFlash card purchased separately. Through RSLogix 5000 software, you can manually trigger the controller to save to or load from nonvolatile memory or configure the controller to load from nonvolatile memory on powerup.

Attribute	1784-CF128	1784-SD1	1784-SD2
Type	CompactFlash	Secure Digital	
Memory	128 MB	1 GB	2 GB
Supported controllers	ControlLogix 5560 controllers	ControlLogix 5570 controllers	
Weight, approx.	14.2 g (0.5 oz)	1.76 g (0.062 oz)	

#### 1756 Energy Storage Modules

Instead of a battery, ControlLogix 5570 controllers ship with a 1756-ESMCAP energy storage module (ESM) already installed. The ESM eliminates the need for a battery.

Attribute	1756-ESMCAP	1756-ESMNSE	1756-ESMNRM
Description	Capacitor-based Energy Storage Module	Energy storage module without WallClockTime back-up power	Nonremovable capacitor-based energy storage module
Use	Ships with the controller	Use this ESM if your application requires that the installed ESM deplete its residual energy to 200 $\mu$ Joule or less before transporting it into or out of your application. Additionally, you can use this ESM with a 1756-L73 (8 MB) or smaller memory-sized controller only.	Secures the controller by preventing the USB connection and access to SD card removal. If the SD card is installed prior to insertion of the 1756-ESMNRM module, the SD card remains functional, but not removable.
Supported controllers	ControlLogix 5570 controllers		

#### Replacement Batteries

Each ControlLogix 5560 controller ships with a battery. The controller can be used without a battery if you install a 1784-CF128 industrial CompactFlash card. Without a battery, current tag data will be at the state it was when the nonvolatile memory was saved.

Attribute	1756-BA1	1756-BA2	1756-BATM*	1756-BATA
Description	Lithium battery (0.59 g)	Lithium battery (0.59 g)	Externally mounted battery assembly	Replacement lithium battery for 1756-BATM (5 g max lithium per each D cell; contains 2 D cells)
ControlLogix controllers	1756-L61, 1756-L62, 1756-L63 controllers, series A	1756-L61, 1756-L62, 1756-L63 controllers, series B 1756-L64, 1756-L65 controllers	1756-L61, 1756-L62, 1756-L63 controllers, series A	1756-BATM battery module
GuardLogix controllers	—	1756-L61S, 1756-L62S, 1756-L63S	—	—
Supported legacy controllers	1756-L55Mx controllers‡ 1756-L60M03SE controller	—	1756-L55Mx controllers‡ 1756-L60M03SE controller	1756-BATM battery module

\* The 1756-BATM externally mounted battery assembly is highly recommended for use with all series A 1756-L6x controllers and provides longer battery life than the 1756-BA1 battery. The 1756-BATM includes one 1756-BATA lithium battery assembly and a 1 m (3.28 ft) cable to connect housing to controller.

‡ The 1756-L55M22, 1756-L55M23, and 1756-L55M24 controllers have nonvolatile memory and can be used without a battery.