## Accessories—Controllers

## **Memory Cards**

Memory cards offer nonvolatile memory to store a user program and tag data on a controller. The ControlLogix L7 and GuardLogix L7 controllers ship with 1784-SD1 Secure Digital (SD) card installed. The memory card installs in a socket on the controller. Through the Logix Designer application, 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-SD1	1784-SD2
Memory	1 GB	2 GB
Supported controllers	1756 ControlLogix L7 and 1756 GuardLogix L7	
Weight, approx	1.76 g (0.062 oz)	

## 1756 Energy Storage Modules

Instead of a battery, the ControlLogix L7 and GuardLogix L7 controllers ship with a 1756-ESMCAP energy storage module (ESM) installed.

Cat No.	Description
1756-ESMCAP	Capacitor-based ESM included with the controller.
1756-ESMNSE	ESM without WallClockTime back-up power. Additionally, you can use this ESM only with a 1756-L73 (8 MB) or smaller memory-sized controller.  Use this ESM if your application requires that the installed ESM deplete its residual energy to 40 µJ or less before transporting it into or out of your application.
1756-ESMNRM	ESM that secures the controller by permanently preventing the USB connection and SD card use.  This ESM provides your application an enhanced degree of security.

The ControlLogix-XT L7 extreme temperature controller ships with a 1756-ESMNCAPXT energy storage module installed.

Cat No.	Description
1756-ESMCAPXT	Capacitor-based ESM included with the controller.
1756-ESMNSEXT	ESM without WallClockTime back-up power. Additionally, you can use this ESM only with a 1756-L73XT (8 MB) or smaller memory-sized controller.  Use this ESM if your application requires that the installed ESM deplete its residual energy to 40 µJ or less before transporting it into or out of your application.
1756-ESMNRMXT	ESM that secures the controller by permanently preventing the USB connection and SD card use. This ESM provides your application an enhanced degree of security.

The 1756-L7SP safety partner for a GuardLogix system has the following modules available.

Cat No.	Description	
1756-SPESMNSE	Capacitor-based ESM for a GuardLogix safety partner.	
1756-SPESMNRM	ESM for a GuardLogix safety partner that secures the safety partner by permanently preventing the USB connection and SD card use.	