

Allen-Bradley 1746 1747 Series Service Manual

1768-M04SE

1. Description

The Allen-Bradley 1768-M04SE is a CompactLogix SERCOS Interface module. This interface module integrates motion capability by allowing integration and control of up to Four (4) Kinetix drives. This module is compatible for use with 1768-L43 and 1768-L45 CompactLogix controllers. Technical specifications for 1768-M04SE

2. Specifications

Specification	Value
Brand	Allen-Bradley
Manufacturer	Rockwell Automation
Power	Dissipation 5.04 W
Product	Type: SERCOS Interface Module
Supported	No. of Drives: Up to Four (4) drives
Allen-Bradley	Drives compatibility: Kinetix 2000, Kinetix 6000, Kinetix 7000, and Ultra 3000 SERCOS servo drives.
Connections	consumed: Three (3)
SERCOS	Class Class B (Position or Velocity)
SERCOS	Data Rate 4 M or 8 M
SERCOS	Operating Cycle 4 M Data Rate and up to 2 drives — 0.5 ms Cycle Time; 4M Data Rate and up to 4 drives — 1 ms Cycle Time; 8 M Data Rate and up to 4 drives — 0.5 ms Cycle Time
Fiber	Optic Connector F-SMA standard screw-type connector
Fiber	Optic Core Diameter Plastic cable — 980 μm ± 60 μm; Glass cable — 200 μm ± 4 μm
Fiber	Optic Operating Temperature Plastic cable — -55...85 °C; Glass cable — -20...85 °C
Fiber	Optic Bend Radius Plastic cable without a jacket — 25 mm (0.98 in.); Plastic cable with a standard jacket — 25 mm (0.98 in.); Plastic cable with a nylon jacket — 40 mm (1.6 in.); Glass cable — 30 mm (1.2

3. Product Information

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SERCOS Class Class B (Position or Velocity)

SERCOS Data Rate 4 M or 8 M

SERCOS Operating Cycle 4 M Data Rate and up to 2 drives — 0.5 ms Cycle Time; 4M Data Rate and up to 4 drives — 1 ms Cycle Time; 8 M Data Rate and up to 4 drives — 0.5 ms Cycle Time

Fiber Optic Connector F-SMA standard screw-type connector

Fiber Optic Core Diameter Plastic cable — 980 $\mu\text{m} \pm 60 \mu\text{m}$; Glass cable — 200 $\mu\text{m} \pm 4 \mu\text{m}$

Fiber Optic Operating Temperature Plastic cable — -55...85 °C; Glass cable — -20...85 °C

Fiber Optic Bend Radius Plastic cable without a jacket — 25 mm (0.98 in.); Plastic cable with a standard jacket — 25 mm (0.98 in.); Plastic cable with a nylon jacket — 40 mm (1.6 in.);

Glass cable — 30 mm (1.2 in.)

Slot width: Single slot

Bus Current draw @ 5.2 VDC: 969 mA

Module Location: Din Rail or Panel Mount

Part Number/Catalog No. 1768-M04SE

Product Line CompactLogix

Module Type 4 Axis Sercos Interface Module

Shipping Weight 2 lbs.

Shipping Dimensions 8X8X5 in.

Series A and B

Isolation Voltage 30 Volts Continuous

Enclosure Open

Backplane Current 1.4 Amps at 24 Volts

Power Consumption 33.6 Watts

UPC 10612598307552 Description

The Allen-Bradley 1768-M04SE module is a CompactLogix 4-Axis SERCOS interface motion module. This SERCOS interface module is used by the Allen-Bradley Kinetix integrated-motion solution systems to accomplish difficult synchronized motion in several axes. This module enables the Kinetix system not only to depend on a PLC for motion control but to integrate the motor, drive, and even some actuators into the system with lower costs per axis of motion. The 1768-M04SE module works with servo drive controllers like the 1768-L43 (4 axes) and the 1768-L45 (8 axes) and servo drives like the 2093 Kinetix 2000, 2094 Kinetix 6000, 2099 Kinetix 7000 high-power, and the 2098 Ultra3000 SERCOS servo drives. This interface motion module covers 4 axes and 2 auxiliary feedback axes and supports 4 Mbps and 8 Mbps SECROS data exchange rates and its cycle time is usually below 0.5 milliseconds (this time never goes over 1 millisecond, even with a large number of axes attached).

The Allen-Bradley 1768-M04SE SERCOS interface module supports the position or velocity drive control modes. It uses a fiber-optic network and the 2090-SCEPxx-0 non-jacketed, polyvinyl chloride 2090-SCNPxx-0 nylon jacket, and the chlorinated polyethylene 2090-SCVPxx-0 standard jacket cables to connect to drives. The module can be mounted onto a DIN rail or to a panel. Its outer dimensions are 132 millimeters x 57 millimeters x 105 millimeters (5.2 inches x 2.23 inches x 4.14 inches). The total weight of the 1768-M04SE SERCOS interface module is 0.2 kilograms.

This module is used with the 1768 MicroLogix controllers such as 1768-L43 and 1768-L45 processors. If used with 1768-L43 processor, One (1) instance of 1768-M04SE may be used and Two (2) module installation with 1768-L45.

The 1768-M04SE is compatible for use with a variety of Allen-Bradley SERCOS drives including Kinetix 2000, Kinetix 6000, Kinetix 7000, and Ultra 3000 SERCOS servo drives. It can integrate and control up to Four (4) drives and consumes Three (3) connections. It supports data exchange rate of 4 Mbps and 8 Mbps with update times of 0.5 ms, up to Two (2) drives and 1 ms, up to Four (4) drives @ 4Mbps and 0.5 ms, up to Four (4) drives @ 8 Mbps. This interface module supports Position or velocity control modes with backplane current draw of 969 mA @ 5.2 VDC and 0 mA @ 24 VDC.

The 1768-M04SE Fiber Optic cable for establishing Kinetix drive connections. It may be used with plastic fiber-optic cables with catalog numbers 2090-SCEPxx-0 non-jacketed, chlorinated polyethylene 2090-SCVPxx-0 standard jacket, polyvinyl chloride 2090-SCNPxx-0 nylon jacket and Glass fiber-optic cables with catalog number 2090-SCVGxx-0 standard jacket, polyvinyl chloride.

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