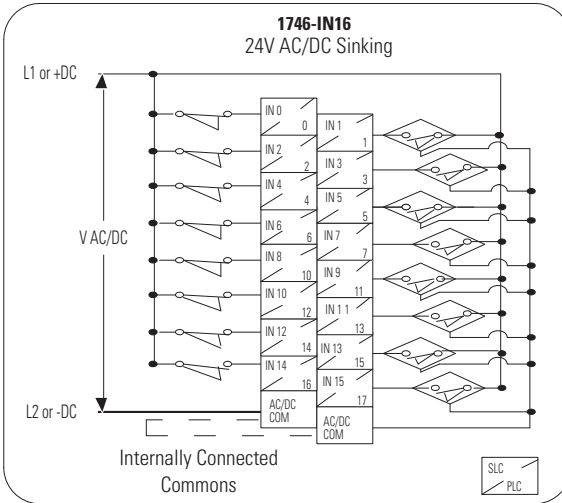
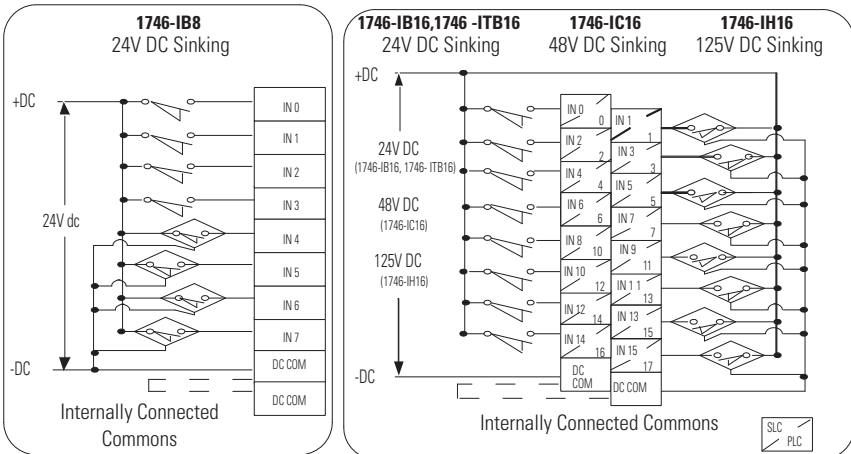


## DC Input Modules Wiring Diagrams

### 1746-IN16



### 1746-IB8, 1746-IB16, 1746-ITB16, 1746-IC16, 1746-IH16



## Input Modules Heat Dissipation

| Catalog Numbers | Watts per Point | Minimum Watts | Total Watts |
|-----------------|-----------------|---------------|-------------|
| 1747-IA4        | 0.27            | 0.175         | 1.30        |
| 1746-IA8        | 0.27            | 0.250         | 2.40        |
| 1746-IA16       | 0.27            | 0.425         | 4.80        |
| 1746-IB8        | 0.20            | 0.250         | 1.90        |
| 1746-IB16       | 0.20            | 0.425         | 3.60        |
| 1746-IC16       | 0.22            | 0.425         | 3.95        |
| 1746-IG16       | 0.02            | 0.700         | 1.00        |
| 1746-IH16       | 0.32            | 0.217         | 5.17        |
| 1746-IM4        | 0.35            | 0.175         | 1.60        |
| 1746-IM8        | 0.35            | 0.250         | 3.10        |
| 1746-IM16       | 0.35            | 0.425         | 6.00        |
| 1746-IN16       | 0.35            | 0.425         | 6.00        |
| 1746-ITB16      | 0.20            | 0.425         | 3.60        |
| 1746-ITV16      | 0.20            | 0.425         | 3.60        |
| 1746-IV8        | 0.20            | 0.250         | 1.90        |
| 1746-IV16       | 0.20            | 0.425         | 3.60        |

## Output Modules Heat Dissipation

| Catalog Numbers | Watts per Point | Minimum Watts | Total Watts |
|-----------------|-----------------|---------------|-------------|
| 1746-OA8        | 1.000           | 0.925         | 9.00        |
| 1746-OA16       | 0.462           | 1.850         | 9.30        |
| 1746-OAP12      | 1.000           | 1.850         | 10.85       |
| 1746-OB6EI      | 0.440           | 0.230         | 2.90        |
| 1746-OB8        | 0.775           | 0.675         | 6.90        |
| 1746-OB16       | 0.388           | 1.400         | 7.60        |
| 1746-OB16E      | 0.150           | 0.675         | 3.07        |
| 1746-OBP8       | 0.300           | 0.675         | 3.08        |
| 1746-OBP16      | 0.310           | 1.250         | 6.26        |
| 1746-OG16       | 0.033           | 0.900         | 1.50        |

## Output Modules Heat Dissipation

| Catalog Numbers | Watts per Point | Minimum Watts | Total Watts |
|-----------------|-----------------|---------------|-------------|
| 1746-OV8        | 0.775           | 0.675         | 6.90        |
| 1746-OV16       | 0.388           | 1.400         | 7.60        |
| 1746-OVP16      | 0.310           | 1.250         | 6.26        |
| 1746-OW4        | 0.133           | 1.310         | 1.90        |
| 1746-OW8        | 0.138           | 2.590         | 3.70        |
| 1746-OW16       | 0.033           | 5.170         | 5.70        |
| 1746-0X8        | 0.825           | 2.590         | 8.60        |

## Combination Input/Output Modules Heat Dissipation

| Catalog Numbers | Watts per Point                                | Minimum Watts | Total Watts |
|-----------------|------------------------------------------------|---------------|-------------|
| 1746-IO4        | 0.27 per input point<br>0.133 per output point | 0.75          | 1.60        |
| 1746-IO8        | 0.27 per input point<br>0.133 per output point | 1.38          | 3.00        |
| 1746-IO12       | 0.27 per input point<br>0.133 per output point | 2.13          | 4.60        |
| 1746-IO12DC     | 0.20 per input point<br>0.133 per output point | 1.84          | 3.90        |

## AC Input Modules

### Specifications – 1746-IA4, 1746-IA8, and 1746-IA16

| Attribute                          |        | Value                     |          |                          |
|------------------------------------|--------|---------------------------|----------|--------------------------|
|                                    |        | 1746-IA4                  | 1746-IA8 | 1746-IA16 <sup>(2)</sup> |
| Voltage category                   |        | 100/120V AC signal input  |          |                          |
| Number of inputs                   |        | 4                         | 8        | 16                       |
| Points per common                  |        | 4                         | 8        | 16                       |
| Voltage, operating                 |        | 85...132V AC @ 47...63 Hz |          |                          |
| Backplane current consumption      | 5V DC  | 0.035 A                   | 0.050 A  | 0.085 A                  |
|                                    | 24V DC | 0.0 A                     |          |                          |
| Signal delay, max                  |        | On = 35 ms<br>Off = 45 ms |          |                          |
| Off-state voltage, max             |        | 30V AC                    |          |                          |
| Off-state current, max             |        | 2 mA                      |          |                          |
| Input current                      |        | 12 mA @ 120V AC, nom      |          |                          |
| Inrush current, max <sup>(1)</sup> |        | 0.8 A                     |          |                          |
| Inrush current time duration, max  |        | 0.5 ms                    |          |                          |

<sup>(1)</sup> An AC input device must be compatible with SLC 500 input circuit inrush current. A current limiting resistor can be used to limit inrush current; however, the operating characteristics of the AC input-circuit will be affected.

<sup>(2)</sup> Removable terminal block.

### Specifications – 1746-IM4, 1746-IM8, and 1746-IM16

| Attribute                     |        | Value                      |          |                          |
|-------------------------------|--------|----------------------------|----------|--------------------------|
|                               |        | 1746-IM4                   | 1746-IM8 | 1746-IM16 <sup>(2)</sup> |
| Voltage category              |        | 200/240V AC signal input   |          |                          |
| Number of inputs              |        | 4                          | 8        | 16                       |
| Points per common             |        | 4                          | 8        | 16                       |
| Voltage, operating            |        | 170...265V AC @ 47...63 Hz |          |                          |
| Backplane current consumption | 5V DC  | 0.035 A                    | 0.050 A  | 0.085 A                  |
|                               | 24V DC | 0.0 A                      |          |                          |
| Signal delay, max             |        | On = 35 ms<br>Off = 45 ms  |          |                          |
| Off-state voltage, max        |        | 50V AC                     |          |                          |
| Off-state current, max        |        | 2 mA                       |          |                          |

**Specifications – 1746-IM4, 1746-IM8, and 1746-IM16**

| Attribute                          | Value                                                |
|------------------------------------|------------------------------------------------------|
|                                    | 1746-IM4      1746-IM8      1746-IM16 <sup>(2)</sup> |
| Input current                      | 12 mA @ 240V AC, nom                                 |
| Inrush current, max <sup>(1)</sup> | 1.6 A                                                |
| Inrush current time duration, max  | 0.5 ms                                               |

<sup>(1)</sup> An AC input device must be compatible with SLC 500 input circuit inrush current. A current limiting resistor can be used to limit inrush current; however, the operating characteristics of the AC input-circuit will be affected.

<sup>(2)</sup> Removable terminal block.

**DC Input Modules****Specifications – 1746-IB8, 1746-IB16, 1746-ITB16, and 1746-IC16**

| Attribute                     |        | Value                         |                          |                                            |                                                                              |
|-------------------------------|--------|-------------------------------|--------------------------|--------------------------------------------|------------------------------------------------------------------------------|
|                               |        | 1746-IB8                      | 1746-IB16 <sup>(1)</sup> | 1746-ITB16 <sup>(1)</sup>                  | 1746-IC16 <sup>(1) (3)</sup>                                                 |
| Voltage category              |        | 24V DC signal input (sinking) |                          |                                            | 48V DC signal input (sinking)                                                |
| Number of inputs              |        | 8                             | 16                       | 16                                         | 16                                                                           |
| Points per common             |        | 8                             | 16                       | 16                                         | 16                                                                           |
| Voltage, operating            |        | 10...30V DC (sinking)         |                          |                                            | 30...60V DC @ 55 °C (131 °F) sinking<br>30...55V DC @ 60 °C (140 °F) sinking |
| Backplane current consumption | 5V DC  | 0.050 A                       |                          |                                            |                                                                              |
|                               | 24V DC | 0.0 A                         |                          |                                            |                                                                              |
| Signal delay, max             |        | On = 8 ms<br>Off = 8 ms       | On = 8 ms<br>Off = 8 ms  | On = 0.3 ms<br>Off = 0.5 ms <sup>(2)</sup> | On = 4 ms<br>Off = 4 ms                                                      |
| Off-state voltage, max        |        | 5.0V DC                       |                          |                                            | 10.0V DC                                                                     |
| Off-state current, max        |        | 1 mA                          | 1 mA                     | 1.5 mA                                     | 1.5 mA                                                                       |
| Input current, nom            |        | 8 mA @ 24V DC                 |                          |                                            | 4.1 mA @ 48V DC                                                              |

<sup>(1)</sup> Removable terminal block.

<sup>(2)</sup> Use ID Code 0509 when configuring your system with programming software or the HHT.

<sup>(3)</sup> Typical signal delay for these modules: ON = 0.1 ms, OFF = 0.25 ms @ 24V DC.